

# COMMODORE

COMPUTING INTERNATIONAL

148 PAGE ISSUE

JUNE 1987

All you ever wanted to know about...

Games and Graphics  
Databases and Programs  
More 64 and Amiga Power...  
It's all here  
+ Special Amiga section



BELGIUM FR1.30 CANADA \$3.50  
USA \$3.25 GERMANY DM7

# BIG MAG

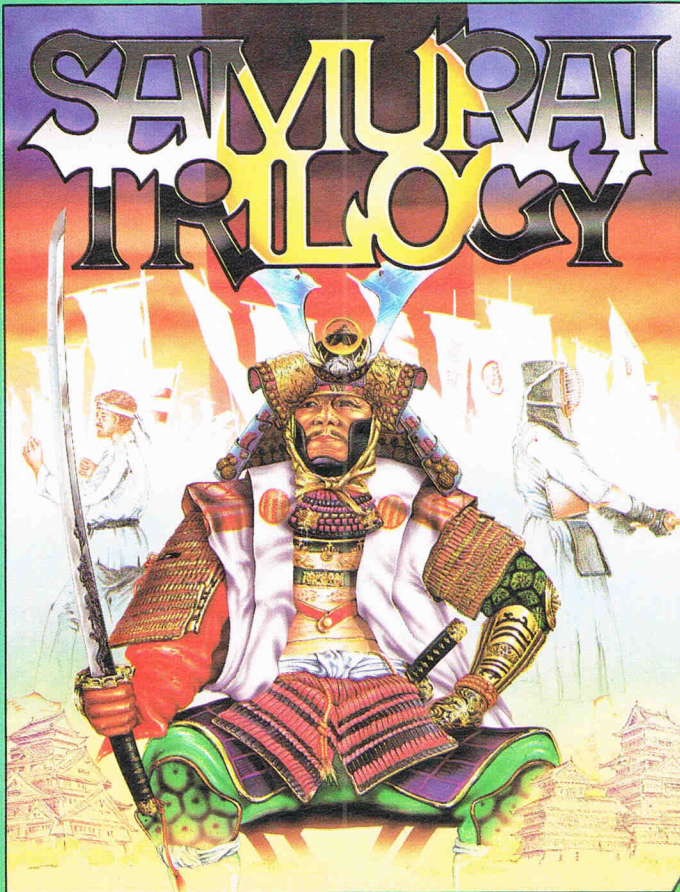
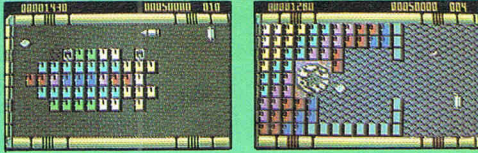
MegaReviews – Nemesis the Warlock – Auf Wiedersehn Monty  
Samurai Trilogy – Express Raider – Leaderboard Exec –  
Shockway Rider ... a Football Special ... C16 Summer Events  
and Phantom – Tomahawk and <sup>PREVIEW</sup> **Guild of Thieves** – plus  
the Sensational Sinbad

WIN

Tons of T-shirts, Games and much much more.

FREE! NEMESIS THE WARLOCK POSTER

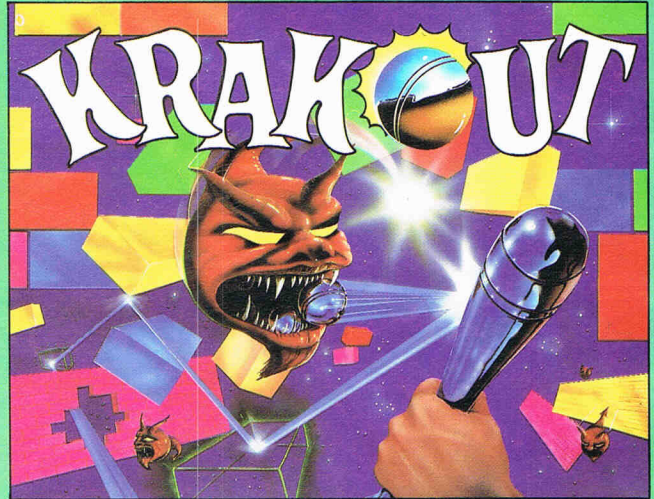
# Software...



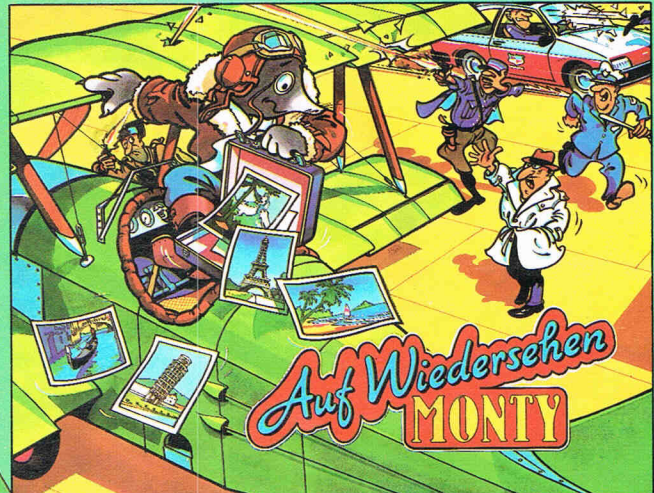
In an age in which honour was revered, from a time when grace and beauty were virtues, a class of warriors set themselves apart to dedicate their lives to a perfection in combat that in itself was an artform, to a discipline of mind that became a religion. The attaining of such excellence required an extraordinary diligence in self-denial and training in order to achieve the ultimate accolade 'War Lord'. Kendo, Karate and finally Samurai are the tests that must be mastered before such honour can be bestowed.



**KRAKOUT**  
 CMB64/128 £9.99 Tape \$14.99 Disk  
 Spectrum £7.99 Tape  
 Amstrad £9.99 Tape \$14.99 Disk  
 MSX £7.99 Tape



Welcome to the ultimate challenge! A two way test of skill and nerve – can you out manoeuvre the awesome ogre and blast a path through the myriad of colourful bricks? Are your reflexes adept enough to retrieve the speeding missile, deflected from its block shattering journey or regurgitated contemptuously from the ogre's mouth?



Monty the Mole is still on the run on his most exciting and exacting journey to date, a whistle stop tour of the capitals of Europe, acquiring more than just the local scenery on the way. With Intermole and the local gendarmes hot on his tail Monty must fill his booty bag with enough continental treasures and currency to effect an escape to his dream island ... Montoss.



that's  
 out of  
 this world

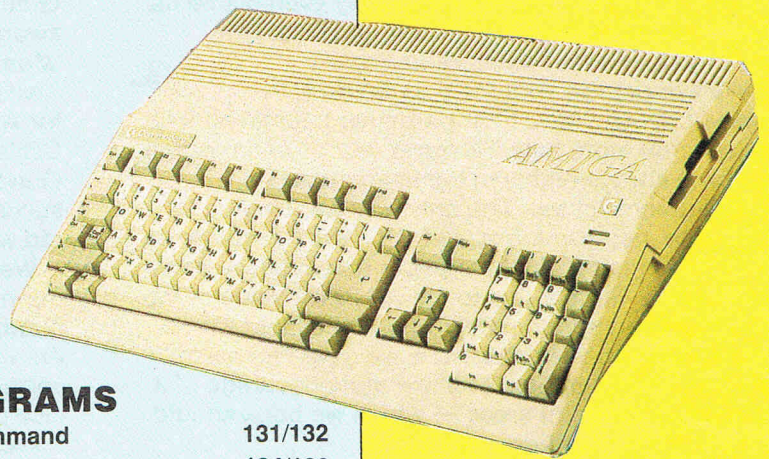
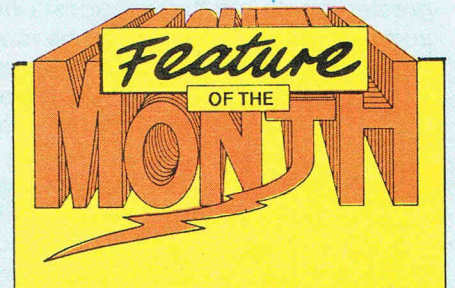
# GREMLIN

**AUF WIEDERSEHEN MONTY**  
 CBM64/128 Amstrad £9.99 Tape  
 \$14.99 Disk. Spectrum £7.99 Tape  
**SAMURAI TRILOGY**  
 CBM64/128 Amstrad £9.99 Tape  
 \$14.99 Disk. Spectrum £7.99 Tape

The best value Commodore magazine in the Universe!

COMMODORE  
COMPUTING  
INTERNATIONAL

Inside



**AMIGA SPECIAL** 75-108  
Including Sinbad, Superbase, Climate, 'A' Talk and much, much more

**...REVIEWS**

<b>GEOS</b>	
Writers Package	32
<b>128 RAM EXPANSION</b>	34
<b>128 RAMDOS</b>	39

**...CONSTANT FACTORS**

<b>NEWS</b>	5/6/8
<b>MUSIC</b>	
Ian Waugh plays easy tunes	14/15

<b>MINTER COLUMN</b>	18
<b>BASIC FOR BEGINNERS</b>	21/22

<b>BOOKS</b>	28
<b>CHARTS</b>	40
<b>ADVENTURE</b>	
Exclusive Guild of Thieves Preview	109/118

<b>SUPER FELIX</b>	62/63
<b>ICPUG</b>	117

**PROGRAMS**

Last Command	131/132
Giant	134/136
F.X.D.	137/138/139/140
C 64 Keyboard	141/142/143
<b>ADVERTISERS DIRECTORY</b>	146

**...FEATURES**

<b>MINI OFFICE</b>	
Special Guide	24/26
<b>MICRONET PLUS/4 C.64 OFFER</b>	35
<b>COMPETITIONS</b>	36

<b>ADD-ON GUIDE</b>	120/126
---------------------	---------

<b>64 INTERRUPTS</b>	144/145
----------------------	---------

*AGAIN!*

**GAMESWORLD**

**MEGA REVIEWS**

Shockway Rider ... 10th Frame ... Cholo ... Leaderboard EXEC ... P.O.D ... Auf Wiedersehen Monty ... Tomahawk ... F.A. Cup ... Brian Clough's Double ... Samurai Trilogy ... Nemesis the Warlock ... Express Raider ... Arkonoid ... Master Games ... S.O.S ... Elevator Action ... Return of the Space Warrior ... Cyborg ... Death or Glory ... The Equaliser ... Summer Events ... Phantom ... Mean 18 and much, much more

**NEXT MONTH  
PICASSO'S  
REVENGE...**

Special Commodore Show Feature...

**FREE Software and loads of Terrific Special Offers**

**FREE! NEMESIS THE WARLOCK POSTER** PAGE SIXTY

# CCI View

## Dear Reader,

I get these days an increasing number of letters telling me, among other things, that CCI seems to be giving the kind of information that Commodore owners want. However, many of the letters go on to ask that writer's particular interest be covered at greater length. As these requests vary from suggesting that there should be more news or more technical software and hardware reviews to lots more games coverage and even more competitions; and a frequent request is for more letter space — or even longer letters! It is not easy to comply with everyone's wishes . . . Especially the poor old Plus/4 owners feel hard done by as there is little special software for them to use on their potentially powerful machines. Sometimes they even blame us for not reviewing enough! We would of course happily do it if we had more to review!

We sympathise with them as we do with everybody who feels their particular interest should be covered more fully. However, our problem is that space is always highly in demand and in consequence limited. The only way we can find to help is to increase the size of CCI which is rather an expensive matter. Just the paper on which we print has risen — largely due to the fall in the value of the pound — by approximately 15% in the last year alone. Nevertheless, this issue we have increased the size and attempted to allow more coverage of a number of different areas — which we hope should satisfy some people.

We have a special feature on the growing Amiga scene, with a close look at "Sinbad", another Mindscape spectacular. The Amiga's enticing graphics are clearly moving the whole home micro

field into another dimension — as can be seen from the other articles in the same section.

We continue our ADD-ON Guide which has become regarded even by other Commodore magazines, we are flattered to hear, as the authoritative buyer's guide for the Commodore owners.

GEOS — a genuine addition to 64 power — has a new package reviewed and we also for the 128 owners cover a RAM expansion pack. Peter Gerrard continues his interesting article on technical hints and we come to the end of our first series of BASIC

On the games side, some really terrific products have been produced as standards constantly rise. Gremlin have taken one of the first Awesome awards of the year with the return of the popular 'Monty Mole'. Tynesoft's C16 'Phantom' also gets an Awesome and we preview what looks like a sure hit for Anco with their 'Summer Events'. Andy Moss, CCI's intrepid adventurer, also gets a preview of Guild of Thieves, an exciting follow-up to the successful Pawn. The programming side is bigger too with some exceptionally interesting new ideas.

We are announcing our next free cassette offer. In our next issue, we shall also be presenting a number of very special offers exclusive to CCI. By the way those frustrated Plus/4 owners should certainly take advantage of the Micronet which is also exclusive to our readers.

We are trying to keep the variety of the material we publish wide and the quality high. There is even some so-called humour with that atrocious Super Felix, about whom, surprisingly, I never get complaints except from people he mentions — or their lawyers!

However, whatever we do, it is intended for your own personal enjoyment. If you want it improved or changed or enlarged, go on telling me. I am always happy to hear your views on the magazine, and I will attempt to make what you want really happen. Yours sincerely,

**Antony Jacobson**  
Managing Editor and Publisher

<b>Managing Editor and Publisher</b>	..... Ian Bennett
..... Antony Jacobson	..... Bob Collyer
<b>Features Editor</b> ..Anthony Mael	..... Bill Donald
<b>Editorial/Production</b>	..... Len Keighley
<b>Controller</b> Romayne Jesudason	..... Courtney King
<b>Subscriptions Controller</b>	..... Tony Lydeard
..... Sandra Gallagher	..... Will Light
<b>Senior Advertisement Manager</b>	..... Jeff Minter
..... James Mack	..... Andy Moss
<b>Advertisement Manager</b>	..... Ian Waugh
..... Max Jacobson	..... Rae West
<b>Assistant Advertisement</b>	..... Phil Wiltshire
<b>Manager</b> .....	..... Tina Milan
<b>Advertising Assistant</b>	<b>Telephone</b> .....
..... Krotoa Moses	01-278 0333
<b>Finance Director</b>	Editorial ext: 274
B.J. Lewis M.Sc. F.C.A.	Advertising ext: 280/286
<b>Consultant Art Editor</b>	Subscriptions ext: 274
..... Graham Baldock	<b>Published by</b> Croftward Limited
<b>Artwork</b> ... Teresa Genève	Finsbury Business Centre
<b>Cover Illustration</b> Jacki Hearle	40 Bowling Green Lane
<b>Elite Illustration</b> . Martin Farrer	London EC1R 0NE
	<b>Distributed by:</b> COMAG, Tavistock
	Road, West Drayton, Middx UB7
	7QE
<b>Photography</b> ... Paget Joseph	<b>Printed by</b> Chase Printers Group
..... Rob Moss	Typesetting: Carlton Barclay
<b>Research</b>	
André Jacobson-González	
<b>Contributors</b> .....	
..... Tim Arnot	
..... John Arthur	
..... Zack Mule Skinner	

Commodore Computing International - an independent magazine for Commodore computer users - is not connected in any way with Commodore Business Machines UK Ltd. It is published 12 times per year by Croftward Limited. The publishers do not accept liability for any incorrect statement or errors contained in material from independent sources or authors which may be reproduced from time to time.

© Croftward Limited 1987

Owing to pressure of space — in spite of a "Big Mag" issue! — we have unfortunately been forced to omit certain items planned for June. These include Picasso's Revenge, The Zork Trilogy map, mentioned by Andy Moss, Scana-tron's The Double, and The Perspectives Drawing Package. We apologise for these omissions and will try to include them in the next issue of CCI.

In the July issue of CCI, there will be another free software offer that will provide an excellent tape including utilities and other useful and entertaining programmes. The last date for requests for the first free issue cassette of software closes June 15th. Mailing of those requests already received will commence May 1st.

## Supersoft Offer Super Exec

Supersoft announce the re-release of SUPER EXEC, an integrated word processor, database, and accounting package for the Commodore 8000.

SUPER EXEC was written by Superclerk Limited, and originally sold at £1,100 plus VAT. Supersoft's first action on taking over the marketing was to slash the price to just £199 plus VAT.

The SUPER EXEC accounts suite includes, Sales, Purchase and Nominal ledgers, plus Invoicing and Payroll — all that most businesses need. Add word processing and filing, all for £199, and you end up with a bargain — some accounting systems cost as much per module!

Although the Commodore 8000 series is now over 6 years old, something of a revival has been in progress ever since Supersoft bought most of Commodore's remaining stocks last summer. Supersoft has been able to offer comprehensive support and servicing to users, which has meant that many users have been able to continue using existing systems rather than face a traumatic change to an entirely different system.

For further details contact Peter Calver on 01-861 1166.

## Cheetah Moving Fast

Cheetah Marketing will be moving into new Hi-Tech, purpose-built premises. The building, three times the size of the company's current headquarters will enable further planned business expansion to take place.

Cheetah are increasing it's personnel by 25% to meet the demands of a massive increase in sales in it's current financial year. At present 26 new products are in the development stage; the biggest research program ever entered into by the company.

**Cheetah's new lair: Cheetah Marketing Ltd, Norbury House, Norbury road, Fairwater, Cardiff CF5 3AS. Telephone: (022) 555525.**

## Hablamos Español?

Transplanted into a Spanish town, you speak the native tongue... you HEAR your "brain voice" pronounce what you elect to say. Your "teachers" answer you, depending on what line of conversation you have started, and you hear their responses also.

It is Kwik speak I — a new Amiga Spanish audible Tutor. KWIK-SPEAK drills you in vowel sounds, consonant usage, accent and stress. You can go on or repeat, as often as you like — at the press of a key.

The methods of KWIK-SPEAK were developed during World War II in Lima, Peru, where American and British employees of airlines and embassies HAD to start speaking Spanish quickly.

KWIK-SPEAK 1 (Spanish-1) consists of over 420K of coding, with almost 30 chained programs contained on a single (2-sided double-density) micro-floppy disk. Although 512K of memory is required, you can operate with only one disk drive.

**Price \$46.95**

**Contact: Eclipse Data Management Inc. 1930 West Glenoaks, #3 Glendale, CA 91201 (818) 840-8757.**

## New Star Printer

Star Micronics U.K. has launched a new dot-matrix machine, the NR-15. It provides draft printing at 240 characters per second (cps) and near letter quality (NLQ) output at 60cps.

As standard, the NR-15 comes equipped with both tractor feed and semi-automatic sheet feed, while completing the range of paper handling capabilities is an optional, low-cost automatic cut-sheet feeder.

Another feature, common across Star's N-range of business printers is the slot-in interface card system. By selecting the right card, users are guaranteed a perfect match with their computer system.

For the micro user wanting high speed printing as well as good near letter quality printing, the NR-15 costs £589.

## Join the Gremlin Navy

The free world is in peril — war has been declared and the enemy is closing in. Your weakest point is the coastline so a strategic defence initiative has been adopted.

Your mission is to patrol and defend the inner sea using all the modern weapon systems with which you have been supplied. Seawolf and Exocet.

Convoy Raider is a new Gremlin Graphics strategic war game with a difference. The future of the country lies in your hands; frighteningly powerful weapons are at your disposal and important tactical decisions must be made. If that kind of power and responsibility does not scare you, take the helm!

## Gremlin's Aliens

The aftermath of a nuclear holocaust is the scene, and the earth's surface is a barren and hostile place, incapable of supporting human life. Long ago, the survivors withdrew to underground complexes, and now, after years of dedicated research, they have produced an android, Cybourg 64, who may provide the answer to their prayers.

Pure skill and judgement in controlling Cybourg are the assets needed to help him wipe out the aliens. Alien Evolution is played from a 3D perspective, looking down at the planet, and features transporters to zip you from area to area. Monochrome graphics and full scrolling are also included and overall, a good time is to be had for those who enjoy a fast and furious challenge with a difference.

Alien Evolution will be released in June 1987.

## Zynaps Zooms

Zynaps is the first game by Dominic Robinson, a young programmer who successfully converted Hewson's Uridium to the Spectrum. Dominic and a partner John Cumming have now created for Hewson an original and reputedly awe-

inspiring game which will appeal to all dedicated shoot-em-up fans.

Use bravery and cunning to escape an alien infested space station, battle through asteroid storms and infiltrate unknown planets before entering the 'final conflict' phase of this horizontal scrolling epic.

Choose your path carefully, the galaxy depends on you!!  
C 64 £8.95 (c), £12.95 (d).

## How to win at computer games . . .

Trilogic have upgraded their Expert cartridge with ESM.

The compact ESM module is fitted with LED, push button and connector. It fits between the cartridge post and the Expert cartridge and, as with most Trilogic systems, it has no effect on games action and can be left connected but otherwise ignored.

When a protected program is loaded which needs the ESM, the LED will glow. To stop the game, simply press the push-button briefly. The program will be paused and the Experts machine-code monitor be activated. From then on, the Expert can be used in the normal way — to alter, restart or save to disk/tape as you choose.

The new ESM costs £7.95 inc. VAT and postage.

**Contact: Trilogic, 329 Tong Street, Bradford BD4 9QY. Tel: (0274) 684289.**

## Power House Value

The Power House has announced that every game released will contain either a free game of a free audio track.

All the Power House music is provided by the House Electronic Xperience, headed by Wayne Allen. Wayne, formerly of Kick Partners, has appeared many times on National TV, the John Peel Show on Radio One and in the music press.

The Power House's Andy Wood is already claiming tremendous reaction to the first batch of releases from consumers, distributors and retailers alike. The Power House first releases are The Terminator and The Equalizer, both £1.99.

## ACE II

Cascade Games, creators of the smash hit "ACE" (CCI OSKAR Winner) tell us that they are working on a follow-up imaginatively called ACE II. It will be for one or two players with the screen split horizontally. ACE II will be initially released on the 64 but almost immediately published for the Plus/4. ACE I sold terrifically well on all formats and more the 15,000 on the Plus/4 alone which must make it one of the best sellers for that machine.

## Palace's Barbarian

Palace Software are bringing out Barbarian, which they claim is "the most realistic and exciting combat game yet seen on a home computer". Created by Steve Brown, who was responsible for the monster hits Cauldron and Cauldron II. Barbarian features "riveting music" and sound effects by Richard Joseph, the musician responsible for all the sound in The Sacred Armour of Antiriad and Cauldron II.

Barbarian contains two games in one. Load Part One and perfect your swordsmanship against the finest warrior in the land. This section can be played against another player or the computer. In Part Two you must fight to save the Princess from the clutches of the Dark Sorcerer, Drax.

Sixteen different moves, including headbutt, kick and web of death, set Barbarian apart from any previous sword-fighting game. "Other effects, such as the decapitation, must be seen to be believed."

Barbarian contains all the classic elements of the sword and sorcery genre; Marvel at the muscular barbarians! Gasp at the beautiful Princess! Hiss at the evil sorcerer! Cringe at the hideously deformed dwarf.

The game will be available for the Commodore 64 of £9.99 and the packaging features beautiful Page 3 model, Maria Whittaker.

## 40 Activision titles go Silver

What the people who have signed or called "The Licence Agreement of the Year" has been made between Telecomsoft and Activision (UK) Ltd for nearly forty Activision products to be released in the Firebird Silver 199 Range over the next twenty four months.

Not only previously released products, but also some hitherto unreleased ones feature in the line up.

"There are some really cracking games here for £1.99," says the Silver Range boss Chris Smith. "Titles such as 'Back to the Future', 'I of the Mask', and Pitfalls I and II' head the series of previously released material, and offer superb value for money at £1.99. In addition, we have the publishing rights to three Commodore 64 games which are brand new to the European market — 'Breakstreet', 'Futureball', and 'Pyramids of time'."

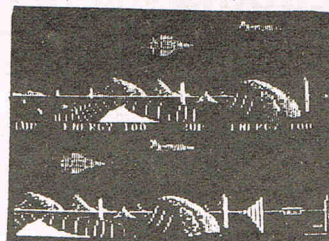
'Park Patrol' for the Commodore 64 was recently released in the Silver Range under licence from Activision.

The first title are likely to hit the shops early in the Summer.

## Eagles — The Electrifying Facts

Eagles is the next master blaster which Hewson are releasing to shatter the lives of all peace loving Commodore owners. The graphics are quite stunning and the game looks set to conquer the C64/C128 market as the number one Uridium sequel.

Written by Danish programmers Per Madsen and Bo Nielsen, Eagles is a fast and furious shoot-em-up set on



## Foreign Language W/P

A new PC/MS-DOS package from INTEX SOFTWARE SYSTEMS will enable PC users to use their existing keyboards for a wide range of fully processable international character sets with a simpler user-friendly menu.

The basic Western European package covers **nine** different character sets which can be selected and mixed at a keystroke. The French setting for example, changes the input to the standard AWERTY positions used in France, regardless of the keyboard used. Other options on the same disk include US & UK English, French, German, Dutch, Spanish, Italian, Portuguese and Danish with all the normal word processing options at an affordable price of **£199.00**.

For PCs fitted with a Hercules graphics card the range of options includes full-logic **Russian, Polish, Arabic and Hebrew** data entry combined with English.

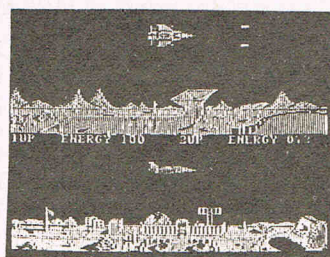
The star of the show in terms of performance has got to be the unique **ZLZ Chinese** package with an enormous

the planet Zinox.

Played over eight levels there are an increasing number of different aliens to blast and explode and a host of androids to collect. Drop the androids into a chute on the rugged plant surface to enter the energy based bonus phase.

Eagles has single, two player and team options to choose from. Both Eagles fighters are shown on the screen at the same time to enhance the reality of the situation.

Eagles is for the C64.£8.95 (c) £12.95 (d).



**10,000 character** set from any standard PC, XT or AT keyboard for only £300. There is even an additional interface module that will enable the use of packages such as dBIITM and Lotus 1-2-3TM with Chinese characters!

All files are encoded so that they can be transferred via modem or network to any other device using the same software making it a faster and higher quality transmission device for foreign type-script than fax.

Available shortly will be **Greek, Turkish and Japanese** options.

Contact: Intex Systems, Tel: 0462 811813.

## Catch 23 from Martech

Martech has announced the release of Catch 23, a combat arcade adventure with 3-D vector graphics for the 64.

It is your mission to explore an island and find the heart of the development complex. Once there you must steal the design of the CK 23 and then set a time delay mine in the nuclear reactor. The explosion which follows will devastate entire island.

The action takes place on a moonless night, hence you have been provided with a military image enhancer. Using advanced 3-D vector graphics with full collision detection, the player sees an accurate representation of his world as he moves within it.

The world is heavily populated, the player being able to see and explore entire villages. It is also possible to enter and explore buildings. There are useful objects and vital clues to be discovered before you have any hope of penetrating the complex itself.

The island map contains tens of millions of occupiable locations. It consists of mountains, plains, marshes, villages (containing a variety of building types), plus, the huge military complex. Catch 23 is a vast game which presents the game player with an enormous yet achievable challenge. Martech tells us it is the closest thing yet to actually being there.

Catch 23 will be £8.95 cassette, with £12.95 disk.

Contact: Headlines PR on 01-258 3999.

# Dateline

has been the secret factor in many, many romances and happy marriages — not just between young people, but between people of all ages and occupations, and from all over the country.

**Who will you meet?**

- Many tens of thousands of people join Dateline each year simply because they are not meeting someone special in their own social circle or at work, and want to meet more people with the same hopes, ambitions and interests as themselves. Among the many people you can meet through Dateline there is sure to be one who has that 'special something' you've been looking for.
- **YOU CHOOSE** the type of person you wish to meet and the area they come from when you complete our comprehensive questionnaire. Dateline is the **LARGEST** dating agency in the world, ensuring that there are more people available for you to meet, and more importantly, our unique matching system guarantees that you are mutually compatible.
- We have a well-deserved reputation for **SUCCESS**. The couples featured in our advertisements and literature are just a few of the thousands who have found love through Dateline.

*In 21 years Dateline introductions have been the start of many, many thousands of Love Stories...*

- Dateline is an **INEXPENSIVE** service — your year's membership could be the best money you have ever spent — an investment in your future happiness.
- Dateline is a caring company — our service is **RELIABLE, PROFESSIONAL** and **CONFIDENTIAL**. You are welcome to phone us at any time to discuss your membership, or call in to see us at our offices. Any query, any problem, any changes — our up-to-date technology ensures they are always dealt with quickly and efficiently by our friendly staff. It is important to us that you get the best from your Dateline membership. We are always happy to help.



**Lesley and Jon** — It's amazing how many people join Dateline 'for a laugh', but behind that lighthearted attitude there is nearly always the hope that it might lead to a special relationship. Lesley, a divorcee, didn't really think Dateline would be able to help her. Her children made it difficult for her to get out, but when she met Jon, a farmer, it was apparent to both of them that they were at the start of something long term. They were married in the autumn and are overjoyed at the turn their lives have taken.

# You can find love

Over the years Dateline has been featured many times by press, radio and television and has been acclaimed by many thousands of clients who have found happiness through our services. If you are interested in learning how the UK's largest, longest established and most successful computer dating service can find love for you, complete this coupon and post it today to:

**Dateline, 23 Abingdon Rd. London W8 6AH. Tel: 01 938 1011**



**Lisa and Barry** — 'If you are not meeting enough people join Dateline. It certainly worked for me' says Lisa. Barry's friends are very impressed he met someone so attractive. They were engaged within a few months. Lisa's sister has now joined 'looking for another Barry.'



Dateline is a member of the Association of British Introduction Agencies  
29 Manchester St. London W1



**Pauline and Colin** — They had known each other for six weeks when Colin proposed, but they were certain Dateline had chosen well for them. 'We were made for each other.'

**Dateline is simply the best!**

**COMPUTER TEST TO FIND YOUR IDEAL PARTNER**



I am over seventeen and would like you to send me completely free, in confidence, and without obligation, a description of my ideal partner. Plus a free colour brochure and lots more information about Dateline. I enclose two first class stamps.

**START HERE 1**

Do you consider yourself:

- |  |                                       |
|--|---------------------------------------|
| <input type="checkbox"/> Shy               | <input type="checkbox"/> Generous     |
| <input type="checkbox"/> Extrovert         | <input type="checkbox"/> Outdoor type |
| <input type="checkbox"/> Adventurous       | <input type="checkbox"/> Creative     |
| <input type="checkbox"/> Family type       | <input type="checkbox"/> Practical    |
| <input type="checkbox"/> Clothes conscious | <input type="checkbox"/> Intellectual |

**2**

Indicate which activities and interests you enjoy by placing a ✓ in the appropriate box. If you dislike a particular activity, put ✗. If you have no preference, leave the column blank.

- |                                     |  |
|-------------------------------------|--|
| <input type="checkbox"/> Pop music  | <input type="checkbox"/> Politics                        |
| <input type="checkbox"/> Fashion    | <input type="checkbox"/> Classical music                 |
| <input type="checkbox"/> Pubs       | <input type="checkbox"/> Art/Literature                  |
| <input type="checkbox"/> Sport      | <input type="checkbox"/> 'Live' theatre                  |
| <input type="checkbox"/> Pets       | <input type="checkbox"/> Science or Technology           |
| <input type="checkbox"/> Folk music | <input type="checkbox"/> Creative writing/painting       |
| <input type="checkbox"/> Jazz       | <input type="checkbox"/> Poetry                          |
| <input type="checkbox"/> Travelling | <input type="checkbox"/> Philosophy/Psychology/Sociology |
| <input type="checkbox"/> Cinema     | <input type="checkbox"/> History/Archeology              |
| <input type="checkbox"/> Good food  | <input type="checkbox"/> Conversation                    |

Your Sex put M or F     Your Height ft ins  
Your Age yrs     Age you would like to meet Min Max

First Name \_\_\_\_\_

Surname \_\_\_\_\_

Address \_\_\_\_\_

\_\_\_\_\_

Occupation \_\_\_\_\_

Religion \_\_\_\_\_

Send to: **Dateline, Dept CCD**  
**23 Abingdon Rd.,**  
**London W8 6AH**  
**01 938 1011**



## Prism Cheapos

Prism Leisure have signed an exclusive distribution agreement with Argus Press Software Ltd on selected back catalogue titles.

The agreement means that Prism Leisure will sell games such as Give My Regards to Broad Street, The Force, Schizophrenia, Johnny Reb II, amongst others, on Commodore 64 at new low prices allowing retail prices of £1.99 and £2.99.

**Contact: Prism Leisure Corporation, Unit 1, Baird Rd, Enfield, Middx. EN1 1SJ.**

## Gothic Horror from CRL

CRL is to release 'Frankenstein' for the 64/128.

Based on the classic novel by Mary Shelley you play the part of Professor Frankenstein, the demented scientist whose bizarre experiments create the ultimate monster.

This three part adventure will have horrific animated digitised graphics and a powerful descriptive text. It will also come complete with terrifying sound effects.

Frankenstein £9.95 (c) £14.95 (d).

**For further information contact Headlines PR on 01-258 3999.**

## New Superhero!

No, it is not a Masterchronic. Deep inside the laboratories of Melbourne House a new lifeform is stirring. Assembled by a crack team of software engineers, this hybrid creature has a personality which can be programmed and altered at will. This is the day of ... DOC THE DESTROYER. Doc the Destroyer is the first in an advanced race of superheroes. His powers of reason and physical strength, his ability to survive and succeed, are determined by his human controller at the start of each game. The ordeals which follow test those skills to the full, taking through the extensive playing

## Star Launches NX-15 Wide Carriage Printer

Star have announced the launch of their latest N series printer, the NX-15.

Designed as a direct replacement for the proven SG-15 model and priced at £389, it offers a combination of price and performance and ease of use. Included as standard are tractor and friction feed together with an automatic single sheet feeder for letterheads. When printing the NX-15 coasts along at 120cps in draft mode or at a satisfying 30cps in Near Letter Quality.

## Oxford Basic 64

From the publishers of Oxford Pascal, comes Oxford Basic for the Commodore 64.

Oxford Basic is said to be the complete 64 Basic programming environment and gives the user a library of powerful utilities: The Oxford Analyzer, a report/optimisation utility designed to enable you to produce high quality software; The Compressor to eliminate time consuming spaces and REMs, packing up to 255 characters on to each line; The Oxford Toolkit

Like all Star's N series printers the NX-15 features a full featured front control panel which eliminates the need for fiddling with DIP switches. Typestyle selection, draft or NLQ, print pitch, forms and paper control are all under finger-tip control. Interfaces are available in either parallel or serial form and can be slotted into the printer in seconds. Full IBM and Epson compatibility is provided.

Its baby brother, the NL-10, which was launched last year has already captured some 25% of the market in this price and performance range. It was called "... the Rolls Royce of these printers," in a recent comparative review while the Consumers Association magazine Which? gave it its Best Buy rating.

offers new commands to make BASIC programming more enjoyable and effective.

All of this together with OX-COMP, a fast, fully compatible BASIC compiler. It gives you machine code without the need to write in assembler. OX-COMP also contains a powerful optimiser which brakes programs into fragments to reassemble them simplifying the complex and removing the unnecessary.

Price: £34.95.

**Contact: Systems Software (Oxford) Ltd, 16B Worcester Place, Oxford OX1 2JW. Tel: (0865) 54195.**

games parameters, transforming the options which he is faced with and the problems he must solve.

Jane Denning, marketing manager for Melbourne House, says: "Doc the Destroyer is best described as, simply, a role-playing science fantasy text-and-graphic arcade adventure combat game, with" pausing for breath, "a mappable playing area, multiple choice and massive sprites."

See for yourself, when Doc destroys the Commodore 64, the Spectrum and the Amstrad machines shortly. And the damage? Only £9.95 for the Commodore version, £8.95 for the Amstrad and £7.95 for the Spectrum.

**Contact: Melbourne House, (01) 943 3911.**

## Pets are Back in Business

One of the very first micro-computers on the market in 1978 was the Commodore PET. And one of the first microcomputer software houses was Supersoft, also founded in 1978. Although Supersoft have moved with the times and now support many newer machines, they haven't forgotten the PET — as the release of two new products shows!

FAST COPY is a disk copying utility for 8050 and 8250 drives which can drastically reduce the time it takes to make vital backup copies of data disk. FAST COPY saves time by omitting the formatting process when writing to a disk which is already formatted (unlike the standard BACKUP command), and by copying only those blocks that have been used. At just £15 (exc VAT) FAST COPY could pay for itself in a matter of days.

BLITZ is a Basic compiler for 3032, 4032, 8032 and 8096 or 8396 computers. Easy to use, and highly compatible with Commodore Basic, BLITZ has been available on the Continent for some time, but Supersoft have only recently managed to obtain the U.K. rights.

Compiled programs run 5, 10 or even 20 time faster with BLITZ — and they're impossible to alter by anyone who doesn't have access to the uncompiled original, so they are also more secure.

BLITZ costs £99 (ex VAT), and comes with a comprehensive manual. Additional versions on the same disk are charged at only £30 each, so for example the 8032 and 8096/8296 versions would together cost only £129. BLITZ for the 8096/8296 allows the additional 64k of memory to be used for variables, unlike some other compilers which treat them as 32k machines.

FAST COPY and BLITZ are available direct from Supersoft, or (to order only) from your local computer store.

**Contact: Supersoft Tel: 01-861 1166.**



# DIMENSION computers l.t.d.

27/29 High Street  
Leicester LE1 4FP  
Tel: (0533)  
517479/21874

THE MIDLAND'S LARGEST COMPUTER STORE

## SOFTWARE

### VIZA

Vizastar XL8 64.....	<del>£99.95</del>	£79.95
Vizastar XL8 128.....	<del>£129.95</del>	£99.95
Vizawrite Classic 128.....	<del>£99.95</del>	£79.95

### PRECISION

Superscript 64.....	<del>£69.95</del>	£49.95
Superbase 64/+4.....	<del>£99.95</del>	£39.95
Superscript 64 & Superbase 64.....	<del>£169.90</del>	£79.95
Superscript 128.....	<del>£89.95</del>	£74.95
Superbase 128.....	<del>£99.95</del>	£59.95
Superscript 128 & Superbase 128.....	<del>£189.90</del>	£119.95
Superbase, The Book.....		£11.95

### COMMODORE 128 COMPENDIUM PACK

Commodore 128 Computer, C2N Data Recorder, Music Maker Keyboard, Spirit of the Stones, Jack Attack and International Soccer Software.....		£269.95
--	--	---------

### COMMODORE

Future Finance (Planning Package), Disc.....	<del>£75.00</del>	£17.95
Macro Assembler Development System, Disc.....		£14.95
Simons Basic Extension, Tape.....	<del>£10.95</del>	£12.95
Commodore 64 Programmers' Reference Guide.....	<del>£9.95</del>	£7.50

### LOGO + PILOT

2 Educational Languages, Disc.....	<del>£64.99</del>	£14.95
Easyfile Database, Disc.....	<del>£59.00</del>	£17.95

### AUDIOGENIC

Swift Spreadsheet 128, Disc.....		£24.95
----------------------------------	--	--------

### CBM64/128 MUSIC EXPANSION SYSTEM

Including Full Size Five Octave Keyboard,  
8 Channel Synthesizer Module and  
Sound Studio Software  
~~£149.95~~ Few only at £99.95

### MICRO CLERK 128

Accounts Package with Spreadsheet, Database and Word Processor.....		£99.95
Purchase Ledger.....		£69.95
Sales Ledger.....		£69.95
Accounts, Purchase Ledger, Sales Ledger Package now.....		£199.95

### SWIFTCALC 128

CBM 128 Spreadsheet.....		£57.50
--------------------------	--	--------

### PRACTICORP

Inventory (Stock Control Package), Disc.....	<del>£29.95</del>	£14.95
---	-------------------	--------

### 6 DISC ADVENTURE GAMES PACK, 64/128

Deadline, Suspended, Starcross, Zork I, Zork II, Zork III.....		£19.95
Pack of 12 Commodore 64 Pre-School Educational Titles, Tape.....		£39.95

### PLUS 4 COMPANIES PACK

Sales/Purchase/Nominal Ledgers with Invoicing and Stock Control.....		£24.95
---	--	--------

1541C DISC DRIVE	£199.95
1571 DISC DRIVE	£249.95

Both the above include either:

#### Software Pack A

6 Infocom Disc Adventure Games, or

#### Software Pack B

Quick Brown Fox Word Processor, Easyfile Database and  
Future Finance Planning Package

AMIGA System One.....	£1050.00
System Two.....	£1250.00
With free 1 year on-site warranty and 10 disc Software Pack including Forth, Lisp, Utilities, Text Editor, Speech Synthesis, etc.	

### CITIZEN 120D CBM PRINTER

High Quality Dot Matrix Printer  
\* Near Letter Quality Mode \* 120 cps Draft Print Mode  
\* Friction and Tractor Feed \* Needs no interface  
\* Full Two-Year Warranty \* 100% Commodore compatible .. £199.95

## PERIPHERALS

MUSIC MAKER 128 Keyboard and Software, Tape.....	£19.95
---	--------

POWER CARTRIDGE Utilities including Tape and Disc Turbo and Screen Dump.....	£39.95
---	--------

ACTION REPLAY Tape to Disc Back-up Cartridge.....	£24.95
--	--------

64/128 PRINTER BUFFERS	
32K.....	£69.95
64K.....	£89.95

NEOS MOUSE WITH CHEESE SOFTWARE, Tape or Disc.....	£27.95
---	--------

THE ARTIST Advanced Mouse Graphics Package.....	£29.95
--	--------

COMPOSER/EDITOR SOFTWARE for Sound Expander System, Tape or Disc.....	£24.95
--	--------

TROJAN CADMASTER LIGHT PEN Commodore 64.....	£16.95
Commodore Plus 4/C16.....	£19.95

PRINTER RIBBON OFFER	
MPS 801, 802 Ribbons.....	£5.95
MPS 803 & MPS 1000.....	£4.95
MPS 1101 M.S. Ribbons.....	£3.50

BUY FOUR AND GET ONE FREE!

LOCKABLE DISC STORAGE BOXES Price includes pack of 10 Commodore compatible discs	
50 Capacity.....	£19.95
100 Capacity.....	£21.95

THE EXPERT CARTRIDGE ESM Tape to Disc System.....	£37.50
--	--------

FREEZE FRAME 3.....	£39.95
---------------------	--------

COMMODORE MPS 803 TRACTOR FEED UNIT.....	£24.95
--	--------

FCC CENTRONICS INTERFACE With Commodore Graphics and 8K Buffer.....	£64.95
--	--------

QUICKDISC + 1541 FAST LOAD/UTILITY CARTRIDGE.....	£19.95
---	--------

10 COMMODORE COMPATIBLE DISCS WITH FREE PLASTIC DISC HOLDER.....	£9.95
---	-------

### PERSONAL CALLERS AND EXPORT ENQUIRIES WELCOME

ALL OFFERS STRICTLY SUBJECT TO AVAILABILITY

ALL PRICES INCLUDE V.A.T.

To order, either send cheque/P.O. with coupon or ring (0533) 517479/21874 with  
Access/Barclaycard number. Please allow 7 working days for delivery from receipt of order  
or cheque clearance.  
Please add £1.00 towards carriage and packing on any software order.  
Hardware orders add £1.00 under £65.00 value, and £5.00 over £65.00 value.  
Printer orders add £5.00 towards carriage.

Send to: Dept. No. CCI6, Dimension Computers Ltd.,  
27/29 High Street, Leicester LE1 4FP.  
Tel: (0533) 517479/21874 Fax: (0533) 511638



Item	Quantity	Price
.....		
.....		
.....		
	Total	
Name.....		
Address.....		
Telephone:.....		

# GAMESWORLD ELITE

...

## “THE WILCOXES”



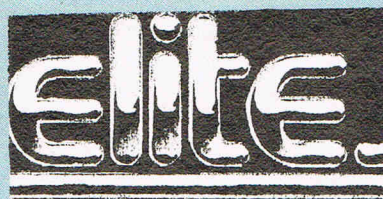
On a quiet street, near Walsall, in what was once the heartland of industrial middle England stands an unimpressive office building. The ground floor is occupied by a Tandoori restaurant and a ladies' hairdresser. Above them on the second floor in equally unspectacular offices lives a computer games company that some believe made more profit in 1986 than any other in the U.K. — and that includes U.S. Gold and Ocean who are generally thought to be the largest home entertainment companies. This successful games company is Elite which has achieved in the last eighteen months a record of hits that is second to none. Frank Bruno's Boxing, Commando, Bombjack, Ghosts and Goblins, Paperboy — all reached the number one spot in the charts and stayed there for long enough to make them top sellers. There were others too that even if they did not reach number one still more than paid their way.

young, Dad, with a rueful twinkle claims to be the oldest man in a top position in the computer games world. He may be right but the depth of his experience allied to the younger Wilcox's flair make them a very formidable team in deed.

## Playability

Elite came about by a series of apparently unconnected chance happenings in August 1984. Steve Wilcox had finished college with a degree in chemistry spent 10 months in a big industrial company, got frustrated and started a computer shop in Walsall just a few miles from the family home. By Autumn 1983, he was selling Spectrums "by the truckload". Richard, Steve's younger brother, then 15, got hold of a computer his father had brought home from an abortive business software venture and taught himself to program. He wrote a game for the Atari, then one for the Spectrum. It was called "Blue

## Market Leaders



The innocuous appearance that its unobtrusive home above the tandoori and the hairdressers lends Elite is deceptive. Its success is better reflected in the cars that stands in the parking area — a brand new black Jaguar Sovereign and a golden Lotus Turbo Esprit. The two cars belong to father and son, Brian and Steve Wilcox, who own Elite completely. Together the Wilcoxes are building a software house, not yet three years old, that is becoming a unique, well-oiled machine for the production of hit computer games and the making of large sums of money.

Steve Wilcox is tall, slim, mustachioed. He smokes nervously and at 27 he is reputedly the possessor of a bank balance in the high figures which with other assets, makes him the U.K.'s youngest software millionaire. His quiet manner conceals a shrewd mind that has an uncanny knack for picking winners both in ideas and in programmers capable of carrying them out.

Brian Wilcox, the father, is a heavy-weight corporate manager who has climbed from apprentice "in metal bashing", to owning his own foundry from which he retired and then sold before entering the software business and running the administrative side of Elite. While son Steve has made it big

Thunder". It was Elite's first game and it became a top seller.

Next came Kokatoni Wilf which was Elite's first Commodore game. It got to number four in the charts. That was followed by Elite's first licensed game "Fall Guy", linked to a TV series. "It was pretty awful" admits Steve Wilcox. But the idea of linking with an outside aid to public awareness of a game appealed and Elite signed to produce its first coin-up conversion — a field in which they are now regarded as outstanding. Their first conversion was Airwolf. It was written by Richard Wilcox in just three weeks. It was a smash hit and sold over 200,000 copied. At the time it was second only to "Ghostbusters" as a big seller.

Elite began to bring other products on stream. Richard worked once more on Grand National and at the advantages of 16 retired from programming to concentrate on his A level examinations. But as in good stories, there was a little drama in the Elite story. For the next nine months there was no more success. Things must have looked dark in a business where you are only as good as your last release. "But we had an advantage" explains Steve Wilcox. "We were later than other software companies. So we learned a lot of lessons

from other people's mistakes. We knew what we had to produce was high quality games." It was at that time too that Elite began to try to bring in a policy of producing the same game on all formats simultaneously.

The creation of a computer game generally depends on the ability, the concentration, even the physical stamina of programmers who are very often in their late teens or early twenties and are more usually computer enthusiasts than business people. An idea for a game will be approved by a software house and given to a different group of programmers to produce the Commodore, Spectrum and Amstrad versions. Because if the same group of programmers has to do all three then they may not be so expert in all three formats and certainly cannot produce them all at once. Because of financial pressures on software houses — it can need an investment of £100,000 or more for one game these days — when a single version is finished there is a great temptation to rush the game out into the market and get some of that costly investment back.

Elite realised that the impact on the public of releasing a game right across the formats at the same time would be that much heavier than just on one format. The press and the buying public would be impressed that something important was happening and the sales of all three formats would give it a much better chance of hitting the top numbers on the charts. Releasing all three at once had hardly been done at that time and some reluctantly admiring rivals believe that this marketing strategy has had a remarkable effect in driving Elite products to the top of the charts.

Elite maintains there is another reason for their success — the sheer quality of their products. They achieve this by "cherry picking" their programmers and their games. "We scrap a lot of things...even finished products. We've invested £50,000 in a project and thrown it away...There are several projects we've got to completion and didn't publish..."

To save a repetition of this wasted investment, they have now decided to build up their team of programmers and to examine thoroughly just how a successful computer game gets written and produced. They have just conducted an intensive investigation among themselves into the conditions necessary to ensure success. One of those conditions they say is "Quality Control".

"Quality Control" is not a term generally heard in games software houses, where word like "playability" or "hi-res graphics" are pop up more often. This emphasis on "quality control" stems from Brian Wilcox's past management experience in industry. For this and other administrative functions he has built into the organisation a series of

systems that makes Elite, he claims and others back that claim, the possessor of the most efficient distribution system of any U.K. games software company. He states that anyone making an order that Elite receives before o'clock in the afternoon will have it fulfilled the same day. He points out that Elite's 1986 turnover of £3 million was accomplished from a warehouse, tiny by comparison with most of just 600 square feet. The absence of flash offices...the efficient use of space...the smooth running distribution system...no wonder Elite is so profitable...It is, it is reputed, to be sitting on a "cash mountain" of well into seven figures which gives it substantial financial muscle when it come to negotiating coin-op and other linked conversion rights.

## The Hit Pak

Elite's ability to produce hits has been extended by the acquisition of more expert programmers. Someone has called them echoing Elite's recent completion success "The Hit Pak". It is currently working on a game being programmed by a team that came from the famed Ultimate company. CCI succeeded in setting an exclusive look at "Buggsey Boy". This is a racing game that might be considered somewhere between a simulation, in that you have to use your skills to keep your racing car on the road in spite of a variety of obstacles that rush at you, and an out and out arcade coin-op in that it is fast and action filled. It looks a class above anything that has previously appeared in the "Pole Position" style.

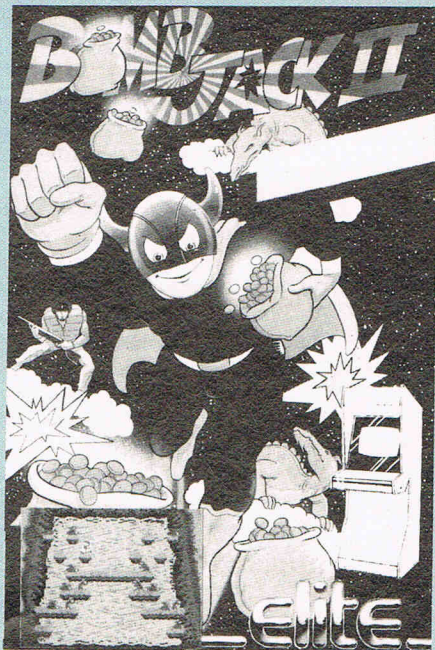
'Buggsey Boy' is like all Elite's games these days, designed to appeal to more than just a U.K. market. It will clearly be popular wherever computer games are played. Elite's overseas sales now exceed its U.K. market. It seems, with some satisfaction that the Wilcoxes will tell you, that the influence of the once almighty U.K. distributors like Centrsot is declining. Although Elite still sees plenty of room for growth in its home market.

It is growing in the number of titles it is bringing out, too. This year it will bring out 12 — 6 arcade conversions, 3 follow-ups to past successes and three games of their own design. They see their opposition coming not so much from the U.K. "If elite to be a world power as a software company, the Japanese will be our competition not far down the line."

They are confident enough of themselves to admit that they are still learning. "When we looked at ourselves." Steve Wilcox comments about their recent investigation. "We discovered that we didn't have the capacity really to design something totally original... Doing all these conversions though had taught us the difference between a good

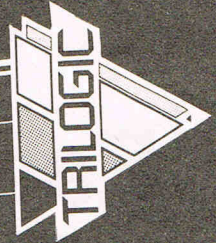
game and a bad one. We have built up the technical skills. The next stage is to produce a game where the design is ours."

They have reason for confidence. Their first release this year Bombjack 11 went to number 1 "The first of 1987...It was an original design...We just used the name to carry it forward..."



There is not doubt that Elite has earned considerable respect both in the software industry and from game buyers. The Elite logo is becoming familiar enough to persuade the game player with money in his pocket to spend it on an Elite game because the company's previous games have been tops in playability and high in value. The consistency of its quality brings it comparison not so much with Ocean, which is generally thought of as its rival, but with the sharp quality and consistent vitality of another company associated with "The Empire" of U.S. Gold and Geoff Brown — Ian Stewart's Gremlin. If, as the Wilcoxes predict the number of games houses is going to go on shrinking, there is little fear that Elite will not be among the survivors. Even though the elder Wilcox is preparing for a second retirement, Steve Wilcox shows no sign of being bored with running his own show or the rewards it brings — weekends in the U.S. or skiing and a Turbo-loaded Lotus. Picking winners may be, as the quickly smoked cigarettes reveal, something of a strain, but it is a lot better than being a management trainee in a big company or even selling Spectrum by the truckload. No, if careful planning, intelligent management, well-organised systems, a dedication to quality — and of course sheer playability can bring success in games, then you can be sure that Elite is going to go on adding to that cash mountain and its growing list of number one chart hits.

# TRILOGIC DO IT AGAIN!



LIMITED PERIOD ONLY! ACT NOW!

Now ONLY **£29**.99 (inc VAT) **POST FREE**

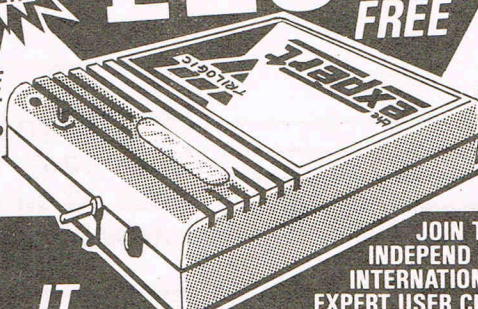
**SPECIAL ANNIVERSARY CELEBRATION PRICE!!!**

ONLY AVAILABLE FROM US AT THIS PRICE

MUCH MORE THAN JUST A BACK-UP UTILITY

**FREE CATALOGUE SEND 18p STAMP**

the **expert** WITH ESM  
**CAN IT DO ALL THIS?**



JOIN THE INDEPENDENT NT INTERNATIONAL EXPERT USER CLUB.

**IT ALSO . . .**

- SAVES PROGRAMS IN ONE FILE - (excl multipart ones)
- COMPACTS PROGRAMS used by leading software houses.
- RELOADS, DECOMPACTS & RUNS ANY PROGRAM WITHIN 35 secs.
- THE EXPERT IS NOT NEEDED FOR RELOADING.
- COMPATIBLE WITH THE PHANTOM, & ALL CBM64/128 DISK DRIVES.

**1 PROGRAM PARALYSER**

Stops even the most heavily protected programs and defeats All "anti-freeze" techniques.

**2 BACK-UP GENERATOR**

TAPE - DISK, DISK - TAPE, DISK - DISK, TAPE - TAPE Transfers memory resident programs whether loaded from disk or tape.

**3 SPRITE EXTRACTOR**

Displays the sprites for you to edit, and then save, or RESTART the game using your customised ones. You can view the animation too.

**4 SPRITE IMMORTALISER**

This feature disables the sprite collision detection - prolongs active sprites . . .

**5 HIRES SCREEN GRABBER**

Save a HIRES screen and then alter it using one of several utilities widely available.

**6 CHEAT MACHINE**

The easy way to enter cheats and "pokes". Gain extra lives, or infinite energy etc etc.

**7 CODE INTERROGATOR**

A truly professional machine-code monitor, operating over all 64K Ram, with disassemble, compare, transfer, fill, assemble, hunt, search, modify, jump, number conversion commands etc. PLUS, B command lists BASIC & R restarts a program.

**8 THE ONLY PROGRAMMABLE CARTRIDGE FOR THE 64 & 128 (64 MODE)**

You'LL NEVER need to return the cartridge for upgrading. - simply send for the latest software - only £2.00 exchange disk or tape. We calculate that you could buy an EXPERT and several upgrades for what it will cost you to upgrade rival products.

- FAST MAIL ORDER SERVICE • PROMPT DESPATCH
- ALL PRICES FULLY INCLUSIVE PLUS 10 DAY MONEY BACK GUARANTEE ON ALL BACK-UP DEVICES.
- ORDERING: WRITE OR PHONE/PAYMENT BY CASH, CHEQUES PAYABLE TO TRILOGIC/ BY POSTAL ORDER OR ACCESS • ADD £1 EXTRA FOR EXPORT ORDERS. PAYMENT IN STERLING ONLY PLEASE



**10 DAY MONEY BACK GUARANTEE!!!**

Tel (0274) 684289

CALLERS 329 TONG STREET BRADFORD BD4 9QY

RGBI INTERFACES  
128 TO FERGUSON  
128 TO FIDELITY  
128 TO PHILIPS  
128 TO HITACHI  
128 TO SONY

MONITOR LEADS . . .  
64 TO FERGUSON  
64 TO PHILIPS  
64 TO HITACHI  
64 TO FIDELITY  
64 TO SONY

NEW PRODUCTS . . .  
MAINS CONTROLLERS  
RELAY OUTPUT UNIT  
CBM 64 POWER UNIT

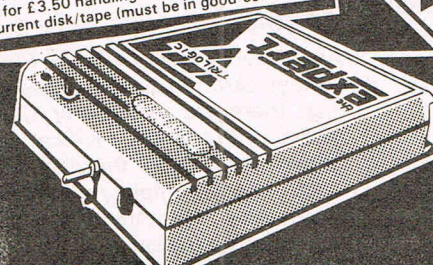
TAPE BACK-UP UNITS  
DCL1  
DCL4  
DCL4A

**EXPRESS DELIVERY ADD £1.95**

**NEW THE EXPERT UTILITY DISK No.1**  
• Specific multi-part back-up utilities.  
• Additional operating systems.  
• Fast file copier etc. etc.  
• Monitor with print command. ONLY £5.95

**UPGRADES**

Existing EXPERTers can send for the latest V2.10 operating software as detailed in this ad for £3.50 handling charge, or £2.00 + your current disk/tape (must be in good condition).



**EXCITING NEW HI TECH PRODUCTS FOR YOUR C64 / 128 JUST ANNOUNCED.**

- NEW!** SOUND SPLITTER. STEREO CONVERTER WITH REVERB - HEAR IT TO BELIEVE IT . . .
- NEW!** THE PHANTOM - PARALLEL DISK DRIVE ADAPTOR - LOAD / SAVE UP TO 40 TIMES FASTER
- NEW!** EPROM PROGRAMMER - FOR 2716, 2732, 2764, 27128, 27256 EPROMS
- NEW!** DUAL SWITCHABLE ROM CARTRIDGE BOARDS - MAKE YOUR OWN CARTRIDGES
- NEW!** 256K SOFTWARE SWITCHABLE EPROM BOARD, TAKES 8 EPROMS.
- NEW!** HEAVY DUTY POWER UNITS - MADE BY TRILOGIC, 2AMP OUTPUTS.
- NEW!** POWER UNITS WITH MAINS SUPPRESSORS FITTED - HEAVY DUTY 2AMP OUTPUT.

THE EXPERT ORDER

Please send me Expert ESM  SPECIFY DISK  If you do not have a disk drive OR TAPE  please state "Tape version required."

Name \_\_\_\_\_ I Attach P.Order/cheque £29.99

Address \_\_\_\_\_ Access No. \_\_\_\_\_

Post off to ► Trilogic Dept CCI  
29 HOLMELANE BRADFORD BD4 0QA

## Easy Music Making on the Commodore 64 (Part 1)

---

Ian Waugh shows you just how easy it is to make your 64 sing — once you know how.

---

This series of articles will give you enough knowledge to tackle your own music programming — to make real music from your 64. We'll skip as many of the boring bits as possible but a few words about music won't go amiss.

We've included some figures to show you what you can do. To tie this in with SID (the 64's music chip) one figure shows which pitch numbers produce which notes. Keep these handy because future articles will refer to them.

(Figure 2.4, page 21)

### Pitch

The two most important items of information we get from a piece of music are the pitch and the note and how long it lasts. In conventional notation, notes are arranged on a set of five lines called a staff or stave. Pitch is shown by placing notes on the lines or in the spaces. The higher the note is placed, the higher the pitch. The notes are given letter names, A through to G. When you reach G you start again with A.

Notes can be placed above and below the lines to extend the range. These are written on and between short lines called leger lines which are really just an extension of the stave. To increase further the range of notes and maintain readability, we can add another stave below the first one. To distinguish one stave from the other, each is given a clef sign which shows the position of the notes in relation to the stave. The two

most common clefs, and the only ones we will concern ourselves with, are the treble or G clef and the bass or F clef.

The interval in pitch between two similar letters is known as an octave and represents a doubling in pitch or frequency. The interval between a note on a line and a note in a space is either a tone or a semitone. We can do a few experiments and see — and hear — what scales sound like. The following program shows the range of pitches SID is capable of. It also demonstrates the type of sound SID can produce and you can hear how varied they are.

(Program 1.2, page 6)

It plays a series of semitones. Even if you can't read music you can probably tell that this is not a 'proper' scale. Try this program:

(Program 1.5, page 5)

You can probably also tell that this is not a complete scale. You can produce a scale quite simply by making these alterations:

```
150 FOR N=1 TO 8
240 DATA 16,195,18,209,21,31,22,96,
25,30,28,49,31,165,33,135
```

This sounds complete and more musically satisfying than a sequence of semitones. If you're not familiar with the workings of the SID chip then take these programs on trust. All will be explained in the course of the series.

The SID chip has a range of over eight octaves. The keyboard diagram covers only the middle five, mainly to keep it within manageable proportions but musically, you will find the sounds in this range to be the most useful and other pitches are easy to program if you need them.

You can make a simple modification to the first program (1.2) to test the musical usefulness of each octave:

```
145 PRINT"OCTAVE?";
146 GET O$:IF O$<"0" OR O$>"7"
GOTO 146
147 PRINT O$:O=7-VAL(O$)
200:
290 IF TI<TM+25 THEN 290
310:
```

### Scales

An important property of music, not always obvious at first sight, is the fact that there are really only 12 separate notes in the whole musical spectrum. When you reach the 13th note, the sequence is simple repeated and the notes sound an octave higher. Make the following alterations to the first program (1.2) and you hear the six C notes available from the sound chip:

```
220:
290 IF TI<TM+25 THEN 290
300:
```

### Other scales

The notes on the keyboard can be arranged to form scales other than major scales. Scales provide the basic

building blocks from which a tune is constructed and give the music a sense of tonality or affinity with a certain group of pitches. If we play only on the black notes of a piano we are using five notes which form a pentatonic (meaning 'five') scale. It sounds very oriental — or what Westerners consider to be oriental. In more common use is the minor scale which you can hear by making the following alterations to the second program (1.5):

150 FOR N=1 TO 8  
240 DATA 16,195,18,209,19,239,22,96,  
25,30,26,156,31,165,33,135

Other scales exist. These contain various numbers of notes and various intervals but most of them are written using the standard notation we are discussing.

## The length of a note

There are two aspects in the timing of music which should not be confused: the first is the duration of individual notes and the second is the tempo or speed of a piece of music.

The duration of an individual note is relative only to the other notes in the piece and in no way does it determine the speed or tempo of the music.

(Figures 2.6 and 2.7, page 25)

The duration of notes in standard music notation is shown in the figure along with their English and American names. The American names are easier to understand immediately and seem to be attracting numerous converts from the English system.

The duration value shows how long each note sounds in relation to each other. If a note has a dot placed after it, this lengthens its duration by one half. The tempo of a piece is determined by an instruction given at the beginning of the music and although fast pieces will often contain semiquavers and demi-semiquavers, you cannot absolutely determine the speed of a piece by just looking at the notation.

Rests play an important part in music too, and they go by the same name as their note equivalent with 'rest' tagged on the end, eg quaver rest. These can be increased in length by one half by the addition of a dot but it is more usual to see a rest of the equivalent half value placed after the other.

## Beats in the bar

The time signature of a piece of music is indicated at the beginning of the stave by two figures, one over the other. The upper figure denotes the number of

'beats in a bar' and the lower figure denotes the length of each beat. For example, a time signature of 2/4 tells us that there are 2 beats to the bar, each made up of a quarter note or crotchet. 3/4 is three beats to the bar, each a crotchet, and is the time signature in which most waltzes are written. 4/4 is sometimes written just as a large C and referred to as Common Time and is by far the most common time signature of all encompassing quicksteps, foxtrots, rock 'n' roll, ballads and most classical music. The upper figure indicates the pulse or rhythm which runs through the music.

Time signatures can be altered at any point in the music and, indeed, can consist of any combination of notes the composer wishes to use.

If you're at all serious about music, you could do worse than grab a copy (preferably by legal means) of *How To Read Music* by Helen Cooper, a distinctively written and well-illustrated £3.50's worth of information from Music Sales (0284 702600).

In the next article we'll navigate our way around the SID chip register map and see how to make it produce the sounds and pitches we want. Reserve next month's copy now — or buy the book. Or both!

I.W.

## COMMODORE PLUS-4/C16

### WISP — Amazing new product!

WISP offers you a refreshing new way to operate your PLUS 4. WISP stands for Windows Icons, Silicon-disc Package. It is packed with many powerful features. Everything in your new operating environment is run through windows — just like on very expensive computers. Built-in window facilities include a) clock b) calculator c) silicon disc d) note pad e) directories f) fast load and save g) error trapping h) programming windows. Windows may be closed and neatly stored as icons. A smooth sprite is used to select the windows you wish to use from the pull-down menus. With the silicon disc you can instantly save, load and directory — all in under half a second (much faster than even a disc drive). The fast load and save to cassette is about ten times normal speed! We have never before sold such a feature packed program to give you power to control your computer to its limits. The ultimate programming environment.  
*Incredible value. Plus 4 only. Cassette £9.95. Disc £14.95*

### THE MIRROR — TAPE BACK UP

Superb tape to tape back up copier catering for the majority of PLUS-4/C16 games. Backs up both standard and FAST loading software. All major loading systems catered for. Very large menu of both general back up routines and popular games. Basic machine code and protected games all easily handled. NO extra hardware and NO second cassette unit are required. Easy to use with full instructions. *Very popular utility — Excellent value — £7.95*

### THE WAND — TAPE TO DISC

Make full use of your disc drive by effortlessly converting your games/software to disc. Convenient and fast loading from disc. Handles all major loading systems with a very large menu of general back up routines and games. We have had many letters telling us how much people appreciate this utility. Don't be left out — buy one! Every disc user should have one.  
*Excellent value — supplied on disc — £12.95*

### PHOTON LOAD — FAST LOAD AND SAVE

Have you ever wasted time waiting for your programs to load or save? This excellent program will make a real difference to your computer. PHOTON LOAD, the new cassette operating system loads in seconds and allows you to load and save your programs at about TEN times the speed of a normal load or save. Two additional basic commands make this extremely easy to use. Why spend money on a disc drive when you can load and save this fast. Features such as striped screen loading and an audio warning when loading is complete assure you loading/saving is going to plan (unlike the Commodore system) — A well designed Cassette loading and saving system — once you have one you won't want to be without one.  
*Great value — £7.95*

## SUPER SPRITE

This extremely clever utility allows you to use 8 sprites simultaneously over a low-resolution screen. With this program you can now imitate the sprites found on the Commodore 64. Each sprite is composed of 16 x 16 pixels for high definition. Sprites can be independently moved in any direction with VERY SMOOTH scrolling. Sprites may take on any colour and travel at any speed. Sprite priorities and collision detection are provided. Despite adding all these complex features to your computer it is very easy to use. We provide extra Basic commands to make it very easy to use sprites with your programs. On top of all this we provide you with FREE demo programs and a FREE sprite designer. What more do you need to bring real power to your games on your C16/PLUS 4. This entire package is a must for games programmers.  
*Excellent value — Cassette £7.95. Disc £9.95*

## ELECTRIK PENCIL!!!

A truly excellent high resolution art program. Magnificent masterpieces can be quickly drawn using the powerful facilities provided by this package. The program is entirely written in high speed machine code and includes Variable pencil size, Variable drawing speed, Easy select cursor menu, pixel draw/plot, freehand, lines, circles, flood, characters/letters plotted on high-res screen at any position, 121 colours all usable simultaneously, hard copy to printer, load and save of pictures to cassette or disc, joystick or keyboard operation. Many other facilities too numerous to mention. Complete with instructions. Bring some colour into your life with ELECTRIK PENCIL. Impressive results in no time at all. Amaze your friends!  
*Cassette only £7.95. Disc only £9.95*

## MERLIN ASSEMBLER

100 n/o machine code assembler for the Plus-4/C16. Very fast assembly of source code. Easy entry/editing of code via the full screen editor. Full error messages pinpointing the errors. Full load/save and printer facilities. Intelligent assembly. Variable names, labels, hex/decimal, text and data statements, remarks, post indexing of variables etc. Many other facilities too numerous to mention. Highly recommended — A truly superb assembler. Comes with instruction booklet and FREE booklet of machine code routines. READ THE EXCELLENT REVIEW IN YOUR COMMODORE — MARCH 1987.  
*Cassette £8.95. Disc £13.95*

## SPECIAL OFFER!!!

This month if you buy two or more of the following programs you may knock a POUND off the price of EACH item!! This offer applies to Merlin assembler, Electric pencil, Super Sprite and Photon Load.

## BLACK CAT — CASSETTE CONVERTER

Have you ever wanted to use your PLUS-4 Wordprocessor, Spreadsheet, Business graphics etc. with a cassette unit? This program allows you to save your files to cassette rather than disc (as forced to by Commodore). Quick, convenient, easy to use.  
*Only £4.95*

## JOYSTICK ADAPTORS

Converts any joystick to Plus 4/C16 format. Simply plug in and go!  
*Only £3.50*

## CASSETTE INTERFACES

If you have a Commodore 64 cassette unit which you would like to use with your C16/PLUS 4 then you need one of these. This adaptor leads simple to use. Just plug in and go!  
*A sound investment £5.95*

## Tape Head Alignment C16/Plus 4

The perfect cure for the majority of loading problems. Specification as for the Commodore 64 (see below).  
*Only £6.95*

## COMMODORE 64

### EVER HAD A LOADING PROBLEM?

Then send off for WIZARD'S TAPE HEAD ALIGNMENT KIT 64 — No one should be without one! The most common cause of loading failure is bad alignment of your tape heads. This kit allows you to set up the tape heads of your cassette unit for the best possible loading conditions. In many cases this will make a remarkable difference in loading reliability. Our kit comprises of:  
1) A precision recorded cassette containing a sophisticated test program. 2) A special adjustment screwdriver. 3) A direction indicator. 4) A turning meter. 5) A detailed instruction booklet with diagrams. 6) A Loading Doctor — to help you diagnose any loading problems.  
*All of this for only £6.95!!!*

## RAPID dispatch of orders

U.K. p&p FREE and by FIRST CLASS post. Europeans please ADD 50p. Outside Europe ADD £1.50 for AIR MAIL. Overseas orders welcome. All payments must be in pounds sterling. Cheques/POs to: WIZARD SOFTWARE (Dept. KJS) 20 Hadrian Drive, Redhills, Exeter, Devon EX4 1SR.

**WIZARD SOFTWARE** (Dept. YY) 20 Hadrian Drive, Redhills, Exeter, Devon EX4 1SR

Dear C.C.I.

*I thought that I would*

Write on....!!

Dear C.C.I.,

I wrote to you regarding the sale of software for the Commodore C128 explaining that I had not found any shops within reasonable driving distance to where I live. Well, having recovered from a deep depression and removed my head from the rope to which I was about to hang myself, I decided that at least one more attempt at finding a shop that sells software for my much loved C128 was necessary. After all there **must** be one near me, somewhere? Well there is. This Aladdin's cave is called **The 64 Software Centre** which happens to be near Holborn in London. Most of you will know about the mail order as advertised in CCI but you may not know about the small shop in 1 Princeton Street, London.

A complete stock is held there for the C64 (or 64C if you prefer), C128 and of course the Amiga. Plus 4 owners are not catered for, but if you were to see the stock you'd know why. Not only does he stock the software but he also has the computers to demonstrate the software with. As if that was not enough he is knowledgeable about the differences in software, i.e. in my case the word processors. I finally opted for Pocket Writer 128 through his help (it's a shame I didn't ask his name). To sum it up, a more helpful person than you could hope to meet runs this much needed shop.

Obviously I am writing this letter using **Pocket Writer 128** and I haven't got used to all the facilities yet, but I think a few comments are necessary. First, I had great difficulty in setting up **Pocket Writer 128** for my printer, which is a CBM MPS1000, to run NLQ in Commodore mode. Second, it took me a bit longer to transfer **Easy Script** files than I expected but I think this was due to my inept methods of reading the reference guide (engage brain before fingers?). Lastly, the dictionary for **Pocket Speller** is in my mind a very daunting task to set up (all those words), but I'm getting there slowly. I've completed all the A's, just another twenty-five letters of the alphabet and a few files to go through. Well done **Digital Solutions Inc.**

Yours gratefully,

**M. A. Hinton, Harlow, Essex**

P.S. While I was in **The 64 Software Centre** a chap came in and started to run a very interesting piece of software/hardware on the C128. The hardware was the expansion ram and the software was running digitized pictures from a video camera, giving the effect of animation. I bring this fact to your attention because I had been to the Ninth Official Commodore Show and I had not seen anything like this at the show. My question is very simple, "WHY NOT".

Dear C.C.I.

I have written to many magazines, many times. I have never had one letter printed. This really annoys me, especially as the magazines encourage people to write to them. Do the people at these magazines know that first class stamps are expensive, and that great effort is put into every letter? It seems a great shame to waste my letters, or at least for me it is.

I think that most magazines don't print letters unless they're really exciting, funny or in general sensationalised.

I have never written to your magazine, mainly because I haven't really noticed your section before. I apologise for this and hope that it is accepted. I do have my reasons. I don't know but to me this letter seems OK. Please don't be another mag, and annoy me. **PLEASE PRINT MY LETTER.**

Do you realise that you have been printing an advertisement in your magazine that is false. I sent off for an alleigning and cleaning Kit for CBM tape recorder months ago. Surely it should have arrived by now. Please can you sort them out and give me news of them. The address is:— 28 Farmer Way, Netherton, Merseyside L30 4XL. Tel: 051 521 2202. I would be most grateful if you could do that for me.

I think that your magazine is very good, I'm sure a lot of other people do as well. The only thing is that it's a bit dull in places for my tastes.

Yours faithfully

**Peter David Dudley, Surrey**

Dear Peter

*I'm not surprised you haven't had many or any letters published. You sound as someone here said, 'a pompous little twit.' And what is your letter about? Not getting published? It's a tough life kid. Nobody owes you a living or publication. A published letter has to be interesting and express its point briefly and interestingly. Your letter does neither, and it's certainly dull in places too! You don't even properly explain what your complaint about the advertisement really is. Is it a classified ad? Have you proof that your money arrived? Why should we sort it out if you haven't made enough effort? And it doesn't sound as if you have. But we have published your letter. Why? As an example of what not to write to a magazine and a dire warning to others. If you want publication don't sound or write or even think like this!*

Dear C.C.I.

With reference to your two reviews on 'Simulations' in the March edition of CCI I was immediately interested.

I sincerely hope however, that your judgement of 'Super Huey II' was better than that of 'Ace of Aces'.

Though I have never seen or played S.H.2 I have had many hours under my belt from the original version, and am looking forward to seeing S.H.2.

As for 'Ace of Aces', well, what can I say. YUCK! — the loading is in sections (not too bad, but why?), and the title music is awful. I think it's supposed to be 'Land of Hope & Glory' — or something equally stirring. The notes are played out of key and time, the result being that it sounds as if it's being played by deaf Russians with the score sheet having been written in Japanese. Granted, the graphics are very good — particularly the side views.

**BUT:—** i) Why do enemy planes always appear to be in the cloud?

ii) Why is the ground never visible — except through the bomb bay (apart from the fact that the cloud is 3,000 ft thick!)?

iii) Why is there never any flak across Europe or at the target?

iv) Why is there no fighter cover over Europe or at the 'bombable targets'?

The programme is to put bluntly, **BORING**. Set the plane for the right direction using your compass, adjust to a suitable altitude and set it level before going to put the kettle on whilst you fly across Europe. Come back and bomb the target (easily done — particularly the subs) readjust the heading and altitude for London before going to make another coffee!

If I was asked for my rating it would just about manage **IFFY**. Taking the price into account (£9.95 — cassette) it would then be unprintable except in hieroglyphics.

At the same time as buying PoP (Pit of Pits) I also bought the disk version of 'Gunship' (£19.95). The difference apart from helicopter and Mosquito is absolutely incredible. Personally the rating for 'Gunship' is **MEGA** unless of course there is a higher one!

It's well worth the money, is a very good simulation — though probably for the more dedicated simulation addicts. How about a review for the other readers? I'll be looking forward to see it to say the least!!

2nd Lt. Flying Pig N.D.S., A.C.M., S.E.A.C.R., A.M., Purple-Heart, etc...

**G. E. Schofield, Oldham**

**Andy Moss replies**

*I think that you are being a bit over critical here Mr. Schofield, as in the review I did point out that Ace of Aces was not meant to be taken as a serious flight simulator but more of an arcade shoot 'em up, which concentrates more on action than realism. I also said that it would appeal to youngsters more than the dedicated flying enthusiast. As for Gunship, I absolutely agree with you, (see the review in May's CCI).*



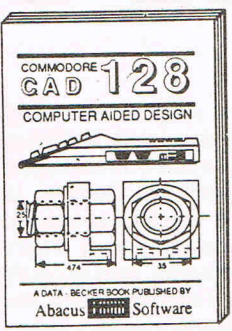
Authoritative!  
Comprehensive!

# Commodore 64/128 Books From

Definitive!  
Instructive!

# Abacus Software

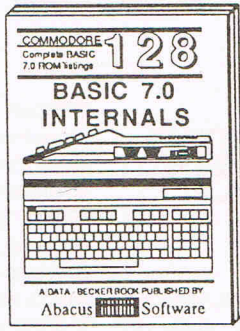
You Can Count On



**Computer Aided Design on the C-128 & C-64**

Computer Aided Design (CAD) is an increasingly important application for computers. This book examines many of the professional design techniques in use today, giving you examples that can be demonstrated on the C-128 (in BASIC 7.0) and the C-64 (in Simons BASIC). Learn the fundamentals of CAD while developing your own CAD system - 3D drawing, reflection, duplication filling, mirror imaging, zooming, and more. Many sample programs for both the C-128 and C-64, including CADDYMAT, a complete mini-CAD system.

AB 420 310 pages **£12.95**



**C-128 BASIC 7.0 Internals**

The complete reference work for C-128 users wanting an all-encompassing knowledge of Commodore BASIC 7.0. Topics covered include Dataflow and program design, advanced programming techniques; menu creation, graphics programming; multi-dimensional arrays, sort routines, data management and window programming; BASIC internals, token table, and the monitor. Included are several useful utilities. A must for BASIC programmers wanting to make fullest use of their 128's.

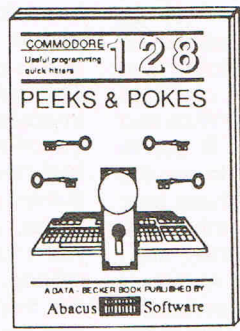
AB 425 350 pages **£16.95**



**C-128 BASIC Training Guide**

The complete reference work for C-128 users wanting complete knowledge of Commodore's BASIC 7.0. Topics covered include Data-flow and program design, advanced programming techniques; menu creation, graphics programming; multidimensional arrays, sort routines, data management and window programming; BASIC internals, token table, and the monitor. Included are several useful utilities. A must for BASIC programmers wanting to make fullest use of their 128's.

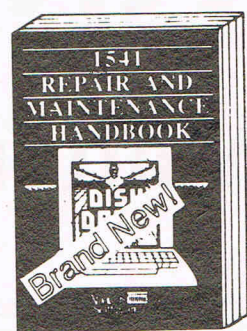
AB 430 350 pages **£11.95**



**C-128 Peeks & Pokes**

Presents dozens of programming quick-hitters. Useful techniques on the operating system, stacks, pointers, keyboard, sprites, hi-res graphics in 40 and 80 column, the BASIC interpreter, 6502 and Z-80 assembly language and more.

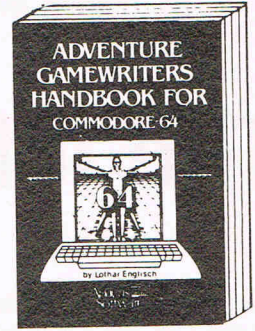
AB 435 200 pages **£11.95**



**1541 Repair & Maintenance Handbook**

Here's the book you've been waiting for: it describes the 1541 drive's hardware, including all the maintenance and repair information you need to keep your disk drive operating smoothly. Included are schematics, alignment testing, quick realignment tips, error-correction hints, electronic and digital techniques. Repair your drive with ease using this excellent handbook. Large format.

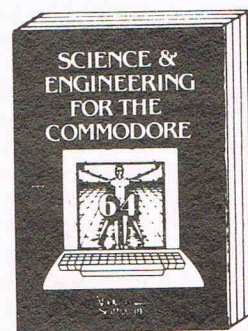
AB 990 106 pages **£12.95**



**Adventure Gamewriters Handbook**

This is a step-by-step guide to designing and writing your own adventure games. You'll learn the strategy behind programming adventures; motivating the players, using text and/or graphics, "saving" a game for later play, and more. Included is the complete listing for an automated adventure game generator with editor and interpreter.

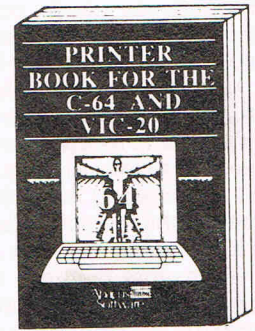
AB 975 225 pages **£10.95**



**Science & Engineering for the C-64**

An introduction to the use of the C-64 computer in scientific applications. Describes variable types, computational accuracy, computers in science; POKES useful in solving scientific problems; various sort algorithms; bubble, quick and shell sorts. Topics include linear and nonlinear regression, CHI-square distribution, Fourier analysis, matrix calculations, more. Programs from chemistry, physics, biology, astronomy and electronics. Includes many program listings.

AB 955 340 pages **£12.95**

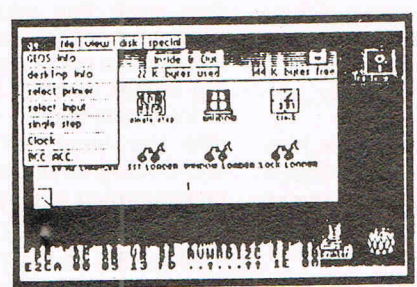


**Printer Book for the C-64 & VIC-20**

Here's an in-depth handbook that explains all of the things that you can do with your '64 (or VIC-20) and a printer. Topics covered include: interfacing your printer to the computer, using secondary addresses for various printers, using printer ports and the principles of printing graphics: utilities and programs for text and graphics hardcopy, formatting program listings and more.

AB 965 340 pages **£12.95**

## NEW GEOS Inside and out



The most thorough guidebook to effectively using GEOS (Graphic Environment Operating System). The sophisticated GEOS user interface gives the Commodore 64 the power and ease of use previously found only with computers costing many times more. Whether you're a beginner or a seasoned computer user, if you use GEOS, then this book contains the information you need. **GEOS Inside and Out** gives the beginner a gentle introduction to operating GEOS. Later chapters acquaint the reader with the geoWrite and geoPaint applications, as well as GEOS accessories. One chapter is dedicated to practical uses for GEOS by running step by step through applications. **GEOS Inside and Out** contains a complete listing of **FILEMASTER**, a fantastic utility with which you can convert your own '64 programs to GEOS format. **FILEMASTER** lets you create a custom icon for the converted program, as well as its own info screen. Other topics include a useful Tips and Tricks section for applications and accessories, creating custom GEOS windows for your programs, and details about GEOS file format. Programs include a single-step simulator to display GEOS memory locations and registers in machine language, and a constant display digital clock. Optional diskette recommended.

AB 440 310 pages **£12.95**  
AB 440D Optional diskette **£4.95**



Available from your local dealer or directly from  
**Precision Software Ltd.**  
6 Park Terrace,  
Worcester Park,  
Surrey KT4 7JZ  
Telex 8955021 PreciS G

**01-330 7166**

**ORDER FORM**

Please send me

Add £1.40 per item postage and packing. Free postage and packing for three or more items

Cheque enclosed  Visa  Access / Mastercard

(Credit Card Number)

Expiry Date \_\_\_\_\_

Name \_\_\_\_\_

Address \_\_\_\_\_

Signature \_\_\_\_\_

Post Code \_\_\_\_\_

Mail to: Precision Software Limited, 6 Park Terrace,  
Worcester Park, Surrey KT4 7JZ

# FIGHTING WORDS

## The Jeff Minter Page

Greetings, my fellow blasters and zappers. I've nearly finished *Revenge II* now, and I'm getting ready to get well stuck in to *Colourspace II* on my ST... speaking of which, I've been asked to perform *Colourspace* in the Armagh Planetarium, which should be cool and hyper-groovey, they gonna turn me loose on their system with FIVE huge video projectors displaying on the dome itself, I can barely sleep nights for drooling!...

However, as usual, on to matters Commodorian, and specifically, the games market. I've never been a fan of the hyper-commercial style of game promotion that's current in the industry right now, and as usual I've blamed the system for all the evils in computerdom, and I've tended to think of 'the system' as being the breadheads behind the Great Marketing Machine.

There's more to it than that, though. The games market is a pretty dull place to be at the moment, and we're all a little bit to blame for its tediousness. Of course we're not as much to blame as the aforementioned breadheads, 'coz they're the ones who have indirectly shaped the market into its present form; but we're still to blame for being suckered into following their lead. Here's how we've done it:

First, there's you lot, the games-buying public. You're all awkward vermin in that you fall for the hype put out by the mega-companies, and also that you'll buy anything at all that's been licensed, whether or not the conversion is actually any good! I mean, I've seen perfectly dreadful stuff high up in the charts that's only got there because it purports to be either the home version of a famous arcade game, or to be based around some famous film or TV series. In the first case, the arcade license, you're quite likely to be disappointed anyway, because arcade machines these days contain stuff like megabyte ROMs, lots of sampled sound and 16-bit processors, and only simplifying the original game by huge amounts are you ever going to get anywhere trying to convert onto an overworked 64k machine. (Of course there is the odd occasion where the conversion does come through pretty well — I'm thinking in particular of *Gauntlet*, which, if you

ignored the bugs (yes, US Gold, they are bugs... 'players may now walk off screen' indeed!) was a pretty good rendition of the original. Mind you, *Gauntlet* itself is based upon an old Atari dungeon game, so you're starting from an 8-bit concept anyway. The arcade game only used its extra hardware to embellish this basic design). Then there's the business of film tie-ins and the like... why do you all continue to fall for this blatantly obvious marketing trick? The only games based on films that come anywhere near capturing the spirit of the original material can be counted on the digits of one paw of an Arcturan Two-toed MegaSloth, and they're both running only on Atari arcade hardware; namely *Star Wars* and *The Empire Strikes Back*. If you're thinking that you can expect to see the essence of a multi-million pound epic flick captured by your humble '64, you're going to be disappointed, sunshine. It ain't going to happen. And don't tell me that Domark or whoever has the licence to *Star Wars* either — a lot of the atmosphere of the original game was created by stuff like lots of digitised speech, the fact that you sat in the booth to play, and the special *Star Wars* controller that gave you the feeling of actually flying an X-wing. (It just won't be the same with your old Kempston, now will it?)...

You lot ought to see that this licensing lark is just a ploy to part you from your hard-earned/scrounged bread. The megasoftwarehouses know that if they pay enough bread for a given high-profile title, you lot will queue up, tenners in hand, and buy it anyway, just because of the name.

So wise up. If you want film titles, hire the video. If you want to play *Space Harrier*, go down the arcade. If you want true arcade quality stuff at home, buy an Amiga, but don't fall for all this hype and marketing, 'coz it's destroying the chances of more original stuff ever appearing, 'coz it's subverting the very programmers...

### Selling their brains . . .

Yeah, us, the programmers and designers, we're as guilty as you lot are. We're caught in the same net. It's

difficult for a new programmer to get anywhere with much original stuff these days, because he knows that somebody somewhere (probably at Elite or US Gold) is going to release a licensed product that'll outsell anything original just because of the name. And of course the major software empires keep their money-machine going by offering good bread for conversion hacks; so you end up with a load of talented programmers wasting themselves doing conversion jobs when they could be doing something original. I mean, that's fine if you're the sort of programmer who just gets a kick out of getting 32 sprites on screen over a multi-coloured smooth-scrolling backdrop and don't particularly care if the game design isn't your own... but where's the fun in that? Conversion work would drive me nuts. I know it — have someone else tell me what my sprites should look like, how many points per alien shot, how many lives? The very thought of someone else imposing their will on my designs makes me cringe... and it must be boring as hell not being able to put your own stamp of originality on the game...

But, of course, the sole motivation within the software market these days is money, so programmers and designers sell their brains to the highest bidders, and we get another round of conversions, and no-one does anything freaky any more, and the poor old gamer gets nothing original. (Of course it isn't that bad yet, but it's heading towards total ennui, believe me).

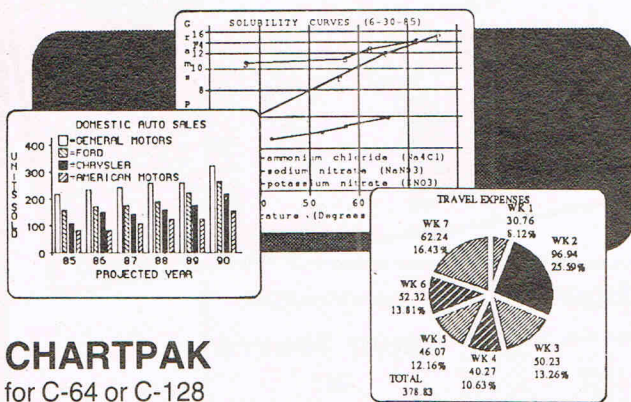
Maybe I'm just a mutant who'll never fit in... it's just that when I started doing games, it was great to be in the industry; great to be out of 'the System' and in an exciting new field where you could be creative and make a living from it, too. Now it seems that the System has taken over even this young industry, with programmers working 9-to-5 in offices of software megacorporations producing copies of other people's games to strict deadlines... and we're playing into the hands of the breadheads, conforming, buying boring conversions, programming other people's ideas.

So think next time before you buy yet another Big Name Title. Do you really want yet another conversion? Wouldn't you rather get something more original? or have you been conditioned by the marketing men who've set up the whole deal to make themselves rich?

Right, that's all for now — it's 3.22 am and I feel like doing a little more programming. Something really weird...

C64/128 Productivity Software from

You Can Count On  **Abacus Software**



**CHARTPAK**  
for C-64 or C-128

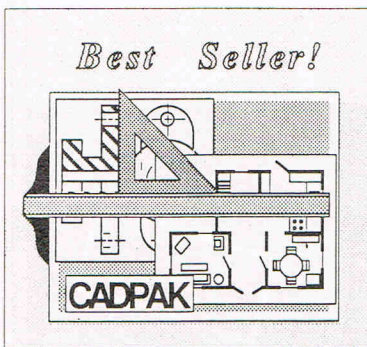
CHARTPAK lets you make professional quality charts *fast* – without any time consuming programming. Enter, edit, save and recall your data, then interactively build your pie, line chart or scatter graph. You specify scaling, labeling and positioning. CHARTPAK instantly draws the chart in any of 8 different formats – you can change your format immediately to draw another chart type. Other features include statistical routines for average, standard deviation, least squares and forecasting. You can also use data from spreadsheets such as Multiplan, Calc Result or Busicalc. CHARTPAK records your final results on Commodore 1525/ MPS-801/1526, Epson, Gemini, Okidata (including Okimate 10/ Colour) or C. Itoh prowriter dot-matrix printers.

- AB 542 Commodore 64 disk **£24.95**
- AB 544 Commodore 128 disk **£34.95**

**CHARTPLOT-64**

Has all of the same features and functions of its sister program ChartPak, but plots your results on plotters. You control the chart building from your keyboard. CHARTPLOT-64 lets you record the final results in colour on Amdek, Hewlett-Packard, Houston Instruments, Roland DG, Strobe or Sweet-P plotters, as well as the 1525/ MPS-801/1526, Epson, Gemini, Okidata (Okimate black & white only) or C. Itoh Prowriter printer.

- AB 547 Commodore 64 disk **£34.95**



**CADPAK**  
Computer-Aided  
Design package  
for C-64 or C-128  
Enhanced Versions

CADPAK is a superb tool for computer-aided design and drawing. Using either the keyboard or optional lightpen you draw directly on the screen to create and edit pictures, drawings, layouts and renderings – quickly, ac-

curately, creatively. The unique *dimensioning* feature allows exact scaled output of your designs. Choose from the menu options and draw on the screen at an exact location using our *AccuPoint* cursor positioning. Using the two graphics screens, you can draw lines, boxes, circles, ellipses; fill with solid colours or patterns; freehand draw; copy sections of the screen; Zoom in to do detailed design on a small section of the screen. With CADPAK's improved object editor, you can define and save furniture, electronic circuitry, machinery, etc. as intricate as the screen resolution permits. Hardcopy to most dot matrix printers. Perfect for all your design needs.

- AB 770 Commodore 64 disk **£24.95**
- AB 774 Commodore 128 disk **£34.95**

C64/128 Language Software from

You Can Count On  **Abacus Software**



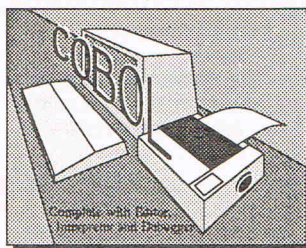
**SUPER C**  
Language Compilers

Learn the the language of  
the 80's and beyond  
on your C-128 and C-64

One of the today's most popular languages, C is excellent as a development tool, produces 6502 machine code – and it's easy to transport C programs from one computer to another. Our compiler makes full use of

this versatile language; it includes an editor, compiler, linker and handbook. The powerful editor lets you create source programs containing 80 character lines, and features horizontal scrolling. Your source program can be up to 41K in length, 53K in object code. The linker lets you combine up to seven modules for later execution. The runtime library may be called from machine language or included as a BASIC lookalike program. This really is a Super package.

- AB 880 Commodore 64 disk **£44.95**
- AB 882 Commodore 128 disk **£44.95**



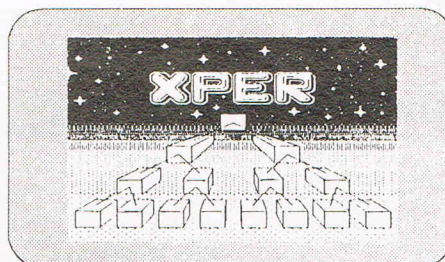
**COBOL**  
for C-64 or C-128

Now learn this universal  
business language on  
your Commodore 64 or  
Commodore 128!

COBOL is the most widespread business programming language in use

today. Now you can run this easy-to-use, English-like language on your C-64 with the easy-to-learn COBOL System package. The COBOL System features a syntax-checking editor, interpreter, compiler, and a number of symbolic debugging aids; a crunch function to reduce the memory size of your programs; a print on/print off feature, and much more. Includes sample programs to help you learn as you go, as well as a complete 150-page manual.

- AB 650 Commodore 64 disk **£34.95**
- AB 652 Commodore 128 disk **£34.95**



**XPHER-64 Expert System**

XPHER is the first expert system for the Commodore computer. Ordinary data base systems are good for reproducing facts, but an expert system *guides you through* a mountain of facts – allowing you to make expert decisions. Using this unique knowledge-based package, you first build the information into your data base using XPHER's simple loading procedures. Then, by using fast, efficient searching techniques, XPHER easily guides you through the most complex decision-making criteria. Includes full reporting and data maintenance capabilities. Currently used by scientists, doctors and professionals.

- AB 710 Commodore 64 disk **£44.95**



Available from your local dealer or directly from  
**Precision Software Ltd. 6 Park Terrace,  
Worcester Park, Surrey KT4 7JZ**  
Telex 8955021 Precis G  
**01-330 7166**

**ORDER FORM** Mail to: Precision Software Limited, 6 Park Terrace,  
Worcester Park, Surrey KT4 7JZ

Please send me  Add £1.40 per item postage and packing. Free postage and packing for three or more items.

Cheque enclosed  Visa  Access / Mastercard

(Credit Card Number)

Expiry Date \_\_\_\_\_ Name \_\_\_\_\_ Address \_\_\_\_\_ Post Code \_\_\_\_\_

Signature \_\_\_\_\_

# Cut-Price Disks from Direct Disk Supplies

from only £9.99 for 25 disks delivered to your door

**DDS**  
do it  
again.

## Offer 1 <sup>New</sup> Premium Universals

Not only are all our universal disks individually certified to 96tpi but they are now prepared to an even higher specification to ensure fewer problems, high reliability and value for money. Plus, of course, our Lifetime Warranty. Disks are packed in 25s complete with envelopes, labels and write protect tabs.

£ 14.99	25 disks	★ Full spec Higrade disks, made to 75% clipping level
£ 26.99	50 disks	★ Life-time no quibble warranty
£ 49.99	100 disks	★ Hub-rings on 5.25" disks
£ 96.99	200 disks	★ Label sets and envelopes included
£119.99	250 disks	★ No extras - VAT and delivery included
£219.99	500 disks	
£379.99	1000 disks	



## Bargain Box.

Have no doubts - these prices are the business.

Price per order (SSDD 48 or 96tpi please specify)	Approx price per disk ex-VAT (inclor only)	DDS offer you branded SCOTCH (made by 3M) at prices below other people's plain label disks. They're certified & tested error free by 3M; branded disks in tyvek envelopes with re-inforced hubs, labels & WP tabs are also included. We only have a limited stock, and so it's first come, first served! A saving not to be missed!
20 disks	£ 10.99	.48
40 disks	£ 19.99	.44
60 disks	£ 28.99	.42
80 disks	£ 36.99	.40
100 disks	£ 42.99	.38
200 disks	£ 82.99	.36
500 disks	£199.99	.35
1000 disks	£389.99	.34

## Offer 3 **MEDIA** 3.5" **LIFE** disks in FREE plastic library boxes.

Quantity	SS (includes plastic library box)	DS	Don't settle for less - get the best disks in FREE plastic library boxes.
10 disks	14.99	16.99	Made in Japan by a leading manufacturer, our single and double sided disks are fully tested and certified to 135tpi.
20 disks	28.99	33.49	Don't forget - the price includes VAT, delivery and library boxes!
50 disks	69.99	79.99	N.B. If you don't need boxes on quantities of 100 or more, then phone and ask for our special trader prices for BULK disks.
100 disks	129.99	149.99	
200 disks	249.99	289.99	
250 disks	299.99	359.99	
500 disks	589.99	699.99	

## Offer 2 <sup>New from DDS</sup> Super Savers on Single Sided

Total Price (No extras!)	Quantity	Super Savers on Single Sided
£ 9.99	25 disks	It'll twist your tongue, but not your pocket!
£ 19.48	50 disks	
£ 37.99	100 disks	
£ 74.99	200 disks	
£ 93.99	250 disks	
£185.99	500 disks	
£299.99	1000 disks	

**Cash'n Carry**  
prices on  
disks from  
**Direct Disk**  
**Supplies**

## Offer 4 'Rainbows'

25 Universal 96 tpi coloured disks, 5 disks of each of five different colours.  
Code your files and programs using DDS 'Rainbows'. Without doubt the best quality and value coloured disk on the market.

£ 18.99	25 disks
£ 35.99	50 disks
£ 69.99	100 disks
£129.99	200 disks
£149.99	250 disks
£279.99	500 disks

### How to order

**ALL PRICES INCLUDE VAT & DELIVERY TO YOUR DOOR! NO HIDDEN EXTRAS**

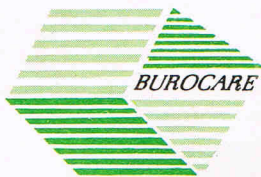
1. DIAL-A-DISK ON 01.979 7811, and give your ACCESS or VISA number and expiry date.
2. Send your cheque etc. to Direct Disk Supplies Ltd.
3. Official Orders, Bona-fide orders from Universities, Colleges, Schools, Charities, etc are very welcome.
4. Cash orders, no minimum value. Account orders, minimum value £30.



**DIAL-A-DISK**  
01-979 7811  
Answering service for out of hours orders

## Direct Disk Supplies Ltd.

**FREEPOST, 129 High Street, Hampton Hill, Middlesex TW12 1BR**



## LOWEST PRICES AVAILABLE COMPUTER SYSTEMS

**SPECIAL OFFER AMIGA 1000**  
from £775 plus VAT  
(WHILE STOCKS LAST)

TRADE ENQUIRIES  
WELCOME

### PC's + AT

- Amstrad
- Commodore
- Bondwell
- Epson
- Kaypro
- Tandon
- Apricot
- Victor

Desktop Publishing

### Software

- Sage
- Gem
- Pegasus
- Tetraplan
- Psion
- Ventura

Facsimile

- Bespoke service

### Printers

- Epson
- Brother
- Star
- Juki
- Canon
- Siemens

- Laser Printer

New Amiga 2000

386 Machines  
Now Available

Multi-user  
+  
Networking

Maintenance  
+  
Repairs

Stationary  
+  
Training

LAPTOPS  
NEC  
FLYER  
COMPAQ

MANY MORE BRAND NAMES

FOR ALL YOUR COMPUTER REQUIREMENTS PHONE BUROCARE ON 01-907 3636

**211 KENTON ROAD HARROW MIDDX HA3 0HD**

# BASIC

for beginners

## PART XII

This is unfortunately, the last in this series which began way back in February 1986. For the benefit of those readers who want to know what they have missed, here is a brief index of this series:—

### CCI Issue

- 1 Feb 1986 *Synopsis*: Discussion and introduction to the BASIC programming language.
- 2 Mar 1986 *Synopsis*: Design of algorithms. Variable and string handling.
- 3 Apr 1986 *Synopsis*: Arrays — types and uses. *Garbage collection* and memory requirements.
- 4 May 1986 *Synopsis*: Loops and their control. Counting using *FOR-NEXT* and *DO-LOOP*.
- 5 Jun 1986 *Synopsis*: *Screen management and design. Usage of SPC.*
- 6 Aug 1986 *Synopsis*: *Direct machine access through PEEK and POKE.USR and SYS calls.*
- 7 Oct 1986 *Synopsis*: User defined functions — *DEF FN*. Logical operators and their use.
- 8 Nov 1986 *Synopsis*: Further discussion of logical operators. Files and input/output.
- 9 Dec 1986 *Synopsis*: File handling — The *PRINT#* command.
- 10 Jan 1987 *Synopsis*: Further file-handling using relative files.
- 11 Mar 1987 *Synopsis*: Direct-access programming of the disk drive.

I am reliably(!) informed by the Editor that all of these issues are available as back numbers — call to check the cost since this depends on which country you live in.

In the previous part of this series I mentioned that queries about string handling formed the bulk of your letters

we have received on this series so I will look at this again, but first one of the *loose-ends* or topics that have arisen during the course of the series and deserve more coverage. I'll start with input routines because if these are not handled correctly then the rest of your program code is not going to work however good it is.

Consider the classical routine of obtaining a program input from the user:—

```
200 INPUT "Your NAME Please";A$
```

Notice how I have used upper and lower case letters in the line. Now you all know how to do this using the SHIFT key — but you all have probably experienced a program written in BASIC that was typed in one type of character set and by pressing the LOGO and SHIFT keys together, the graphics character set is then used. The resulting mess on the screen is not very assuring about the rest of the program. A way to overcome this is to disable the action of these two keys. This is done as follows:—

```
100 PRINT CHR$(8)
```

```
REM Inhibit the CBM/Shift Key
```

```
200 INPUT "Your NAME Please";A$
```

The keys can be released by using *CHR\$(9)* — refer to the ASCII codes in your *Users Manual* for your own machine to see the range of these commands. Do not be afraid to try out some of these codes, they are potentially very useful.

However, line 200 still has a few problems lying wait for the unwary programmer. If the user simply pressed the RETURN key then the string variable *A\$* will not contain what is termed a *null-string* (in th words *A\$ = ""*). The BASIC on the Commodore 64 has difficulty with these strings although later

machines can handle them it is probably better to avoid *null-strings*. This can be overcome by writing the program like this:—

```
100 PRINT CHR$(8)
```

```
REM Inhibit the CBM/Shift Key
```

```
200 INPUT "Your NAME Please";A$
```

```
300 IF A$ = "" THEN GOTO 200
```

This program still exhibits a number of shortcomings, not least the lack of protection from the user *breaking out* of the program by use of the RUN/RESTORE keys. The use of the POKE command will overcome this although this does mean that you will have to carefully study the *memory map* of your own machine since the address of this varies between different models. To make the input appear slightly more attractive to the user we could employ the asterisk character.

```
100 PRINT CHR$(8)
```

```
REM Inhibit the CBM/Shift Key
```

```
200 INPUT "Your NAME Please
```

```
*[CSRL CSRL CSRL]";A$
```

Note that "[CSRL CSRL CSRL]" means *left cursor key* three times.

We now have an input screen that appears with a flashing asterisk for the prompt. But what would happen if the user simply pressed the RETURN key — we would not have a *null string* but *A\$* would not contain an asterisk character. Thus a trap is necessary:—

```
100 PRINT CHR$(8)
```

```
REM Inhibit the CBM/Shift Key
```

```
200 INPUT "Your NAME Please
```

```
*[CSRL CSRL CSRL]";A$
```

```
300 IF A$ = "" THEN PRINT "[CSRUP
```

```
CSRUP]": GOTO 200
```

However, this would still allow the user to move the cursor out of the prompt line and around the screen thus creating a mess — so a mechanism to

keep the cursor within the prompt line is needed. I'll expand the above program and comment on each line:—

```

100 PRINT CHR$(147) : PRINT
    CHR$(8)
200 PRINT "What do you want to
do?": GOSUB 1000
300 IF A$ = "Quit" OR A$ = "QUIT"
    THEN PRINT "[CLR]": END
400 PRINT A$ : GOTO 200
500 ..... rest of your program
600 .....
1000 A$ = ""
1010 PRINT "[RVSON SPACE
RVSOFF CLR]":
1020 GET B$ : IF B$ = "" THEN 1020
1030 B = ASC(B$) : IF B > 95 THEN
    1020
1040 BL = LEN(A$) : IF BL > 20 THEN
    1060
1050 IF B > 31 THEN A$ = A$ + B$:
    PRINT B$: GOTO 1010
1060 IF B = 13 AND BL THEN PRINT
    "" : RETURN
1070 IF B = 20 AND BL THEN A$ =
    LEFT$(A$,BL-1) : PRINT B$
1080 GOTO 1010

```

The contents of the square brackets mean reverse video ON then the space bar, then reverse video OFF followed by the CLR/HOME key. Note the *safety net* of either version of "quit" being catered for in the line 300. Also note that you cannot have:—

```

300 IF A$ = "Quit" OR "QUIT" THEN
    PRINT "[CLR]": END

```

You must explicitly declare the optional inputs each time — I know it would be nice if the above line were possible, but unfortunately this is not so in Commodore BASIC:

The program really starts at line 1000 after being directed there after a screen setup routine where A\$ is assigned to a null string. Line 1010 is a further screen handler while line 1020 initiates a GET loop waiting for a key to be pressed. B\$ is then converted in line 1030 to an ASCII numeric value using the ASC function and assigned to numeric variable B. The ASCII value of the keyboard input is then checked for its numerical limits by the use of the numeric variable B. The reason why we are testing for an ASCII value beyond 95 is because these values represent graphical characters and not letter characters — refer to your ASCII table in the User Manual.

You can if you wish, test only for numeric input from the user by more closely specifying the range of variable B. For example setting the range to 48-57, not forgetting to include value 13 for the RETURN key and value 20 for the DEL key (refer to your ASCII table) will allow only numeric values.

In line 1040 we use another test — this time for string length using the LEN function. This uses the numeric variable

BL to look at the length of our original keyboard input string, namely A\$. Any value greater than 20 is directed to line 1060 where a comparison test is made. Note the use of the RETURN command on line 1060 to direct program flow back to line 300 — a GOSUB must always have a matching RETURN, in this case the original GOSUB was on line 200.

```

1020 GET B$ : IF B$ = "" THEN 1020
1030 B = ASC(B$) : IF B > 95 THEN
    1020
1040 BL = LEN(A$) : IF BL > 20 THEN
    1060
1050 IF B > 31 THEN A$ = A$ + B$:
    PRINT B$: GOTO 1010
1060 IF B = 13 AND BL THEN PRINT
    "" : RETURN
1070 IF B = 20 AND BL THEN A$ =
    LEFT$(A$,BL-1) : PRINT B$
1080 GOTO 1010

```

Line 1050 should be looked at in conjunction with line 1030 where both lines are testing and numeric the numeric value of B. What we are looking for here is to see if the RETURN key has been pressed — this has the ASCII value of 13, or the DEL key has been pressed — ASCII value of 20. Thus line 1050 is saying that if the string variable B\$ has an ASCII value within our specified range of 31 to 95, the latter being tested for in line 1030, then add it to the original string variable A\$. At the same time the keyboard input is echoed to the screen for the benefit of the user. The final part of this line then returns to line 1010 to collect further data.

I discussed line 1060 earlier as being part of the loop from line 1040 and line 1070 demonstrates the use of the LEFT\$ function. If the ASCII value of B\$ is 20 (the DEL key has been pressed) together with a string length greater than 0, this line reduces the input string length by (BL-1). Remember that LEFT\$ is structured so that the number of characters made available in the string are dependent on the value of the variable after the comma, counting from the start or left-hand end of the string. If we were using the RIGHT\$ function then the starting point would be from the current end of the string or right-hand side. In this case, it is the value of BL less 1 since we have just used the DEL key.

The final section of this line then echoes the modified input to the screen and line 1080 completes the program by looping back for further input until the RETURN key is detected. The above routine is a simple, general-purpose program to show how to handle strings in static and dynamic form — that is where the string contents can or cannot be accurately forecast.

The following program demonstrates string contents that are predictable and are used in an optional selection program.

```

100 PRINT CHR$(8) : PRINT CHR$(147)
200 PRINT "Option ONE : PRESS '1'"
300 PRINT "Option TWO : PRESS '2'"
400 PRINT "Option THREE : PRESS '3'"
500 PRINT "Option FOUR : PRESS '4'"
600 PRINT "Option FIVE : PRESS '5'"
700 PRINT "Option SIX : PRESS '6'"
800 PRINT "Option SEVEN : PRESS '7'"
900 PRINT "Option EIGHT : PRESS '8'"
1000 PRINT "To QUIT : PRESS 'Q'"
1010 PRINT: PRINT "Press ANY Key for Menu Option."
1020 GOSUB 1050
1030 FOR I = 1 TO 1000: NEXT
1040 GOTO 100
1050 FOR I = 1 TO 10: GET A$: NEXT
1060 GET A$: IF A$ = "" THEN 1060
1070 IF A$ = "Q" THEN PRINT CHR$(147) : END
1080 B = ASC(A$) : IF Z < 49 OR Z > 57 THEN 1050
1090 ON B - 48 GOTO 2000,3000,4000,5000,6000,7000,8000,9000
2000 PRINT "Option ONE Selected": RETURN
3000 PRINT "Option TWO Selected": RETURN
4000 PRINT "Option THREE Selected": RETURN
5000 PRINT "Option FOUR Selected": RETURN
6000 PRINT "Option FIVE Selected": RETURN
7000 PRINT "Option SIX Selected": RETURN
8000 PRINT "Option SEVEN Selected": RETURN
9000 PRINT "Option EIGHT Selected": RETURN

```

There are a lot of similarities carried over from the original program into the above program. I don't feel it is necessary to fully go through this one since there is nothing dramatic in there and you should be able to follow it provided you have worked through the first program.

However, there are many enhancements that an enterprising programmer could add. For example, you could use colours for the screen, border and characters — what about using a flashing border or characters for an input error? The menu itself would look much more interesting if the TAB function was used to stagger the lines — similarly you could add a sound that confirms that a key has been pressed. These are all simple ideas that distinguish a good creative programmer from a mediocre one and I'm pretty certain that regular readers of this series are strongly interested in becoming the former.

Well that is it. I sincerely hope that all of the effort that has gone into this series has started some of you down the road of BASIC programming. While there may be many moments of frustration with "SYNTAX ERROR IN..." or "RETURN WITHOUT GOSUB ERROR IN...", don't worry too much for it is highly unusual for a program to run correctly the first time, if at all. However, if you have experienced that immense feeling of pleasure and satisfaction when **YOUR PROGRAM** works correctly then you know why learning to program is well worth the effort. The feeling is identical to that when you suddenly find yourself riding a bicycle without falling off or starting to swim without sinking into the water — it all suddenly seems so easy and you wonder why it seemed so hard. Computers are here to stay and an investment in your time learning to program is an investment in your future — don't ever lose sight of this and keep programming.

B.D.

# FAST

# COMPUTER REPAIR CENTRE

COMMODORE, SINCLAIR & AMSTRAD APPROVED CENTRE

Repairs also undertaken for all the following computers:  
**SPECTRUM, COMMODORE, ATARI, BBC, IBM**

**NO HIGH FIXED PRICE REPAIR!**

**FREE SOFTWARE WORTH £33 WITH EVERY COMMODORE REPAIR**

**The established company with a proven reputation**

Over the years we have built up an enviable reputation in the UK for computer repairs, which is second to none. This is based on many years experience in repairing Spectrum, Commodore, BBC and other leading makes – and we were the first AMSTRAD repair centre anywhere. This is why we have customers all over the world.

**We are the best, forget the rest, look what we offer**

- No high fixed price – you only pay what the repair actually costs.
- While-U-Wait Service – spare parts for all leading computers – available over the counter.
- State of the art test equipment to provide comprehensive test report and locate faults.
- Repairs to all leading makes of computer.
- Amstrad specialist.
- Spectrum rubber keyboards repaired for only £8.95.
- Commodore 64's, Vic 20's, Atari, Commodore 16's and Plus 4's repaired.
- Discounts for colleges, schools etc.
- Every computer repaired by us is completely overhauled and tested before return.
- All computers returned carriage paid and covered by insurance.
- Three months guarantee included.
- Free Software worth £33 with every Spectrum repair.

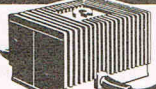
**DON'T DELAY – ACT TODAY**  
*It's as easy as ABC!*

**A** Simply send your computer securely packed, together with a cheque or postal order for the maximum fee to the address below. Your computer will be repaired and returned to you within 24 hours together with the balance of the fee and your FREE £33 worth of software.

**B** Or if you prefer a written quotation just send £2.50 to cover post & packing.

**C** Alternatively just quote your Access or Visa card number.

**DISCOUNT COMPONENTS**  
e.g. Power Transformers



Commodore £29.00 + £1.50 p.p.



Spectrum £9.95 + £1.50 p.p.

**AMSTRAD REPAIRS**  
from **£9 to £35**

**BBC REPAIRS**  
from **£12 to £45**

**SPECTRUM REPAIRS**  
from **£7 to £19.90**

**COMMODORE REPAIRS**  
from **£12 to £35**

## SPECIALIST COMPUTER REPAIR CENTRE

Dept. 18, Unit 4, M.E.B. Works, Windsor Road, Enfield, Redditch, B97 6DJ. Tel: Redditch 65671.

Trade orders welcome



Computers received beyond economical repair, or tampered with, may cost more than our fixed rates, these will be charged at an hourly rate + parts.

**WE SET THE STANDARD BY WHICH EVERYONE ELSE IS JUDGED**

# Mini Office II

## The Perfect Package

Reviewed in CCI May

**Mini Office II is a comprehensive suite of business programs for the Commodore 64/128. The suite incorporates Word Processor, Database, Spreadsheet, Graphics, Communications, and a Label Printer. The disk version allows movement between the separate modules via a main menu and all of the modules are loaded using a disk turbo. Side 2 of the disk holds file conversion programs to convert Mini Office files to be compatible with Mini Office II. Also there is a demonstration Database file on the second side.**

*We followed the creation of this excellent 'home productivity' package from its beginnings and felt there was no better commentator than Richard Franklin, who wrote the majority of it, to tell CCI readers how it came about, how the problems were overcome and the advantages it has for users.*

### The Problems writing a Package such as Mini Office II

The first thing to consider when writing any professional piece of software is what language to write it in. The main choices to consider are Basic, or Machine code, and more recently 'C' (which is becoming a much more popular language these days). Other languages such as Pascal are not really suitable for these type of programs as the file handling facilities are rather limited (not very good for, say, the Database program), and apart from that, compiled programs tend to produce rather long object code and that again would not be suitable for such programs. This rules out Pascal and 'C'.

This leaves me with the two main choices, and Basic, being rather slow and insecure, Commodore Basic in

particular (machine code routines would have to be written for error trapping etc.), can also be ruled out. This left me with just one choice, the trusty Machine code.

Machine code programs can be very fast when written properly, but can cause hours of hair pulling trying to find that elusive bug although the routine looks perfect.

So, having chosen the language to use, I then had to make the choice as to what Assembler to use. My choice was between Mikro 64 and the Commodore Assembler Development package. Mikro is a handy assembler to have but for large programs it can be a problem as the cartridge knocks off 8K of the area you can assemble to. Another problem with Mikro is that each source file is loaded into memory and then processed and for the same reason about memory you would have to keep the source files small.

The Commodore Assembler gets round that problem by assembling from the disk back to the disk. Therefore, all memory available after the assembler has been loaded can be used for the symbol table which is very large on some of the programs (the Database program assembled to about 25K).

The source files are read from the disk sequentially and are assembled directly, and on the second pass, an object file is written back to the disk. All of this disk access would slow down any computer and with the notoriously slow disk drive speed of the 1541, assembling takes a very long time (enough time to put the coffee on, walk the dog and still be back for the 2nd pass).

The main problem with the Commodore Assembler, which is not found in Mikro, is that it will only allow access to disk drive device 8. Therefore, all source files and the written object file (generally 2.5 times larger than the final program file) must fit onto one disk. This proved to be impossible with the Word Processor, Database, Spreadsheet, and the Graphics programs.

To cure this problem, either get a dual disk drive (4040 or like) or a single disk drive with a larger storage capacity, and an interface such as Interpod or the Brain Boxes IEEE interface. In a previous job as Technical editor of CCI, I regularly worked on a 4040 through Interpod. This proved very useful as I could have direct access to twice as much information, but, although the 4040 is a parallel disk drive, the data is converted to serial through Interpod. For the cost of 2K of memory, the BB IEEE gives parallel data transmission and so allows you to use the full speed of the disk drive.

I could live with the loss of 2K of memory, but for the disk drive, I chose the CBM SF1001 which is a single drive unit with 1M storage capacity. The configuration of the SFD1001 going through the Brain Boxes IEEE interface speeded up assembly by about 4 times and there was the added bonus of faster loading and saving of source files when editing. Also I only needed one disk to store the source for all of the programs that I wrote. The BB interface also includes a Centronics printer driver and I was able to list my source to a faster printer (the Mannesmann Tally MT80).

### Editor

For editing the source files, I didn't use the editor that comes with the assembler because of the lack of function keys and the limited number of added commands. I used instead a program called SYSRES (obtained about four years back). I have never found a programmers utility to rival Sysres. Not only does it allow the function keys to be defined, but the normal keys used in conjunction with the LOGO key as well.

Another nice feature of Sysres is the bi-directional scrolling of a program file by use of the cursor keys. This means that the LIST command is rarely needed. This, along with the large arsenal of added commands for editing the files, and the fact that there is no loss of program space with Sysres loaded (the



Organised by  
Database Exhibitions

# Official commodore computer show

10<sup>th</sup>  
9  
8  
7  
6  
5  
4  
3  
2  
1

The countdown  
has started . . .  
for the show that  
unveils all that's  
happening in the  
exciting world  
of Commodore  
computing

**Meet Jim Butterfield**  
The guru of the Commodore world will be flying to London for the show. This is your chance to meet the man who's the leading authority on the whole CBM range.

10th Official  
commodore  
computer show

10am to 6pm Friday June 12  
10am to 6pm Saturday June 13  
10am to 4pm Sunday June 14

**Champagne Suite & Exhibition Centre  
Novotel, Hammersmith, London W6**

**Send for your advance tickets today . . .  
With them you can walk past the queues – and SAVE £1 per head off normal prices!**

**Advance ticket orders**

Please supply:  
 Adult tickets at £2 (save £1)..... £ \_\_\_\_\_  
 Under-16s tickets at £1 (save £1)..... £ \_\_\_\_\_  
Total £ \_\_\_\_\_  
 Cheque enclosed made payable to Database Publications Ltd.  
 Please debit my credit card account

Access Visa  
[ ][ ][ ][ ] [ ][ ][ ][ ] [ ][ ][ ][ ] [ ][ ][ ][ ]

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

10th Official  
commodore  
computer show  
**June 12-14 1987**

Post to: **Commodore Show Tickets, Europa House, 68 Chester Road, Hazel Grove. Stockport SK7 5NY.**

Name .....  
Address .....  
Signed .....

**PHONE ORDERS: Show Hotline: 061-480 0171  
PRESTEL ORDERS: KEY \*89, THEN 614568383  
MICROLINK ORDERS: MAILBOX 72:MAG001**  
Please quote credit card number and full address, Ref.SCC 16

majority of the code sits behind the Basic ROM) was a real boon.

So, armed with these items and one of my books, *The Commodore 64 ROMs Revealed*, I was ready to attempt this task (I had never written anything of this scope before). I needed to decide on where the programs would reside in memory and the choice was very simple. I would put the code from \$8000 onwards and make it simulate a cart-ridge. With the screen moved up to the \$C000 block of memory, I had a full 31K memory pool for data storage and still plenty of room for the program, using the RAM behind the Basic and Kernal ROM's and behind the I/O area.

One of my problems with having code (or data) behind the ROMs was the continual need to switch the ROMs in and out (some of the programs use the Basic ROM's arithmetic routines). It became quite a joke later on in the development, for me to mention to the department head that I was suffering from a weird bug, for him to suggest whether the ROMs were the problem. In most cases he was right (A Beeb and Amstrad programmer, definitely NOT a CBM programmer).

Other problems were to do with the Kernal ROM's routines:

The input routine had to be made to suppress cursor up and down from causing the whole screen from scrolling. To do this I re-wrote the routine to allow input only on one line and to a specified length, cursor up and down were either ignored or, in the case of the database, caused an exit with the corresponding key for re-use (Up or down a line when editing the records). Also the STOP key was made to exit the input routine (a major failing in the ROM version).

Later, by Carl Graham, who wrote the Spreadsheet, a problem was found with the Cassette data file routines. Basically, the tape routines will read a Zero byte as the end of file (except as the first byte of the file). This caused trouble as numbers were being written out in their packed format (0 is stored as five zero bytes). Where this was necessary, turbo routines were used to substitute the Tape routines (Database, Spreadsheet, Graphics, and Label Printer).

Problems with the serial (disk) ROM routines are that, on occasion, they cause the computer to hang. The best way to demonstrate this is to try this without a disk drive connected:

```
10 OPEN 15,8,15:GET#15,a$
```

This will cause the computer to hang and can only be exited by RUN/STOP RESTORE. Unfortunately, there is no way of testing whether the disk drive is present if you want to read the error channel. Detecting the disk drive will destroy the error message you are trying to read.

Most of these problems have been overcome, but the problem with the disk routines is still there and can be tested by anyone who has a copy of Mini Office II by entering the DOS command section and pressing return (without a disk drive).

In all, Mini Office II took over one and a half years to develop with all of the programs including the disk and tape security, with the exception of the Spreadsheet and the Graphics programs, being written by myself. I hope that you, the users, will find Mini Office II easy to use and comprehensive enough for your needs.

## The Communications Module

The Mini Office II disk or tape comes with two versions of the communications program. The first (User port version), available from the main menu on the disk version, works using the built in RS232 routines to a standard modem through a suitable RS232 interface. The second version has been written specifically for the COMPUNET modem. The reason for the COMPUNET version not being available from the main disk menu is that the main menu and the other programs will not work with the COMPUNET modem present.

Both communications programs are scrolling terminal types and will not handle Viewdata format.

The two versions operate in exactly the same way except that the COMPUNET version works in 1200/75 baud only and has options for dialling and dropping the line. The user port version on the other hand can only handle systems where the transmit and receive baud rates are the same (up to a maximum of 2400 baud). Receiving information at a rate greater than or equal to 1200 baud is not reliable due to the RS232 driving routines being in software.

All parameters for controlling the way that the data is transferred between computers can be modified to suit the requirements of the system being used. There is no need to worry about calling standard ascii systems as the data is converted to standard ascii when sent and any data received is converted to Commodore ascii for displaying and storing in the buffer. The exception being that files transmitted or received in Expanded Ascii format will have no conversion performed.

Expanded ascii is the file transmit protocol used on MicroLink for programs and other non-ascii data (such as weather maps). Each byte of information is sent as two characters being the hexadecimal notation of the byte (for

example 123 decimal is sent as 7B). Most data on MicroLink, including the weather maps are for the BBC micro and I will try and supply for publication a program that will convert BBC hi-res screens to Commodore format and display them.

For convenience sake, there is an option to turn on a three line window at the bottom of the screen. When this window is enabled, all data received will be displayed in the top 21 lines and any data sent (from the keyboard or the buffer) will be displayed in the bottom 3 lines. This can be very useful for typing ahead on a bulletin board or such, as normally data sent is echoed back mixed in with anything already being received. This would also prove useful when accessing a multi-user adventure game.

## Buffer Operations

All buffer operations are performed through the 31K memory buffer and if when receiving a file the buffer becomes full, an XOFF character is sent to the remote computer and the user is informed of this. In this way, receiving a long file can be done by filling the buffer, exiting and going to the buffer options menu to save it, clearing the buffer, re-entering the chat mode, turning receive file on, and sending an XON (Ctrl-Q).

The software has been designed so that, if required, it will also respond to XON and XOFF characters received through the modem.

Both ascii files (data on tape or SEQ on disk), and program files (excluding the load address) may be loaded into the buffer for transmitting. Received files may be saved as data or program files. The program files may be saved as Basic (load address of \$0801) or as Binary (input the load address in Hex).

Finally, the buffer may be printed or viewed to screen. All Mini Office II programs support Commodore MPS printers and Epson via the RS232 port (2400 baud). All programs except the User port comms also support Centronics Epson compatible printers. The Centronics driver is built into the programs and runs through the user port on an Acknowledge protocol (not BUSY as in the Stack interface). The reason for the lack of Centronics printer option in the user port communications program is due to the fact that the user port will already be occupied by the RS232 interface.

Next month I will be outlining the abilities of the Word processor, Database and Label Printer programs. These are all integrated to a degree as the Label Printer prints from Database files and the Word Processor allows mail merge from Database files.

R.F.

# Mini Office II



6 powerful home and business programs in just ONE package – at a price that simply can't be matched!

Voted  
Business Program of  
the Year – 1985 AND 1986  
*Popular Computing Weekly*  
'This package is  
incredible value'  
*Daily Mail Home  
Computing Guide*

## WORD PROCESSOR

Compose a letter, set the print-out options using embedded commands or menus, use the mail merge facility to produce personalised circulars – and more!

## SPREADSHEET

Prepare budgets or tables, total columns or rows with ease, copy formulae absolutely or relatively, view in either 40 or 80 column modes, recalculate automatically – and more!

## GRAPHICS

Enter data directly or load data from the spreadsheet, produce pie charts, display bar charts side by side or stacked, overlay line graphs – and more!

## DATABASE SOFTWARE

## DATABASE

Build up a versatile card index, use the flexible print-out routine, do powerful multi-field sorting, perform all arithmetic functions, link with the word processor – and more!

## COMMS MODULE

Using a modem you can access services such as MicroLink and book rail or theatre tickets, send electronic mail, telex and telemessages in a flash – and more!

## LABEL PRINTER

Design the layout of a label with the easy-to-use editor, select label size and sheet format, read in database files, print out in any quantity – and more!

Europa House, 68 Chester Road,  
Hazel Grove, Stockport SK7 5NY

## ORDER FORM

Please send me Mini Office II for the Commodore 64/128

- £16.95 cassette  
 £19.95 5 1/4" disc

I enclose cheque made payable to Database Software, or debit my Access/Visa card:

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

Exp. date

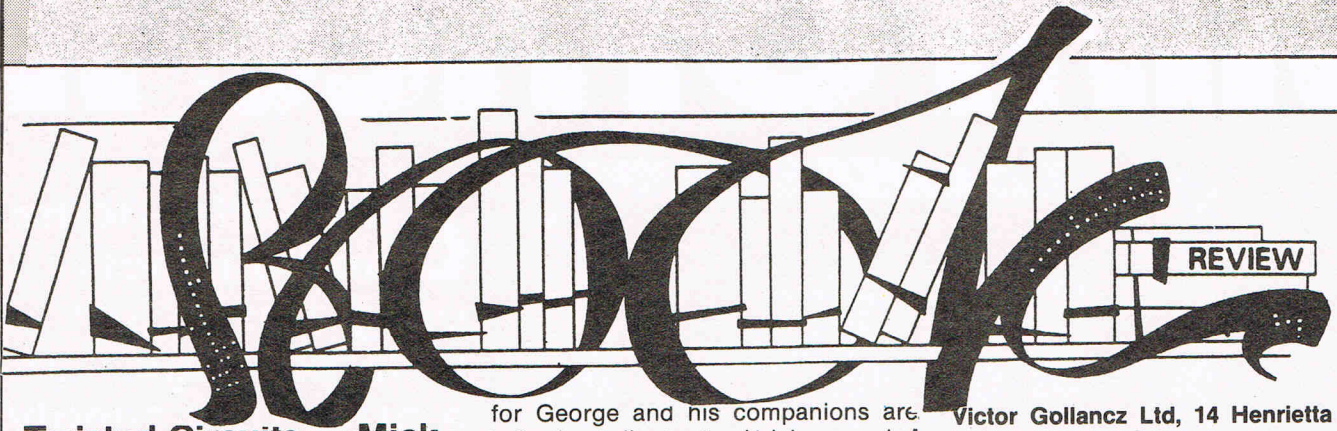
Signed .....

Name .....

Address .....

**ORDER HOTLINE:**  
**TEL: 061-480 0171**

SEND TO: Database Software,  
Europa House, 68 Chester Road,  
Hazel Grove, Stockport SK7 5NY.



## **Twisted Circuits — Mick Gower — Beaver Books — £1.75**

'Twisted Circuits', edited by Mick Gower, is published by Beaver Books, the children's fiction imprint of the Arrow publishing house. It's a sinister collection of fairly ingenious 'Hi Tech' short stories concerned with computers, the youngster who use them and what can happen when the computer — not just the programs — deviate from the norm. Dragons appear out of one screen, a computer 'brother' is demanded by another and yet a third one wants to get married to the-girl-(computer)-next-door!

The stories are by authors who are, as yet, not well-known in the science fiction world (and on this showing one or two of them may well remain so), but they are, on the whole, competently written and hold the attention of the reader.

If you have (or are), a 9-13-year-old whose main interest in life is playing games on his/her computer to the exclusion of everything else, then 'Twisted Circuits' could be the book to buy. The stories in it might just make you, or them, think 'What if...?', and at £1.75 it won't break the (pocket-money) bank, either.

**D.M.**

**Beaver Books, 62-5 Chandos Place, London WC2N 4NW.**

## **This Is The Way The World Ends — James Morrow — Victor Gollancz Ltd — £10.95**

Tombstone engraving is not usually the kind of employment associated with the hero of a novel, not even science fiction novels where anything can happen and often does. But that is George Paxton's trade in 'This Is The Way The World Ends' by James Morrow.

George's wife and child die in a thermo-nuclear holocaust in the not-too-distant future and he and five other characters — military and civilian experts involved in the war who, like George, have managed to survive it — are taken aboard a submarine and nursed back to something resembling health. Unfortunately, the submariners prove to be less altruistic than they at first appear,

for George and his companions are being kept alive to stand trial accused of the extermination of humankind.

The prosecutors are representatives of the 'unadmitted', the mass of humanity that will now never be born and who accuse George as one of those 'watchers' who stood by and let it happen.

'This Is The Way The World Ends' is a novel on three levels. On the surface it can be read as a straightforward sf story, albeit one that is a cut above the general run. Underneath that — the second stratum, so to speak — is a strong, satire on the defensive/offensive posturing of the super powers and then, running through it all, is an anti-nuclear plea which, even if you don't agree with the author's stance, will make you pause for a great deal of thought.

George Paxton is a likeable, ingenuous hero with whom most of us can identify. His desire for a scopa-suit — a protective overall supposedly proof against radiation — for his little daughter, Holly, leads him into signing a contract admitting his share of the guilt should nuclear war ever occur. Naturally, no-one thinks it will ever happen... George's gradual realisation of his plight, his growing affection for Morning Valcourt, a psychotherapist assigned to help him overcome his 'survivor's guilt' and the friendships he forges with his fellow defendants all help the story towards the final 'showpiece' trial, in which the outcome seems inevitable but never quite certain. Also weaving in an out of the fabric of the story are Nostrodamus (yes, the 16th-century astrology), a giant vulture and a Mad Hatter (no, not that one!), whose shop can fly wherever the fancy takes him or it.

A less well-written story would be totally unbelievable but in James Morrow science fiction has found an author whose descriptive passages are a delight and who knows how to pace his narrative. Combine these with his ability to make the reader care about what happens to the characters — the mark of the true story-teller — and you have a new name to add to your list.

The title is, of course, taken from T. S. Eliot's 'The Hollow Men' and the quotation ends 'not with a bang but with a whimper'. James Morrow, in his book, shows another view of how it could reach the final curtain. Read it and find out.

**D.M.**

**Victor Gollancz Ltd, 14 Henrietta St., London WC2E 8QJ.**

## **Science Fiction Stories — Tom Boardman Jnr — Octopus Books — £1.99**

A recent survey showed that only about 25% of the great British public brought a book in 1986. (Have you noticed how many bookshops there are in countries like France and Spain?) It didn't say why so few people paid out hard cash for something that can give so much pleasure for so long but, probably, the cost played a large part. When the average price of a good read is now approximately a tenner, it's cheaper to borrow the book from your local library. Although, of course, the disadvantage of that is that you have to return it in three weeks when often you'd like to keep it.

Some publishers are now waking up to the fact that cheaper prices mean more sales, Octopus Books are one of them. They are now publishing a series of hardbacks — not the usual paperbacks, which get tatty so soon — which are not only pleasant to handle and good to read but are also astonishingly inexpensive. Included in the series is 'Science Fiction Stories', edited by Tom Boardman Jnr, and priced at only £1.99! (Mastertronic, are you listening?)

The shortest story is supposed to be the one that goes, "The last man on earth sat alone in a room. There was a knock on the door..." Frederick Brown's taut little tale based on those two sentences is only one of the twenty-three stories in this collection. It also includes Isaac Asimov's, 'The Fun They Had', the classic 'Who Can Replace A Man', by Brian Aldiss and even H. G. Wells' 'In The Abyss'.

For aficionados of the genre it's an opportunity to renew acquaintanceship with the masters and perhaps to re-read some of those gems which may have slipped your memory. For anyone new to science fiction £1.99 is a very small sum to spend to introduce either yourself — or someone else — to the pleasures of space/time travel, telekinesis, friendly, or unfriendly, aliens and, of course, almost-human robots.

An anthology to be treasured and, at this price, it's almost a giveaway! **D.M. Octopus Books, 59 Grosvenor St, London W1X.**

**COMMODORE - PC**

All models include MS DOS, GW Basic, AGA Video Card, Serial & Parallel ports.

- PC10 IBM-PC compatible £1095  
512K RAM, 2x360K floppy drive
- PC20 IBM-AT compatible £1495  
as above plus 20MB hard disk
- PC40 IBM-XT compatible £2395  
with 20 MB hard disk,  
1 MB RAM, 1.5 MB floppy drive

ADD £200 FOR COLOUR MODELS  
PC PRICES INCLUDE VAT, DELIVERY  
AND 1 YEAR ON-SITE MAINTENANCE

**128 64C**

- Commodore 128D computer £499
- Commodore 128 computer £249
- NEW 512K expansion RAM £149
- Commodore 1571 disk drive £269
- MPS 1000 fast NLQ printer £269
- 1901C colour monitor £335
- 64C computer £195
- 1541C disk drive £195
- 64C Connoisseur Collection £245

PRICES INCLUDE VAT, DELIVERY  
AND ONE YEAR WARRANTY. ADD  
£10 FOR OVERNIGHT DELIVERY

**C64 & 128 SOFTWARE**

- SuperBase 128 ~~99.95~~ £57.95
- SuperScript 128 ~~89.95~~ £64.95
- VizaWrite 'Classic' 128 ~~99.95~~ £79.95
- VizaStar 128 ~~129.95~~ £99.95
- SwiftCalc 128 ~~59.00~~ £54.95
- Data Manager 128 ~~59.00~~ £54.95
- Word Writer 128 ~~59.00~~ £54.95
- MicroClerk 128 ~~99.95~~ £94.95
- Pocket Planner 128 ~~49.95~~ £49.95
- SuperBase 64 & Plus/4 ~~79.95~~ £37.95
- SuperScript 64 ~~69.95~~ £47.95
- VizaWrite 64 'Professional' ~~59.95~~ £39.95
- VizaWrite 64 (cartridge) ~~69.95~~ £69.95
- VizaStar 64 XL8 ~~99.95~~ £79.95
- VizaStar 64 XL4 ~~79.95~~ £69.95
- SuperBase Starter 64 ~~39.95~~ £19.95
- SuperBase: The Book ~~11.95~~ £11.95
- SuperType 64 (disk or tape) ~~14.95~~ £14.95
- Geos 64 v1.3 ~~49.95~~ £49.95
- Simons Basic 64 (Cartridge) ~~39.95~~ £39.95

**SELECTED SOFTWARE FOR YOUR NEW AMIGA!**

- VizaWrite DeskTop £149.95
- SuperBase Personal ~~149.95~~ £129.95
- Page Setter ~~149.95~~ £139.95
- Logletix ~~261.75~~ £154.95
- Analyse ~~99.95~~ £94.95
- Scribble II ~~99.95~~ £94.95
- De Luxe Paint II ~~149.95~~ £139.95
- De Luxe Print / Video ~~90.45~~ £84.95
- De Luxe Music ~~99.95~~ £94.95
- True Basic ~~149.95~~ £139.95
- True Basic libraries ~~49.95~~ £49.95
- MCC Pascal ~~89.95~~ £84.95
- A/C Fortran ~~205.00~~ £284.95
- Lattice C ~~126.95~~ £124.95
- Dynamic CAD ~~485.00~~ £449.95
- Aeglis Draw Plus ~~295.00~~ £284.95
- Aeglis Images ~~69.95~~ £64.95
- Aeglis Animator ~~119.95~~ £114.95

**COMMODORE 128 and 64... PROGRAMMER'S CORNER**

- PetSpeed 128 The Basic 128 compiler, from Oxford Systems ~~49.95~~ £44.95
- Super C 128 Complete C language, with extensions ~~59.95~~ £44.95
- Cobol 128 The complete COBOL package from Abacus ~~39.95~~ £34.95
- Hack Pack 128 All-in-one Programmer's Toolkit & Ram-Disk ~~39.95~~ £36.95
- RamDos 128 Lightning fast Ram-Disk for 512K expansion RAM ~~34.95~~ £34.95
- BrainBox IEEE Supports PET/IEEE disks & printers etc. (128 or 64) ~~79.95~~ £79.95
- Anatomy of the 128 The 500 page insider's guide to the 128 ~~12.95~~ £11.95
- Matrix 128 Run 64 programs on your 128 - in 128 mode! ~~49.95~~ £44.95
- PetSpeed 64 The standard 64 Basic compiler from Oxford ~~34.95~~ £19.95
- Oxford Pascal 64 The complete J & W Pascal for your 64 ~~49.95~~ £34.95
- Oxford Pascal 64 (tape) Pascal for 64 tape users, as above ~~22.95~~ £19.95
- Super C 64 Complete C language, with extensions ~~59.95~~ £44.95
- Cobol 64 The complete COBOL package from Abacus ~~39.95~~ £34.95

**Oxford BASIC 64**  
The ultimate utility pack for your 64...  
a full Programmer's Toolkit (FIND, DUMP,  
CHANGE, MERGE, RENUMBER) plus  
ultra-fast Basic compiler plus program  
optimizer, analyser & compressor! £34.95

**Oxford PASCAL 128**  
A full J&W Pascal compiler with both  
Interactive mode (90K user area) & disk  
compiler mode (120K)... graphics & sound  
extensions... and both stand-alone and  
modular run-time options! 49.95, £44.95

IF YOU WANT IT TOMORROW... CALL US TODAY! ON 01-546-7256

Prices are POST FREE & include VAT.  
Order by phone with your credit card,  
or send cheque/PO or your credit card  
number. Official orders welcome. We  
despatch same day by FIRST CLASS  
post. If our lines are busy, why not try  
our 24-hour recorded order service,  
on 01-541-5185. Ref. A47



**HSV COMPUTER SERVICES LTD.  
ALL OUR PRICES INCLUDE VAT &  
CARRIAGE - NO EXTRAS TO PAY!!!**

\*\*\*\* Special prices for Commodore users \*\*\*\*

**RIBBONS**

DPS1101 — £2.95	4023 — £3.95
MPS802 — £3.95	1526 — £3.95

\* COLOURED RIBBONS — Red: Blue: Green: Brown: Purple: Orange: \*

Commodore MPS801	Colours: £3.95	Black: £2.95
Commodore MPS803	Colours: £3.95	Black: £2.95

**UNIVERSAL DISKS**

Universal disks are suitable for 40/80 track drives and have 2 notches and 2 holes.

	10	20	30	40	50	100
	£8.95	£17.00	£25.00	£33.00	£40.00	£75.00

**BRANDED — ATHANA/MAXELL**

	3 1/2 SS/DD	3 1/2 DS/DD	5 1/4 SS/DD	5 1/4 DS/DD
Maxell	£23.95	£31.95	£11.95	£14.95
Athana	£21.95	£26.95	£7.95	£8.95

**HSV UNBRANDED DISKS**

All bulk disks are supplied in cardboard boxes with write protect tabs and labels.

	10	20	30	40	50	100
3 1/2 SS/DD	15.50	30.00	44.00	57.00	70.00	135.00
DS/DD	17.50	34.00	50.00	65.00	80.00	155.00
5 1/4 SS/DD	5.95	11.00	16.00	21.00	25.00	45.00
DS/DD	6.95	13.00	19.00	25.00	30.00	55.00

\*\*\*\*\*NEW\*\*\*\*\*

MAKE FILING EASIER BY COLOUR CODING YOUR SYSTEM  
HSV COLOURED DISKS — Red: Blue: Green: Yellow: White:  
BOXED TEN: £9.95

**CONTINUOUS STATIONERY Micro-Perf All Edges**

	250	500	1000	2000
9.5" x 11" 60 GSM	2.95	4.95	8.95	14.95
True A4 90GSM	5.25	8.75	14.95	
True A4 100GSM White Bond	6.50	9.95	16.25	
True A4 100GSM Colours**	7.25	13.50	25.50	

\*\*\* Colours available: — CREAM: BLUE: GREY:  
Matching Envelopes (not continuous) 100= £5.95

**LABELS — CONTINUOUS:**

3.5" x 1.5" (1 across)	2.95	4.95	9.50
4.0" x 1.5" (1 across)	3.25	5.50	10.50
4.0" x 1.5" (2 across)	3.75	6.50	11.95
2.75" x 1.5" (3 across)	2.75	4.50	8.50

**RIBBONS**

	Cols	Black
Canon PW1080A	£3.95	£2.95
PanasonicKXP1080/1090	N/A	£3.95
Epson FX/MX/RX80	£3.95	£2.95
Taxan Kaga	£3.95	£2.95
Star SG10/15	£2.50	£1.50
Epson LX80/86	£3.95	£2.95

**DISK STORAGE**

50 x 5 1/4 Hinged Lid	=£ 6.95
100 x 5 1/4 Hinged Lid Lock	=£11.95
30 x 3 1/2 Hinged Lid	=£ 7.95
80 x 3 1/2 Hinged Lid Lock	=£12.95
50 x 5 1/4 Hinged Lid Lockable	=£ 7.95
120 x 5 1/4 Hinged Lid Lock	=£12.95
40 x 3 1/2 Hinged Lid Lock	=£ 8.95

**PRINTER STAND — 80 COLUMN = £14.95 — suitable  
for rear/centre feed**

Tilt 'N' Turn Monitor Stands 12" = 12.95 14" 14.95  
REXEL Binders — Blue/Red (please state) £2.50 each

**HSV COMPUTER SERVICES CREDIT CARD HOT  
LINE**

\*\*\* 0256 463507 \*\*\*

HSV COMPUTER SERVICES LTD.,  
23 HAMPSTEAD HOUSE,  
TOWN CENTRE,  
BASINGSTOKE, RG21 1LG  
ALL PRICES INCLUSIVE VAT & CARRIAGE — NO EXTRAS  
TO PAY

# News Feature

## WIDEBAND COMMUNICATIONS — THE NEW HIGH-TECH GOLDMINE

The wideband communications market is pushing past the \$3 billion level this year in the U.S., and is projected to pass \$7 billion in 1990. According to a report from International Resource Development, the burgeoning market has become a "happy hunting ground" for new high-technology companies, who are leaving many traditional telecom suppliers "in the dust". "Some of the big high-tech opportunities of the 1980s, such as personal computers, have already peaked or passed, but wideband is just now revving up," says C. Thomas Rush, project manager for the new IRD study.

### Supplier Push Strong; User Pull Weak

While the US wideband market is growing very rapidly, it is dominated by supplier push

rather than user pull, says the IRD report. For example video conferencing, which "really gobbles up bandwidth", is growing rather slowly. The T1 and VSAT segments, by contrast are growing rapidly as communications users figure out how to save money by using wideband digital communications rather than bundles of leased voice-grade lines.

### Startups Challenge Leaders in Every Sector

According to the IRD report, the major U.S. supplier of both wideband equipment and wideband services is AT&T, which is active in 13 of 17 wideband market segments covered by the report. But in 16 of the segments, recent startups are mounting strong challenges to the market leaders, and the competitive

pressure is leading to rapid product obsolescence and "more price pressure than most vendors would really like to see".

Long-standing vendors such as Western Union and RCA/GTE are "Sucking their teeth, worrying about empty transponder capacity", according to Rush. The T1 multiplexer market, with more than 15 small-company participants, has become a "rat race", despite falling prices and razor-sharp profit margins, most vendors see the future of T1 as "just too promising to walk away from".

### Japanese Equipment Vendors Challenge — And Are Challenged

Unlike the consumer electronics market in the US., which is already totally dominated by far-eastern vendors,

the wideband communications equipment mostly still has "Made In The USA." stamped on it. There are significant Japanese challenges in fibre-optic equipment and microwave gear, and also in image-related equipment such as wideband facsimile. But Nippon Electric's worldwide strength in microwave equipment is about to be challenged in turn by "some fancy new digital microwave long-haul gear from AT&T Network Systems", and US suppliers of fibre-optic transmission equipment are "upping bandwidth faster than the Japanese can keep up with", according to the report. In video codecs, "it's a horse race; US-based Pictel and CLI are coming along OK, but a strong product from NEC may soon be joined by challengers from Mitsubishi and Matsushita", according to Rush.

## DATABASE SERVICE GROWTH

The online database services market will reach a revenue level of \$1.9 billion in 1986, and will more than double over the next five years. According to a new 177-page study by market research firm International Resource Development Inc., all major segments of the market will show strong growth, with particularly good prospects for financial and econometric databases. "Corporate librarians are getting big appetites — and fatter budgets — for accessing information online from terminals and personal computers," comments Jean Buffham of the IRD research staff.

### Fewer Dropouts Forecast

"There have been so many

entries and departures into and out of this market over the past ten years, but we're seeing more caution now on the part of vendors" says Buffham, who sees "a little sober and realistic approach" by new aspiring database vendors. The report traces the development of particular successful product combinations of price, presentation and detail, in both electronic and paper-based publishing. "It's obvious that print publishers have a clearer idea of what they can sell, and at what price than the electronic publishers," Buffham points out.

"Some database publishers see CD-ROM as an opportunity, but more of them view it as a threat to online re-

venues; what's more, they don't know how they're going to get usage-sensitive 'meter-click' pricing from databases distributed in CD-ROM form."

### Little Impact on Print

Despite the expected rapid growth in electronic information vending, relatively little impact is seen on traditional print-based publishing. "A few specialized directories will fall by the wayside, to be replaced by electronic equivalents, but we really don't see a devastation of the traditional newspaper or yellow pages industries," says Buffham. She sees consumer electronic news services, such as those offered by CompuServe of The Source

as 'more immediate than newspapers, more than television, but not threatening the position of either one."

According to the IRD report, pricing for home services has often in the past been dependent on advertiser-supported services. It has become clear that advertisers are not willing to support services that do not have a sufficient number of users. So it is the information and the packaging of that information that is crucial to the development of electronic products geared toward the home.

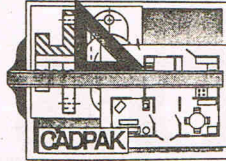
The price of services, including hardware, software and peripherals will have to come down in order for more home users to take advantage of services such as videotex.

# ABACUS SOFTWARE PRODUCTS from ADAMSOFT

## CADPAK Enhanced Version! For C-64 or C-128

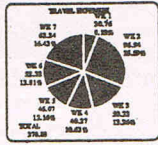
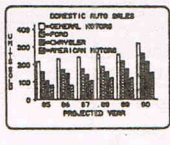
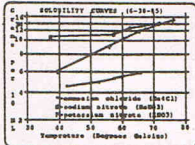


CADPAK is a superb tool for computer aided design and drawing. Using either the keyboard or optional lightpen you draw directly on the screen to create and edit pictures, drawings, layouts and renderings—quickly, accurately, creatively. The new *dimensioning* feature allows exact scaled output on your designs. Choose from the menu options and draw on the screen at an exact location using our *AccuPoint* cursor positioning. Using the two graphics screens, you can draw LINE's, BOXES, CIRCLES, ELLIPSES; fill with solid colors or patterns; freehand. DRAW; COPY sections of the screen; ZOOM-in to do detailed design on a small section of the screen. With CADPAK's improved object editor, you can define and save furniture, electronic circuitry or machinery as intricate as the screen resolution permits. Hard copy to most dot matrix printers. Perfect for all your design needs.



For C-64 £24.95  
For C-128 £34.95

Lightpen (optional) £12.95



## CHARTPAK For C-64 or C-128

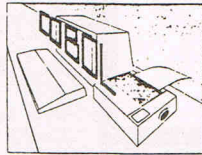
CHARTPAK lets you make professional quality charts *fast*—without any time-consuming programming. Enter, edit, save and recall your data, then interactively build your pie, bar, line chart or scatter graph. You specify scaling, labeling and positioning. CHARTPAK instantly draws the chart in any of 8 different formats—you can change your format immediately to draw another chart type. Other features include statistical routines for average, standard deviation, least squares and forecasting. You can also use data from spreadsheets such as Multiplan, Calc Result or Busicalc. CHARTPAK records your final results on Commodore 1525 / MPS-801/1526, Epson, Gemini, Okidata (including OKIMATE 10/color) or C Itoh Prowriter dot matrix printers.

C-64 version £24.95 C-128 version £34.95

The C-64 versions work at 320x200 resolution and the C-128 versions at 600x360 resolution. CHARTPAK screens can be read by CADPAK for further enhancement if required.

## COBOL for the C-64 and C-128

Now learn this universal  
business language on  
your Commodore 64 or  
Commodore 128!



COBOL is the most widespread business programming language in use today. Now you can run this easy-to-use, English-like language on your C-64 with the easy-to-learn COBOL System package. The COBOL System features a syntax-checking editor, interpreter, compiler, and a number of symbolic debugging aids; a crunch function to reduce the memory size of your programs; a print on/print off feature, and much more. Includes sample programs to help you learn as you go, as well as a complete 150-page manual.

Both versions on 1 disk **£34.95**

**\*\*SPECIAL OFFER THIS MONTH\*\*:**

free Machine Language Book or 5 blank disks or £5 discount off any Abacus book with every Cadpak, Chartpak or Cobol package purchased directly from Adamssoft. Please state choice. Offer ends 10th June. Alternatively if you purchase two or more software packages from this advert you may deduct 10% from the total cost.



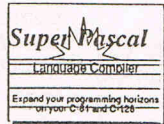
## SUPER C Language Compilers for C-64 or C-128

One of today's most popular languages, C is excellent as a development tool, produces 6502 machine code—and it's very easy to transport C programs from one computer to another. Our compiler makes full use of this versatile language; it includes an editor, compiler, linker and handbook. The powerful editor lets you create source programs containing 80 character lines, and features horizontal scrolling. Your source program can be up to 41K in length, 53K in object code. The linker lets you combine up to seven modules for later as a BASIC lookalike program. This really is a Super package.

**\*\*SPECIAL OFFER\*\***

Both versions on 1 disk for only **£34.95** limited stocks at this price

## SUPER Pascal Development System for C-64 and C-128



SUPER Pascal is a complete development system for Commodore 64 and 128 computers. It implements the full Jensen & Wirth compiler plus extensions for graphics—and has a complete source file editor, a full assembler, and a comprehensive utility package. Our powerful program features high-precision 11-digit arithmetic; a very fast compiler; overlays; automatic loading of editor and source program; exact error messages and localization during compilation; complete statistics reporting; high speed DOS (3 times faster than the 1541's); free runtime package, and much more.

The 128 version supports 40 or 80 column mode. FAST or SLOW speed. Extra commands. RAM disk option, and 80 column hires graphics.

For C-64 **£34.95**  
For C-128 **£44.95**

All software products are on disk.

Free postage on U.K. and overseas surface mail orders. Add £3 per item for airmail. We stock the entire range of Abacus software products and books. Send SAE for catalogue. Generous dealer terms available. Access (not VISA) or Transcash orders accepted (a/c 687944007). Add £1.50. Mail Order. Callers by appointment.

ADAMSOFT (Dept C), 18 Norwich Avenue, Rochdale, Lancs OL11 5JZ  
Tel: 0706-524304 (anytime)

# GEOS

## ... NEW RELEASES

from

See us at June  
Commodore Show on  
Stand 39

# Berkeley Softworks

## SOFTWARE

<b>GEOS v1.3</b>	Latest version of GEOS	49.95
<b>FONT PACK 1</b>	20 New Fonts	23.50
<b>DESK PACK 1</b>	Calendar Icon, Editor, Graphics Grabber Blackjack	26.50
<b>WRITER'S WORKSHOP</b>	GeoWrite 2.0 GeoMerge Text Grabber	37.50
<b>GEOCALC</b>	GEOS based Spreadsheet	37.50
<b>GEOFILE</b>	GEOS based Filing System	37.50
<b>GEOS v1.3 UPDATE DISK</b>		5.00

## BOOKS

<b>ABACUS</b>	<i>GEOS-Inside and Out</i>	12.95 (+ £1 p&p)
<b>MIDNITE PRESS</b>	<i>How to Make the Most Out of GEOS</i>	12.95 (+ £1 p&p)

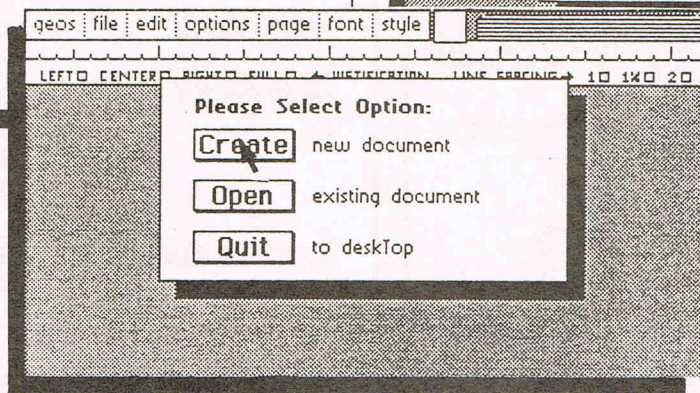
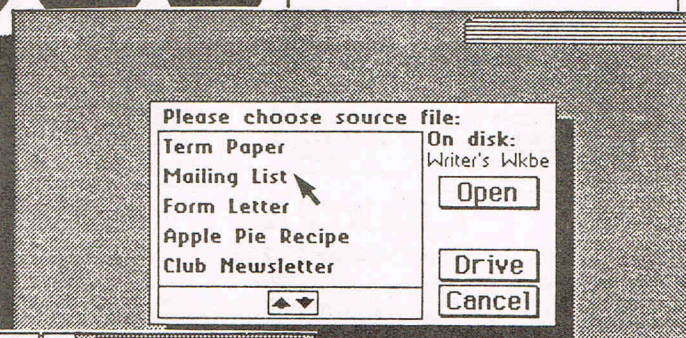
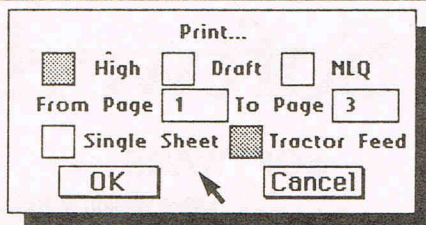
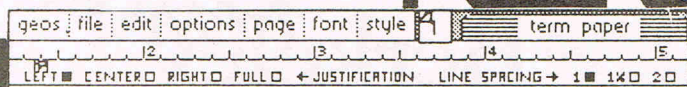
All prices include VAT and Carriage  
Available from your local dealer  
or direct from:

**FIRST ANALYTICAL LTD**  
**DEPT. CCI**  
**70 BOROUGH HIGH ST,**  
**LONDON SE1 1XF**  
**Tel: 01-403 5493**

Callers by Appointment Only

# More Geos

# 64! POWER



They keep on coming. The marvellous Geos range goes on increasing and improving. We have already covered such recent goodies as their new fonts and deskpack. Now they have produced what for me is even more exciting a specialised writer's Geos. The first Geos contained an excellent word processing package — geoWrite but this new package contains an updated and improved version which is considerably better.

It also contains geoMerge which is a very acceptable mail merge facility. There is also Text Grabber which lets you add from other word processors. And there is a facility that is not very useful to most people — geoLaser a printer support to use with the Apple Laserwriter printer. Not many of us have one of those for home use!

The enhancements for geoWrite include: format each paragraph individually; centre, right and full justification; single, one and a half, and double spacing; decimal tabs; move around a document using cursor keys; selection of up to a whole page of text; double clicking to select a word; superscript and subscript; print in high, draft or NLQ modes; print part of a document; headers and footers; put the page number, time and/or date

into the header or footer; search and replace.

GeoWrite is really a very neat word-processing system that like all Geos facilities is icon and window-based. This makes it exceptionally easy to use and with the new enhancements a highly effective system for anyone who wants to use the 64 as a work tool. It is at least as easy to use as any word-processing package I have come across and provides an ideal starting point for a beginner as well as something that could serve for the advanced user too.

## GeoMerge

GeoMerge is a program that lets you produce multiple copies of a document such as a letter that you might send to many people. Each copy however can have different names on it and, of course, also addresses or any other data you wish.

Text Grabber is really to expand the facilities offered by geoWrite. With it, you can take a file created on any other Commodore word processor such as Paperclip or Vizawrite, and convert it into a geoWrite file. The formatting directions from the original word-processing package will be preserved when the conversion is made to geoWrite. The

process of conversion is very clearly explained in the excellent manual that comes with the whole package.

The other facility on this package is unlikely to benefit many 64 owners outside the US. GeoLaser is a tool for producing near professional quality typesetting style text using the Apple LaserWriter Printer. As the cost of this printer runs into thousands of dollars or pounds, it could be an expensive way of getting your letters typed at home. In the USA, Berkeley Softworks, the creators of Geos, offer a laser printing service accessible over Quantum Link — the US communication system equivalent to the Micronet or Compunet systems in the UK, called videotex in other countries. Perhaps Berkeley or their local agents in other countries will introduce a similar system outside the US which would be very useful indeed for people who want really high class printing.

Overall this new package is an excellent addition to the growing range Geos offers. It is as easy to use as the previous packages and will undoubtedly prove equally as popular as this whole system which is adding power to the 64 without costing a great deal of cash.

A.M.



**QUICKSHOT II  
PLUS  
DELUXE  
JOYSTICK**



COMPATIBLE  
WITH  
Commodore C64,  
C128, VIC20  
Commodore C16+4  
(needs joystick adaptor  
available at £2.95)

ONLY  
**£9.95**

**MORE GREAT  
PRODUCTS**

FROM  
**POSTRONIX  
LTD**



ONLY  
**£180**

**PRINTERS**

ONLY  
**£250**



**1. SEIKOSHA PRINTER  
SP180VC £180.00**

Dot Matrix Printer,  
compatible with  
Commodore Computer,  
features:

- Variety of character fonts including near letter quality and graphic printing
- Tractor feed
- Reverse printing and Italic mode
- Attaches to the Serial Port.

**2. COMMODORE  
PRINTER MPS100 £250.00**

Dot Matrix Printer, compatible with Commodore and most other Personal Computers.

- Features:
- 100 Character per second
  - Bi-Directional printing
  - Platen Feed or Tractor Feed
  - Serial or Parallel Interface

**NOW YOUR 64 CAN  
BE A SYNTHESISER  
OF OUTSTANDING  
CAPABILITIES WITH  
THE COMPLETE  
MUSIC EXPANSION  
SYSTEM!**



**FEATURES: FULL 5 OCTAVE  
KEYBOARD SOUND  
SAMPLER AND SOFTWARE  
(CASSETTE) PLUS THESE  
THREE FABULOUS  
PLAYALONG ALBUMS. THE  
BEATLES (CASSETTE OR  
DISK), POPULAR HITS  
(CASSETTE OR DISK),  
POPULAR CLASSICS  
(CASSETTE OR DISK)**

ONLY  
**£75.00**  
+ P&P

**ATTENTION  
ALL C64/128  
OWNERS!**

**Full Colour Graphics Software  
PLUS Mouse Controller**



ONLY **£24.99** Cassette  
**£26.99** Disk + P&P



Control your computer at the touch of a button, instead of using the keyboard. Using the included software enables you to design and draw computer pictures on your screen. The mouse can also operate as a joystick for use with games.

Contents may vary from those shown.

*The Neos Mouse and Cheese is a full colour graphic operating system allowing the user to draw and 'paint' on screen by use of icons. The user can select different programs to draw, copy, reverse, colour, fill and mirror image plus many other graphic capabilities*



A Prestwich Holdings plc Company  
SEND YOUR ORDER TO

POSTRONIX LTD,  
8 FARADAY COURT,  
PARK FARM,  
WELLINGBOROUGH,  
NORTHANTS NN8 3XY

REG NO. - 2019261

TITLE (TICK)  MR.  MRS.  MISS  
 INITIALS  SURNAME   
 ADDRESS   
 CUSTOMER NO (IF KNOWN)  POSTCODE   
 OR PHONE (0933) 477732  
 24 HOUR ORDER SERVICE

**IF YOU DO NOT WISH  
TO ORDER BUT WOULD  
LIKE A FREE CATALOGUE,  
FILL IN THIS COUPON  
AND SEND TO ADDRESS  
SHOWN**



Please send me

PLEASE DEBIT MY CREDIT CARD

SIGNATURE  DATE

SEE NOTE TOTAL GOODS POSTAGE & PACKING 1.25

OR ENCLOSE CHEQUE/POSTAL ORDER FOR £ CHEQUE PAYABLE TO ORDERER LTD GRAND TOTAL

## C128 RAM Expansion Module

One the strongest, yet often overlooked feature of the Commodore 128 is the ability to expand the memory. However, since the processor used in the 128 is an 8-bit device, this means that it can only directly address 64K or see only one 64K memory block at a time. The system will support up to 15 blocks or *banks* of 64K per bank which means a maximum of 896K external RAM that is indirectly addressable. This technique of expanding the memory by means of *bank-switching* was first seen in the now obsolete B-series (or 700 series as it was known outside the USA) which used the much underrated 6509 processor. The next application was probably closer to the majority of readers of this magazine in the shape of the PLUS/4. This machine used the 8501 processor and allowed bank-switching of 32K blocks into the processor address space.

Commodore have launched two versions of a RAM expansion module for the 128 machine — the 1700 which contains two banks of 64K adding a further 128K to the standard machine to give a 256K Commodore 128, or the 1750 module (reviewed here) which contains eight banks of 64K which adds a further 512K RAM which turns the 128 into an extremely usable 640K machine.

The package consists of the RAM expansion module, two disks and a 24 page manual. The two disks contain a new CP/M 3.0 system which recognise the additional RAM and support this as a *virtual* or *RAM disk*. The disk is the latest version to be released by Commodore (6 Dec 1985) and also includes support for a modem. The other disk contains some programs written in BASIC 7.0 and provides some demonstrations of the facilities in addition to a rather silly RAM-Test program. I felt that this was a pointless program because if it does reveal a section of defective RAM, what are you going to be able to do about it since the program does not indicate which particular RAM circuit is at fault?

The standard of Commodore documentation is definitely improving and the manual is very good. Full technical details of the RAM expansion are provided with address location and function of the controlling registers as well as a detailed guide for new users in either Commodore BASIC or CP/M 3.0 modes.

### Upgrade to 512K

The RAM module is produced at Com-

modore's Braunschweig factory in West Germany and unlike previous cartridges from Commodore is held together by a push-fit and access is quite simple — perhaps they now realise that this reviewer ALWAYS opens up any hardware! The board itself is very heavily shielded for RFI (Radio Frequency Interference) purposes, presumably to meet the FCC standards necessary in the USA — a cynic would say that after the debacle of getting the AMIGA Sidecar unit through the FCC tests. Commodore West Germany were taking no chances!

The RAM circuits themselves are 41256 units thus it should be possible for purchasers of the 1700 128K module to upgrade to 512K after re-configuring a jumper on the circuit board. Controlling the RAM circuits is done by a customised DMA (direct memory access) controller circuit — for the benefit of those readers who are primarily interested in the hardware, the controller indent number is 8726.

In use, the RAM module is very much a mixed blessing. When used in BASIC 7.0 mode, that is employing the 8502 processor the various support calls as *fetch*, *stash*, etc., seem very slow particularly in *slow* mode. One of the demonstrations on the supplied disk attempts to emulate the renowned AMIGA '*bouncing ball*' piece using BASIC 7.0 in 40-column display mode and therefore uses *slow* mode, is both frustrating and an embarrassment in terms of the time it takes to configure. 6502 assembly language is the obvious answer if you intend to use graphics with any level of plausibility. Until some enterprising software house brings out a *toolkit* utility that allows BASIC programmers the opportunity of high-resolution graphics in 80 column mode (yes, this can be done and the result in a resolution of 600 by 200 pixels are excellent), then there are serious limitations in using the RAM module with BASIC graphics. One area in BASIC that seems to offer more potential is that of sound, since some very large pieces of music can be stored in 512k. Another potential use could be in the creation of a RAM disk.

### CP/M Plus

The only immediate use I could make of the RAM module was in CP/M mode. The CP/M 3.0 (or CP/M PLUS as it is sometimes called) supports *bank-*

*switching* allows the user to configure the additional RAM a *virtual disk*. This means that the operating system treats the RAM as a disk drive — in this case *driveM*: and it is in CP/M mode that the benefits of the RAM module become apparent. Using the 512K module allows the user to place a completely full floppy disk into the RAM disk and still have room to spare, thus using an application such as dBASE II is considerably accelerated. For example, the complete dBASE II system disk can be copied into the RAM disk thus freeing drive A: for other purposes. The user should always remember to recover any data from RAM and save it to a floppy disk before shutting down the system. However, placing the system disk into RAM makes life much more pleasant — I do exactly the same thing on my AMIGA system. Other disk-intensive CP/M applications such as WORDSTAR and compilers can make great use of this welcome facility.

Although the supplied manual provides the programming details of using the RAM module from 6502 assembly language, prospective CP/M programmers will need the CP/M programmers Manual and system source code disk before they can get anywhere. These should be available from Commodore and represent a very useful source of information as well as being excellent value for money.

In conclusion, the RAM modules for the Commodore 128 do provide a platform for some very useful applications, particularly when used in a CP/M environment. However, until 6502-based commercial software is made available that takes advantage of the RAM modules, then their use is somewhat limited. The type of software I have in mind here is SUPERScript which would allow much longer documents to be created or SUPERBASE which could operate more efficiently. Maybe software producers such as Precision Software, JCL Software, Timeworks and Viza Software will not be slow to exploit the possibilities offered. I understand that JCL Software Ltd. have some assembly language that takes advantage of these modules and interested programmers should contact this company direct for further details. **B.B.**

**Price: £99.99 (128k), £149.99 (512k)**  
**Contact: Commodore Business Machines Ltd., Commodore House, Unit 4, Switchback Rd, Maidenhead, Berkshire.**  
**Tel: 0628 770088.**

MICRONET'S

+4  
**OFFER!**

EXCLUSIVELY FOR CCI READERS!

# AT LAST!

## Plus/4's go On-Line

*Now available for  
64/128 please state  
micro when ordering*

Micronet and Y2 Computing bring you the long awaited communications package for your +4. You'll now be able to join the thousand's of Commodore users already enjoying Micronet

### COMMUNICATIONS

Electronic mail chatlines — real time bulletin boards, swapshop — classified ads, telex facility.

### INFORMATION

Latest micronews, hardware/software reviews, technical help desk and Commodore Microbases.

### MULTI-USER GAMES

Experience the magical world of SHADES or pit your wits against other star captains in STARNET.

### THE OFFER

Modem 2000 — R.R.P £49.95

+4 Cartridge — R.R.P. £34.95

Comms software on tape or disk — R.R.P. £15.00

User manual PLUS 1 years subscription to Micronet and Prestel — Residential £66  
Business £112

RRP **£165**

**OFFER PRICE  
ONLY £99\***

Simply complete the coupon below and send to: **MICRONET, DURRANT HOUSE, 8 HERBAL HILL, LONDON EC1R 5EJ — PHONE 01-278 3143**

NAME .....

ADDRESS .....

PHONE NO .....

I enclose a cheque made payable to Telemap Ltd for \*£99  Residential £145  Business

or please debit my  ACCESS  VISA

Card No

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

\*£99 Residential  £145  Business Users

Signature .....

I require software on disc  cassette

PLEASE ALLOW 28 DAYS FOR DELIVERY. OFFER APPLIES UK ONLY

**TURTLE PRICES ARE THE ONES TO JUDGE THE COMPETITION BY  
WE ARE SURE YOU WON'T FIND LOWER PRICES AND FREE DELIVERY  
FIRST CLASS SERVICE AT FIRST CLASS PRICES**

## AMIGA HARDWARE

	RRP	OUR PRICE
Amiga A500 Keyboard only	£573.85	<b>£539.99</b>
Amiga A500 + A1010 Second 3.5in Drive	£803.85	<b>£759.99</b>
Amiga A500 + A1081 Colour Monitor	£918.85	<b>£849.99</b>
Amiga A500 + A1010 Second Drive + A1081 Colour Monitor	£1148.85	<b>£1049.99</b>
Amiga A1000 256k + Single Drive + A1081 Colour Monitor	£1144.25	<b>£979.99</b>
Amiga A1000 256k + Dual Drives + A1081 Colour Monitor	£1374.25	<b>£1179.99</b>
Amiga A1000 512k + Single Drive + A1081 Colour Monitor	£1258.10	<b>£1049.99</b>
Amiga A1000 512k + Dual Drives + A1081 Colour Monitor	£1488.10	<b>£1249.99</b>

## AMIGA PERIPHERALS

Amiga A1000 256k Ram Upgrade (Purchased with Computer)	£113.85	<b>£69.99</b>
Amiga A1000 256k Ram Upgrade (Purchased Separately)	£148.35	<b>£123.99</b>
Amiga A1010 Second 3.5in 880k Disc Drive (A1000 or A500)	£286.35	<b>£249.99</b>
Amiga A1081 Colour Monitor	£401.35	<b>£329.99</b>
Amiga A501 Modulator (To Connect A500 to TV)	PHONE	<b>PHONE</b>
Amiga A502 512k-1040k Ram Upgrade	PHONE	<b>PHONE</b>
Citizen LSP-10 Epson/IBM Compatible. NLQ. Draft 120 CPS	£316.25	<b>£199.99</b>
MP165 Printer, Epson Compatible. NLQ. Draft 165 CPS	£259.95	<b>£229.99</b>
Branded 3.5in DSD Discettes — LOW LOW PRICE —	£29.95	<b>£19.95</b>

## SPECIALS (Limited Stocks)

Commodore 64C Connoisseur Collection	£249.95	<b>£209.99</b>
Commodore 64C Computer	£199.95	<b>£149.99</b>
Commodore 1541C New Disc Drive	£199.95	<b>£189.99</b>
Commodore 1541 Disc Drive	£199.95	<b>£179.99</b>

## AMIGA 500/1000 SOFTWARE

A Mind Forever Voyaging	£34.99
Adventure Construction Set	£29.95
Archon	£29.95
Archon II	£29.95
Arena	£29.95
Arctic Fox	£29.95
Borrowed Time	£24.95
Brataccus	£34.95
Cutthroats	£29.99
Deep Space	£34.95
Defender of the Crown	£45.95
Hacker	£24.95
Hacker II	£24.99
Hitch Hikers Guide	£29.99
Hollywood Hijinx	£29.99
Jewels of Darkness	£19.95
Kampfgruppe	£29.99
Leader Board	£24.99
Leaderboard Tournament	£9.99

### RRP

### OUR PRICE

## AMIGA 500/1000 SOFTWARE

Leather Goddesses of Phobos	£34.99
Little Computer People	£34.95
Marble Madness	£29.95
Mech Brigade	£29.99
Mindshadow	£24.95
Moon Mist	£29.99
Music Studio	£34.99
One on One	£24.95
Pawn	£24.95
Portal	£34.99
Seven Cities of Gold	£29.95
Shanghai	£24.99
Sky Fox	£29.95
Super Huey	£19.99
Tass Times	£24.99
Temple of Apschai Trilogy	£24.99
Trinity	£34.99
Wizards Crown	£29.99

### RRP

### OUR PRICE

£27.99
£27.95
£23.95
£23.99
£19.95
£23.99
£27.99
£19.95
£19.95
£27.99
£23.95
£19.99
£23.95
£15.99
£19.99
£19.95
£27.99
£23.99

**All prices include VAT at 15% and delivery anywhere on the UK mainland**

### How to Order

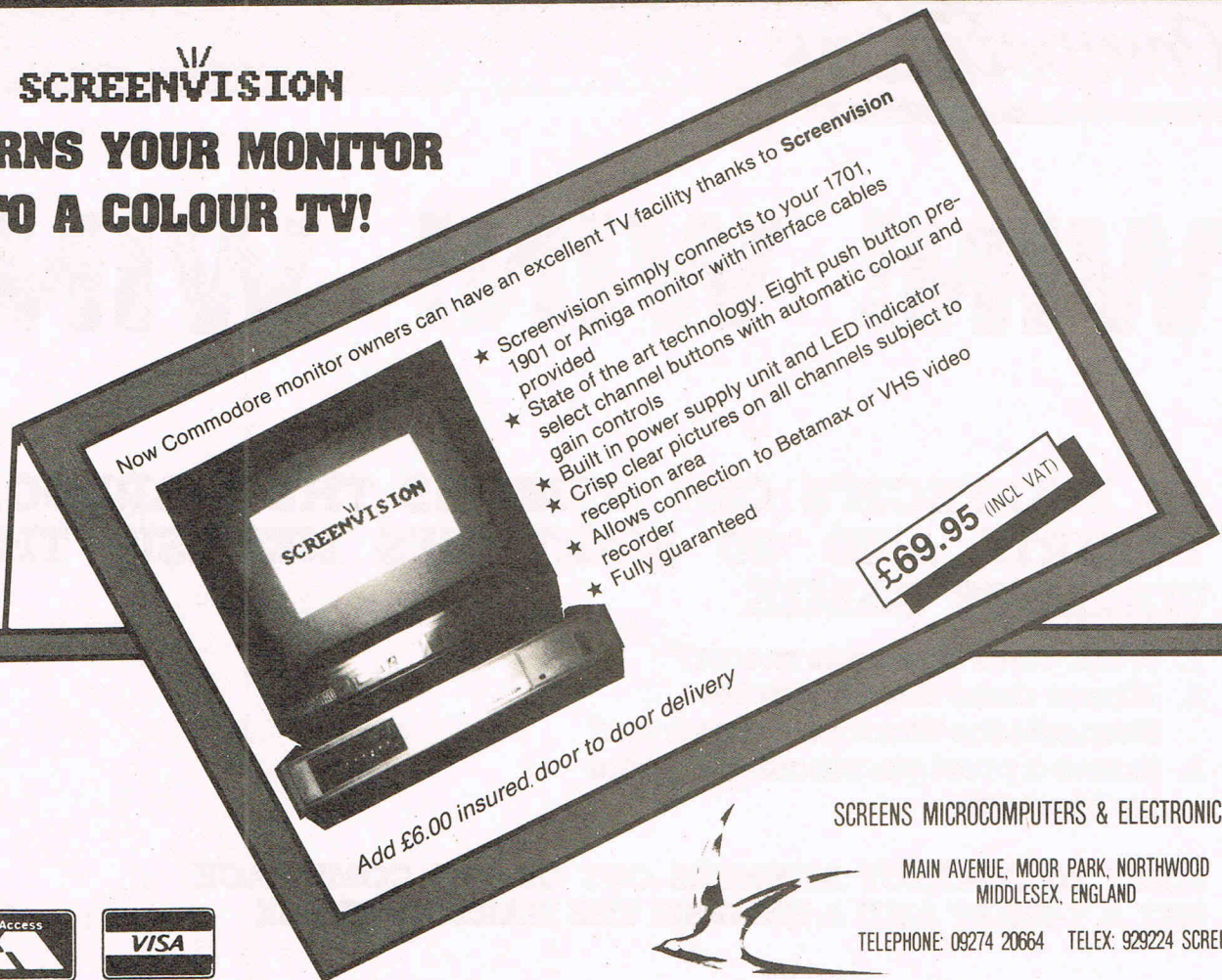
Post: Send Cheques, P.O. or Visa/Access details to the address below.  
Phone: Call 0476 60488 24 Hour Service with your Visa/Access details.

**Turtlesoft Dept CCI5, 35 Brook Street Courtyard, Grantham, Lincs NG31 6RY**

*Subject to availability, all items are despatched within 24 Hrs. E&OE.*

# SCREENVISION

## URNS YOUR MONITOR INTO A COLOUR TV!



Now Commodore monitor owners can have an excellent TV facility thanks to Screenvision

- ★ Screenvision simply connects to your 1701, 1901 or Amiga monitor with interface cables provided
- ★ State of the art technology. Eight push button select channel buttons with automatic colour and gain controls
- ★ Built in power supply unit and LED indicator
- ★ Crisp clear pictures with automatic colour and reception area
- ★ Allows connection to Betamax or VHS video recorder
- ★ Fully guaranteed

**£69.95 (INCL VAT)**

Add £6.00 insured door to door delivery



SCREENS MICROCOMPUTERS & ELECTRONICS LTD

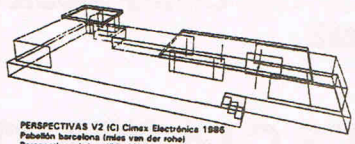
MAIN AVENUE, MOOR PARK, NORTHWOOD  
MIDDLESEX, ENGLAND

TELEPHONE: 09274 20664 TELEX: 929224 SCREEN G

# THE BEST PRODUCTS SELECTION FOR C-64

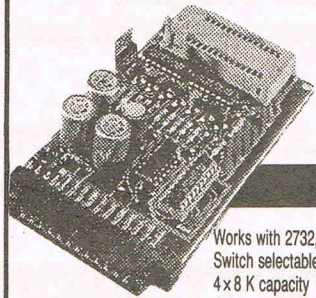
## PERSPECTIVES

Processor of volumetric image figures that permit to obtain in high resolution graphics, perspectives, isometrics, plan and elevation of any figure previously defined, starting from its vertex coordinates and the disposition of its edges. It allows to enter any drawing (building, mechanical parts, design objects, etc...) It is of great interest for architecture students and professionals, engineering, design and also for didactic applications in the geometry and drawing field.



disk £ 23.95 tape £ 21.95

## EPROM PROGRAMMER EPROMER II



All eproms 2716 to 27256, EE proms, 27 CXXX  
Selects, reads, verifies and copies  
Switched to user port  
No external power required 12, 5, 21 and 25 volts  
Software in diskette

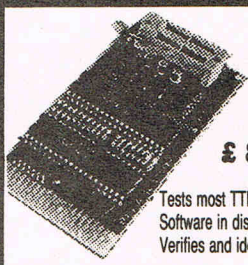
**£ 71.95**

## EPROMS CARD

Works with 2732, 2784, 27128  
Switch selectable.  
4 x 8 K capacity  
Connect programmed eproms through cartridge port  
Programs will be loaded into computers memory at a flash.

**£ 15.95**

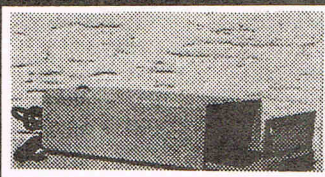
## IC TESTER



**£ 81.95**

Tests most TTL's (till 20 pins)  
Software in diskette  
Verifies and identifies TTL

## EPROMS ERASER



**£ 47.95**

UV eraser  
Completely erases up to 30 eproms in 3 minutes

## OSCILLOSCOPE

Cheapest system for those C-64/128 owners who wish to obtain a high quality oscilloscope.  
Screen and printer output.  
Software in diskette.

### TECHNICAL CHARACTERISTICS

SCREEN 8x16 lines  
SCREEN CALIBRATION 0.1 0.2 0.5 1.0 2.0 5.0 10 20 50 volts/line  
TIMEBASE 12.5 mS./line - 1000S./line  
TRIGGER Internal (automatic) or external (manual) by keyboard  
MEASURES 40.000 maximum  
PRINTERS Epson FX80, MPS801, CP 80X, Star SG-10  
SOFTWARE Diskette

**£ 119.95**

**EXPERIMENTER BOARD** For user port connection **£ 5.95**

**DISK DRIVE COOLER** **£ 18.95**

AVAILABLE FROM:



ALL SCREENS AND OPERATING MANUAL ARE IN ENGLISH  
POSTAGE AND PACKING INCLUDED FOR EUROPE

**DISTRIBUTORS WANTED**

FLORIDABLANCA, 54 ENT. 3ª A  
08015 BARCELONA - SPAIN T. 3-424 34 22

Please send me \_\_\_\_\_  
 Cheque enclosed  Visa  Access/Mastercard  
 \_\_\_\_\_ Expiry Date \_\_\_\_\_  
 Name \_\_\_\_\_  
 Address \_\_\_\_\_ Signature \_\_\_\_\_  
 \_\_\_\_\_ Post Code \_\_\_\_\_

# **WIN! WIN! WIN!**

## **20 MARTECH'S C64 NEMESIS THE WARLOCK T-SHIRTS AND 20 MARTECH'S NEMESIS THE WARLOCK GAMES**

- 1. What does Nemesis mean?**
- 2. Where does the character Nemesis the Warlock come from?**
- 3. Name a previous smash hit game by Martech**

**FIRST 20 CORRECT ANSWERS OUT OF THE COMP SACK, GET A T-SHIRT AND A NEMESIS THE WARLOCK GAME**

## **20 HEWSON C64 RANA RAMA T-SHIRTS AND GAMES**

- 1. What does the word Rana mean?**
- 2. What rating did CCI give it?**
- 3. Name a previous smash hit game by Hewson.**

**FIRST 20 CORRECT ANSWERS OUT OF THE COMP SACK GET A T-SHIRT AND A RANA RAMA GAME.**

## **20 COPIES OF TYNESOFT'S C16 PHANTOM**

- 1. What is another word for Phantom?**
- 2. What connection does the game have with the US Airforce?**
- 3. Name another smash hit game from Tynesoft**

**FIRST 20 CORRECT ANSWERS OUT OF THE COMP SACK GET A PHANTOM GAME.**

**ALL ANSWERS ON A POSTCARD PLEASE TO CCI BY JULY 15th.**

## Commodore 128 RAMDOS

The introduction of the Commodore 1700 and 1750 RAM Expansion Modules provide an additional 128k and 512k respectively of RAM for the Commodore 128. I made the comment about the limited use of these. At the time of writing the review the only direct application for which I could utilise them was as a RAM disk or *virtual drive* for CP/M. In terms of native Commodore 128 mode there seemed to be no alternative other than programming an application yourself. Obviously someone else decided that this was not a particularly attractive idea and has come up with a utility which makes use of the additional RAM.

Systems Software Oxford Ltd., the people who brought out *PETSPPEED*, *Oxford PASCAL* and *HACKER* have considerable experience and knowledge of Commodore 8-bit hardware and this is their latest product. The package consists of a protected disk in 1541 format and a 9 page manual. Using RAMDOS will give the user a RAM disk which give 52 free blocks with the 1700 128k RAM expansion module and no less than 2048 free blocks with the 1750 512k module.

The copy protection used is the usual one employed by Systems Software

Oxford and relies upon the software randomly selecting a colour and prompting the user for the colour name which is taken from a hand-held matrix card.

The most interesting command available is the *ALLOCATION* feature. This allows the user to specify the bank into which RAMDOS is to be loaded. This is of particular importance to assembly language programmers who need relocatable code. The method of operation of RAMDOS is one of re-direction of vectors. The *OPEN*, *CLOSE*, *LOAD*, *SAVE*, *GET* and *PUT* commands are redirected in high memory. Thus an assembly language routine would employ the usual methods as those for a physical device. This would be to set the system variables for the current logical address at location \$B8, device number at location \$BA, secondary address at location \$B9, length of the file's name at \$B7, the address of the named file at \$B3, the bank to which the file is located at \$C7 and finally the file name string itself. The only remaining task is to jump to the *KERNEL OPEN* routine at \$FFC0, carry out the job and call the *CLOSE* routine at \$FFC3.

Another interesting feature of RAMDOS is where the system has had a warm reset or when RAMDOS has for

one reason or another lost its links with the operating system.

The command for copying a physical disk file to the virtual disk requires the file type to be appended, as shown in the second example. The file types would be *p* for a program file, *s* for a sequential file and *u* for a user file. No the use of the ampersand (&) to distinguish between the different types of drive.

In use I found RAMDOS to work with no problems. The only real problem revolves around the availability of applications software to operate with RAMDOS. At the time of writing there are no spreadsheets, word processors or databases that can utilise the *virtual disk drive* which RAMDOS offers.

I mentioned the limitations of using the RAM expansion for BASIC programming in my review of the RAM expansion modules — it is simply too slow, particularly where a graphics application is used. This means that if you intend to program purely in BASIC then RAMDOS is probably a good idea since it is going to use memory that otherwise would be redundant.

C64 disk £36.95  
tape £19.95

### OXFORD PASCAL

C128 £44.95

- \* Full standard Pascal + extensions
- \* Speed... Fast to compile, Fast to run
- \* Resident compiler, works like a BASIC interpreter
- \* Full disk to disk compiler

- \* Graphics & sound extensions include BOX, CIRCLE, COLOR, DRAW, VDU, GRAPHIC, LOCATE, PAINT, SCALE, RCLR, RDOT, WINDOW, RGR, WIDTH, RWINDOW, FILTER, SOUND, PLAY, TEMPO, VOL, ENVELOPE, FAST, SLOW, BANK, JOY, PEN, POT for the 128 and similar for the 64

- \* Full Linker for separately compiled files
- \* Compact Code
- \* Powerful Editor, FIND, CHANGE etc
- \* 84 page tutorial/reference manual
- \* Stand alone compiled programs
- \* 90 K free on the 128
- \* More than 20,000 enthusiastic customers worldwide!

"Well worth buying, an investment in your programming future" C.C.I. "I can wholeheartedly recommend it to Pascal novices and experts alike" Computing Weekly

### PETSPPEED BASIC COMPILER

- \* UP TO 40 TIMES THE SPEED OF BASIC
- \* Compiles ALL BASIC commands including all 128 commands
- \* Compatible with machine code
- \* Makes large programs smaller
- \* Users extensions to BASIC allowed on the C128
- \* Extensions to BASIC
- \* Long variable names option
- \* Recommended by Commodore
- \* Program analysis utility included

C64 £19.95  
C128 £44.95

"Always a good product — Even better on the 128" Commodore Computing

Using PETSPPEED couldn't be simpler; just type in the name of your program, wait a few minutes and then see your software run up to 40 times faster.

C64 £24.95

hackpack

C128 £39.95

### RAMDOS — C128/1700/1750 £34.95

"SAVES and LOADS almost instantly" . . . Your Commodore

RAMDOS is a full feature RAM based lightning fast disk operating system for the new expansion RAM cartridges. RAMDOS is similar to RAM-DISK except that it uses only expansion RAM.

- \* All disk commands supported
- \* DLOAD a 50 K program in 0.5 sec!
- \* 2048 blocks free on the 1750 cartridges
- \* Use all or part of the expansion RAM . . . your choice.

C64 £24.95

The ultimate utility pack for the 64 and 128

"Exceptionally Useful — An excellent extension package" Your Commodore

**RAM-DISK**  
Imagine a disk drive like the 1541 or 1571 only many times faster. This is RAM-DISK. Modelled on the AMIGA, RAM-DISK organises the RAM inside your 64 or 128 as a soft disk drive. Once loaded, RAM-DISK responds to all the usual disk commands and behaves exactly like an intelligent floppy drive. The only difference is that everything happens at LIGHTNING SPEED. RAM-DISK is accessible from BASIC or machine code.

**TOOLKIT** including FIND, CHANGE, DUMP, MERGE, TYPE, INFO etc etc

**COMPRESSOR**  
Compresses programs down to their minimum size. Removes all spaces and REMs and packs up to 255 characters onto each line. Makes your code smaller and faster and protects programs from unauthorised tampering.

C64 £34.95

OXFORD BASIC

The complete BASIC programming environment packed with sophisticated utilities

- **ANALYZER**
  - \* Flow cross reference reports
  - \* Data usage frequency report
  - \* Data cross reference reports
  - \* Very detailed statistics report
  - \* Redundant code eliminator (removes all unreachable code)
  - \* Header file generator (changes your program to make it run faster)
  - \* Output to screen, printer or disk
- **TOOLKIT** including FIND, CHANGE, DUMP, MERGE, TYPE, INFO, RENUMBER, DELETE etc
- **COMPRESSOR**  
Like the HACK-PACK compressor, reduces your programs to minimum size
- **OPTIMIZING BASIC COMPILER**

DEVELOPER'S PACK  
HACK-PACK 64  
plus  
OXFORD BASIC 64  
£44.95

LANGUAGE PACK  
OXFORD PASCAL  
plus  
PETSPPEED  
C64 £44.95  
C128 £69.95

Please rush me—  
 PETSPPEED  
 OXFORD PASCAL DISK  
 OXFORD PASCAL 64 CASSETTE  
 HACK-PACK  
 OXFORD BASIC  
 RAMDOS  
 LANGUAGE PACK  
 DEVELOPER'S PACK

C64  
C128  
 N/A  
 N/A  
 N/A  
 N/A  
 N/A

S.S.O.L. 16B WORCESTER PLACE, OXFORD OX1 2JW Tel: (0865) 54195

I enclose cheque/postal order for \_\_\_\_\_  
(prices include VAT and UK postage. For overseas orders please add £3.00).

NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_

PHONE \_\_\_\_\_

MAKE ALL CHEQUES PAYABLE TO S.S.O.L. Allow 14 days for delivery, CCI

# TOP TWENTY

## Chart Chatter

Practically all change this month with a new 64 chart topper Ocean's *Arkanoid* that has shot to number one. *Gunship* has climbed a place and *Bulldog's Feud* has entered at number three as the leading budget game. Hewson's *Rana Rama* looks a contender for top place. Mastertronic's *Storm* has blown up to top the C16's. *Winter Events* is hanging in there still at number two. *Beau Jolly* has a new entry at five. Tynesoft's *European Games* re-enters at six while Gremlin's *Future Knight* climbs a place to eight and looks like rising higher.

## C64

GAME TITLE	COMPANY		Price (£)	Rating
1 <i>Arkanoid</i>	Ocean	↑	8.95	Crisp
2 <i>Gunship</i>	Microprose	↑	14.95	Mega
3 <i>Feud</i>	Bulldog	★	2.99	Mega
4 <i>Elite 6 Pack</i>	Elite	★	9.95	T.B.A.
5 <i>Ollie and Lissa</i>	Firebird	★	1.99	Iffy
6 <i>Marble Madness</i>	Ariolasoft	★	9.99	Mega
7 <i>Indoor Sports</i>	Advance	★	8.95	Mega
8 <i>Bomb Jack 2</i>	Elite	★	9.95	T.B.A.
9 <i>Ranarama</i>	Hewson	★	8.95	Crisp
10 <i>5 Star Games Vol. 2</i>	Beau-jolly	★	9.95	Mega

## C16

1 <i>Storm</i>	Mastertronic	↑	1.99	Iffy
2 <i>Winter Events</i>	Anco	↓	7.95	Awesome
3 <i>Molecule Man</i>	Mastertronic	↓	1.99	Crisp
4 <i>Gun Law</i>	Mastertronic	↑	1.99	Crisp
5 <i>Comp Hits 10 Vol 3</i>	Beau-jolly	★	9.95	Crisp
6 <i>European Games</i>	Tynesoft	★	7.95	Mega
7 <i>Footballer of the Year</i>	Gremlin Graphics	★	6.95	Crisp
8 <i>Future Knight</i>	Gremlin	★	6.95	T.B.A.
9 <i>Power Ball</i>	Mastertronic	↓	1.99	Crisp
10 <i>Kik Start</i>	Mastertronic	★	1.99	Mega

★ NEW ENTRY

Compiled by CCI from leading distributors





# EAGLES



EAGLES is the new electrifying fighter game from Hewson. If you've got killer instinct, this is the game for you. Eagles will stretch every nerve in a fast and furious shoot-em-up set where you can blast your opponent out of the sky in an exciting dog fight sequence - Get your wings . . . . . with Hewson.

Available on  
**Commodore**  
Price £8.95 Cassette, £12.95 Disc.

# HEWSON

Hewson, 56b Milton Trading Estate, Abingdon, Oxon OX1 4RX.

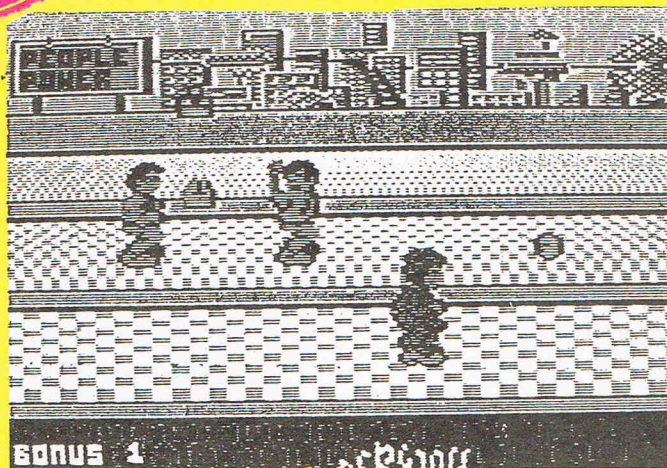
As part of our continuing development of innovative software we are always happy to evaluate software sent to us with a view to publication

For Mail Order send cheque/P.O. to Hewson Consultants Ltd, Order by Credit Card by sending you Access Barclaycard number and enclosing a specimen signature. Don't forget to enclose your name and address.

C64

# MEGA

# SHOCKWAY RIDER



## Shockway Rider by FTL

Shockway Rider is a knockout. It picks up the theme of the danger that lies in city streets and challenges you to clean them up. If you've seen any of the Death Wish series of films you'll know what to expect. Muggers and thugs, knives and bricks, watch your back or your head will roll. Literally, that is in this ultra playable game that will grab you tighter than fear on a dark lonely alley when a street gang comes your way.

You've got to ride three moving walkways as in some SF city of the future. They go at different speeds and you can jump from one to another to avoid the menacing gangs that roam this asphalt jungle. You are a tough Charles Bronson lookalike and you have got the "Full Circle" — that is travel the whole way around resisting attacks and obstacles. There are eight levels of moving walkways which are neatly programmed to include perspectives. You have to get around a circuit in a certain time. And you can get extra lives

for blowing away awkward customers you come across — including even eliminating passers-by. You can collect bottles and bricks to help you do it. Travelling on a faster lane gives you extra points and completing a district gives you a bonus.

This is a fun game based on a vicious and all too real theme.

It is a fortunately exaggerated reflection of the violence on the loose in cities around the world. But so what? Most — no all — other shoot 'em ups make you do just the same except that it is space aliens or some other permissible target you aim to blast out of existence.

I suspect that if this game were seen on TV, the Mrs Whitehouse and other censor-type moaners would go bananas about it and try to get it forbidden. I think it is a first rate game that demands a high degree of skill and terrific reflexes to keep yourself safe and on the move. It is the sort of game you will come back to again and again especially because each time you play it, it will be different.

Sometimes you will find that you can blast away the gangs, others they'll get you with ease. The music is as addictive as the game — even Princess Krotoa liked it though she wasn't too keen on the decapitated heads bouncing around!

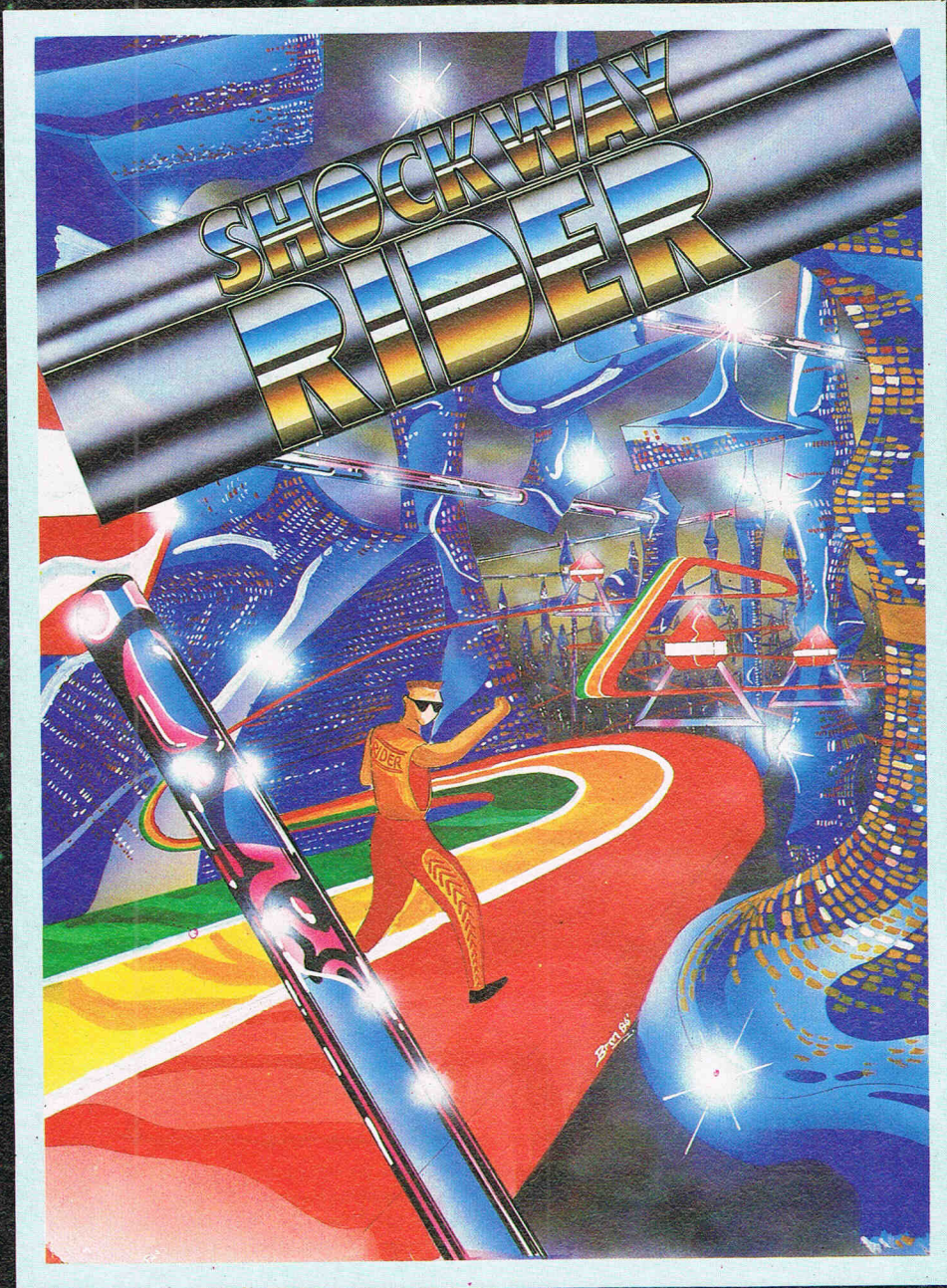
By the way, watch out for those innocent looking old ladies, turn your back and they'll get you. When you're really buzzing and knocking out the muggers with practised ease, there's bound to be a moment when that thought will creep into your mind. You know, the one that Clint Eastwood says, 'Come on, punk, make my day.'

Shockway Rider will make your day and week and probably month, too. Buy this, you'll love it.

Z.M.S.

CCI Rating Mega  
Graphics ★★★★★  
Sound ★★★★★  
Playability ★★★★★  
Price: £8.95 c £13.95 d

# RIDERS GO FULL CIRCLE...



## SHOCKWAY RIDER

SPECTRUM £7.95

AMSTRAD & COMMODORE £8.95

**FTL**  
FASTER·THAN·LIGHT

FTL FASTER THAN LIGHT, CARTER FOLLIS GROUP OF COMPANIES,  
SEDGLEY ROAD EAST, TIPTON, WEST MIDLANDS DY4 7UJ. Tel: 021-557 2981 (4 lines)

Follow Stanleys exploration into the African jungle...  
could you be the first to say...

# LIVINGSTONE

...I Presume.?

**"EUROPEAN  
NO. 1 HIT!"**

DIRECT FROM SPAIN,  
ALLIGATA'S NEWEST  
RELEASE WILL PROVE  
TO BE THE MOST  
ADDICTIVE GAME  
OF 1987

Featuring:

- BARBARIC PYGMIES
- HUNGRY CANNIBALS
- BONE CREAKING ALLIGATORS
- DEADLY SNAKES AND SCORPIONS
- PIRANHA BATS
- COCONUT THROWING MONKEYS
- MANEATING PLANTS

... and many more dangers lurking in the undergrowth.

## AMSTRAD

Tape £8.95

Disk £14.95

## SPECTRUM

Tape £8.95

Disk £14.95

MSX I (MSXII compatible)

Tape £8.95

Disk £14.95

## CBM64/128

Tape £8.95

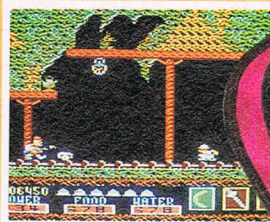
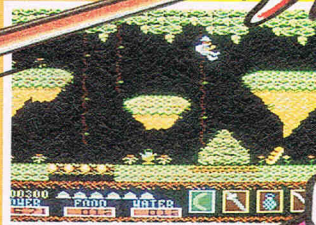
Disk £9.95

Produced under  
licence from

**OPERA**  
SOFT

A little bit of history with a little bit of mystery as you relive the nightmarish trek of Stanley in his search for the long lost missionary, Dr. Livingstone. But no African jungle was ever as forbidding as the treacherous journey that lies in wait for you. Poison darts from the pygmies, blood splattering pit hammers in the diamond mines, spear throwing natives in the bush... even the white men are hostile and would rather see you dead than alive. It's spine chilling action every step of the way with a little adventure thrown in for good measure - hidden gems, secret temples,??

And don't let the sea eagles get you!!



ALLIGATA  
SOFTWARE LIMITED,

**Alligata**

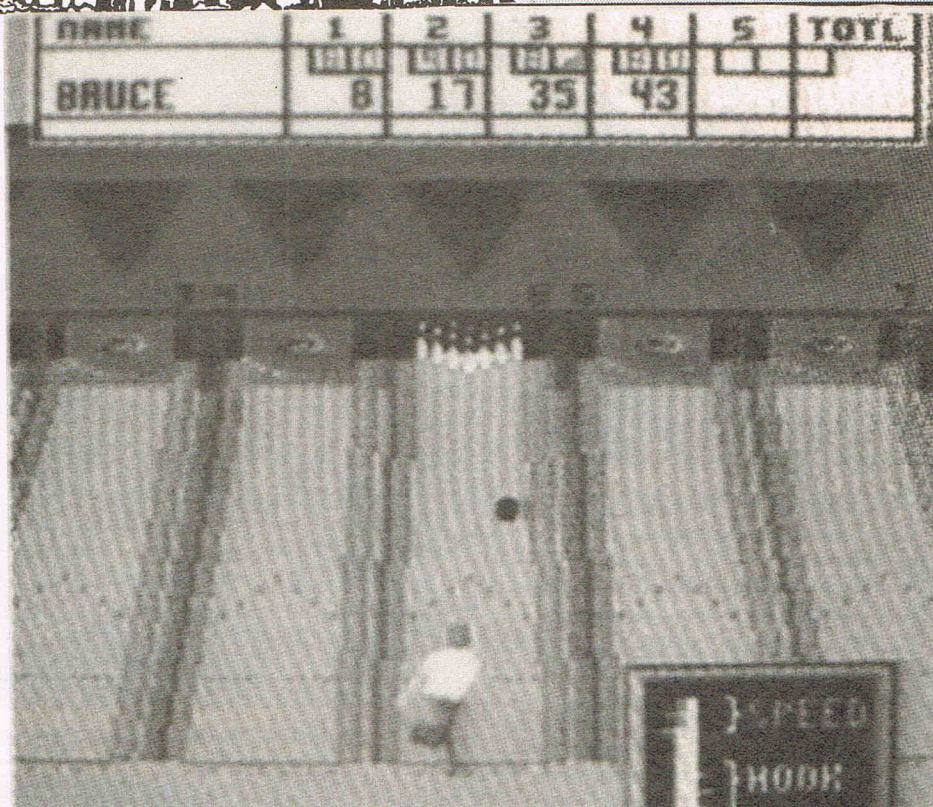
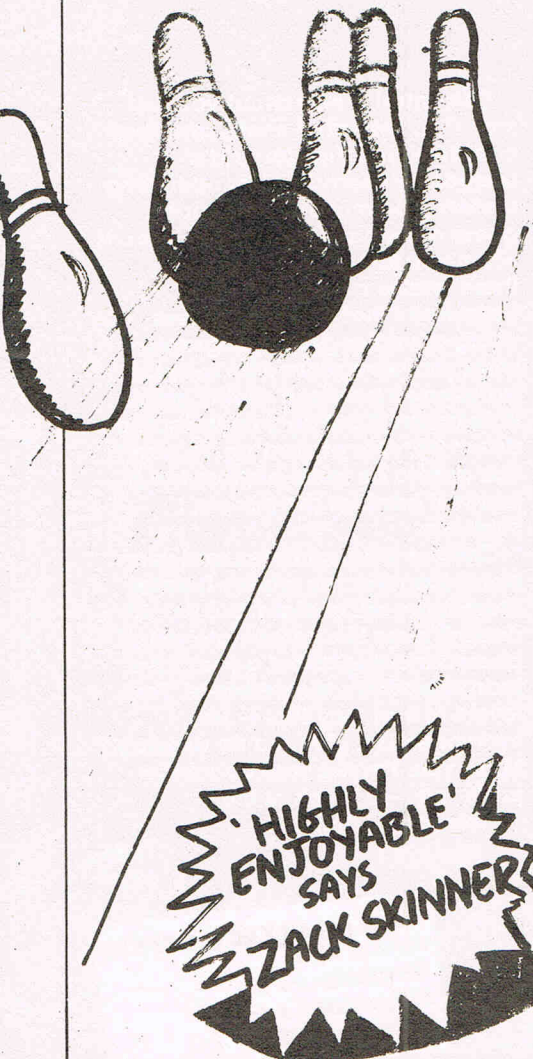
1 ORANGE STREET,  
SHEFFIELD S1 4DW. TEL: 0742 755796

C64

# MEGA

## 10th Frame — Access (U.S. Gold)

Tenth Frame's reputation reached us before the game. It had actually been out quite a time in the U.S.A. before U.S. Gold brought it across the Atlantic. Maybe they thought that as bowling is not so popular outside the States, it wouldn't take off too well elsewhere. It is not often



that U.S. Gold are wrong but they were in this case. Tenth Frame is a game — or a Sports Simulation — that everyone will like. It has got that beautifully judged level of attraction that could satisfy everyone from kid to pro. And that is precisely the range which it offers kids, amateur, and professional. And while the kids level is pretty easy and still fun, the pro level is a terribly infuriating challenge.

You can play with up to 8 players and run for up to five games. You choose between league or open bowling and if you've chosen league you can have up to four players per team.

The kids level has been designed so that even 4-8 year olds can play. When you throw a ball at this level the ball goes straight where the shot is aimed. There aren't any real elements of skill at the kids level but is still good practice.

The Amateur level is really the Beginners' level and the bowling is affected by the speed you set and the amount of 'hook' you put on the ball. The Pro level is killer. You've got to have dead accurate bowling at this level and you've got to use the speed/hook indicator with your joystick with enormous delicacy and sharp reflexes or the ball just wobbles into the gutter exactly the way it does in real life bowling. You can also move the bowler and shift direction of the ball minutely.

The whole graphic element is extremely well-done. It has real

smoothness and a very real look to it. There is nothing jerky about the man as he winds up and rolls the ball down the alley. Access have to be congratulated on a smart bit of programming to get the action to move so convincingly. There is not much sound except a rather nice rumbling crash when you knock down the skittles — or pins I suppose I should really call them. It's especially satisfying when you get the whole lot smashing in all directions.

I don't think there is anybody who has an interest in computer games who would not enjoy this one. It's fun and it's a challenge and you'll want to come back to it again and again to better your last score. I'd be very surprised if anyone got to score perfect game — 300 — without months' of highly enjoyable trying. By the way, I used an American version on disk that had a neat little protection that fitted into the cassette port. It was easy to use but don't lose it, in the States it cost ten dollars to replace! That's about as much as the game costs in the U.K.!

Z.M.S.

Price: £9.99 (c) £14.99 (d)  
 Graphics: ★★★★★  
 Sound: ★  
 Playability: ★★★★★  
 CCI Rating: Mega

C64

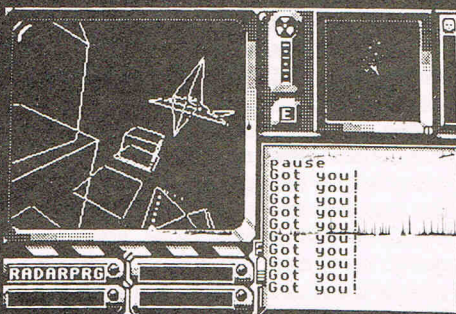
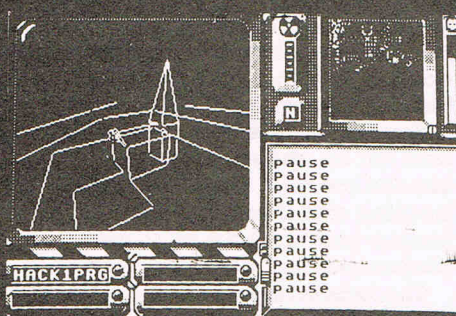
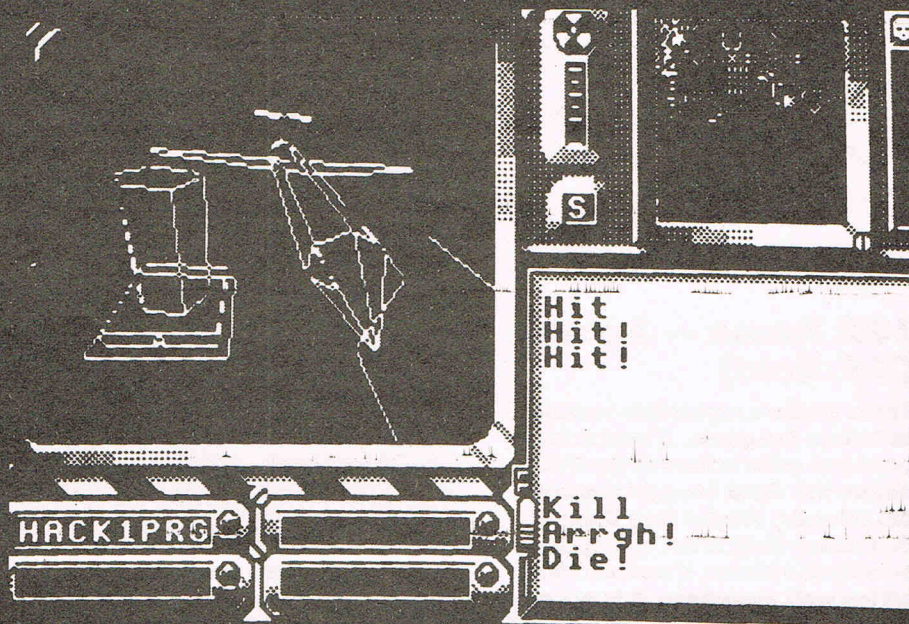
**MEGA**

## Cholo — Firebird

Rumour has it that Firebird have 3 new labels: the 'Of course it's not late' (CHOLO), the 'OK, it's late' (DARK SCEPTRE), and the 'I'd rather not talk about it' (STAR TREK). Fortunately Cholo's a mere 6 months late and it is rather good. Written by Solid Image, who did a disappointing job on Commodore 'Starglider' it's a good deal more ambitious and subsequently much more fun.

Vector graphics on the 64 have always been a slow process — remember rigor-mortis setting in on Elite when more than one ship was on screen? — and Cholo wisely concentrates on gameplay rather than complex shapes or lightning speed. The landscape of the game is huge, involving several fascinating locations that far exceed the variety of 'Mercenary' although the graphics themselves are somewhat inferior. Cholo is an adventurer's dream, but you'll need a quick trigger-finger to get anywhere.

The game is set in a post-holocaust world where mankind has been sealed in a bunker for his own safety. All he/you can see of the outside world is through the eyes of one of your droids, still patrolling the surface. This droid is Rizzo, a lightly armed rat-droid that you use to scout the upper world for clues as to how you can blow the lid off your bunker. It soon becomes clear that the other droids wish to keep you imprisoned and will do anything to prevent your escape. Your key to survival is therefore to regain control of other droids, whose capabilities may be of use to you; hackers can access computer



To control a new droid you first stun it by repeated shots, and then collide with it thus forcing a temporary override of its operating system. You may now attempt a guess at its password (quite logical when you know how). Although there is also a program of passwords that you can access using a hacker droid. Programs what you have picked up may be transferred between droids under your control but only by the same direct transfer procedure. In play, this gets to be quite a chore but it keeps it hard for the purists, I suppose.

Cholo is vast, complex and very rewarding. For my money it beats Mercenary out of sight, but it doesn't have the immediate visual charm and it is about a year later than Novagen's masterpiece. For lovers of that, buy this — for everyone else, give it a try anyway. Mind you, I'm not sure about the price-tag — a touch of the 'Rainbirds' perhaps?

T.M.

**VERY REWARDING!**  
TINA MILAN

terminals, doctors can fix damaged droids, tanks are heavily armoured, cameras are used for observation, and scum droids... well, work it out for yourself. There are also other 'things' that the game calls droids which you will have to learn how to use if you are to survive.

Price: (d) £17.95 (c) £14.95  
Sound: N/A  
Graphics: ★★★  
Playability: ★★★★  
Ratings: MEGA

**CASSETTES**  
at £1.95 each

Twin Kingdom Valley, Jumpman, Basilidon Bond, Lunar Outpost, Doughboy, Juice, Chimera, Willow Pattern, Suicide Strike, Thunderbirds, Supergran, Dummy Run, The Real You by Collins, Spiderman/Hulk, Dark Tower, Star Trooper, Quake Minus I, Drebls, Moebius, Imhotep, Outlaws, Combat Leader.

**at £2.95 each**

One on One, Match Fishing, Staff of Karnath, Touch Type, Arc Pandora, Grog's Revenge, Potty Pigeon, Skooldaze, Crazy Comets, Monty Mole, Zaxxon, Kong Strikes Back, Tapper, Bombo, Who Dares Wins II, Gyroscope, Fighting Warrior, Flak, Motocross, Jet Set Willy, Monty on the Run, Starion, Rock 'n' Wrestle, Mugsy's Revenge, David and Midnight Majic, Zorro, BC's Quest for Tires, Manic Miner, Spellunker, Journey, Eddie Kidd, Geoff Capes Strongman, Frak, Ghost Chaser, Blackwyth, Pitstop, Mermaid Madness, Questprobe Adventure, Adrian Mole (book + tape).

**at £3.95 each**

Dragonskulle, Fight Nite, Tigers in the Snow, Knights of the Desert, Law of the West, Congo Bongo, Wizardry, Moon Cresta, Space Shuttle, Critical Mass, Amazon Women, Ball Blazer, Red Arrows, Macadam Bumper, Thing on a Spring, Zoids, Bounder, William Wobbler, Redhawk, Paratroid, Combat Lynx, World Series Baseball, Hampstead, Time Tunnel, Pinball Wizard, Bounces, Adventureland/Secret Mission, Pirate Adventure/Voodoo Castle, Biggles, Surchamp, Chuckie Egg II, Elektra Guide, Bull Dog, Highway Encounter, Johnny Reb II, Devs ex Machine, Little Computer People, Tai Boxing, Jet Set Willy II, Forest of Doom — Book and Tape, Sigma Seven, Yabadabado, Donkey Kong (cart), Football Manager.

**COMMODORE TITLES**

**at £4.95 each**

The Force, Thai Mig Alley Ace, Adventure Quest, Kettle By Alligata, Lords of Time, Evil Crown, System 15000 (Sec. Ed), Robotflow 2084 (cart), Sigma 7 (disc).

**at £5.95 each**

Winter Games, Superbowl, America Cup, Dragon's Lair, Q-Bert Cartridge, Xevious, Crystal Castles, Kaylef, Boulderdash Construction.

**at £6.95 each**

Golf Construction Set, Touch Down Football.

**at £8.95 each**

Scrabble, Cluedo & Monopoly.

**COMMODORE 64 DISCS**  
**at £3.95 each**

Zork I, Zork II, Zork III, Starcross, Deadline, Suspended, Railboss, Superman, Arcade Ext 5 Games, Monty on the Run, Galactic Controller, High Flyer, Number Build/Puzzler/Chaser.

**at £4.95 each**

Logo, Ultima III, Chimera/Willow Pattern, Redhawk, Fighting Warrior, Master of Lamps, Decathlon, Red Arrows, River Raid, Rescue on Fractalus, Park Patrol, Pitfall, Pitfall II, Thing on a Spring, Pastfinder, William Wobbler, Web Dimension, Beamrider, Tracer Sanction, Designer's Pencil, Ballblazer, Ghostbusters, Starion, Sold A Million, Critical Mass/Combat Lynx.

**at £7.95 each**

Murder by the Dozen (RRP £24.95).

**COMMODORE 64 COMPILATION DISC OF SIX PROGRAMMES INC. c £7.95**

**Disc 1:** Turbo 64, Derby Day, Pilot 64, Handy Cap Golf, World Cup, Test Match.

**Disc 2:** View to Kill, Friday 13th, Code Name, Mat II, The Pyramid, Test Match, Beaky & Egg Snatcher.

**BARGAINS FROM 1st PUBLISHING**

**8 BOOKS FOR JUST £9.95 + £2.50 p&p Normal RRP over £50.00**

**BARGAINS FROM THE FOLLOWING £8.95 EACH.**

First Word, Word Prop, First Base, Basic 64, Pascal Lang, Ads Training Course.

**C64 UTILITY DISKS BY 1st SEPT SOFTWARE**

G-Base The Data Base Management System	£7.99
One Step Utility Cartridge	£14.99
Home and Business Card File	£7.99
Personal Spreadsheet	£7.99
Master Word	£7.99
Family Tree	£7.99

**UTILITIES & PERIPHERALS**

Neos Mouse RRP £69.95  
**OUR PRICE CASSETTE £24.95**  
**OUR PRICE DISC £29.95**

Include £1.00 P&P  
Fassem m/c Lang assembler  
RRP £14.95 — **OUR PRICE £2.95**

Easy File Disc	£4.95
Quick Data Drives (Phonemark 8500)	£14.95
Easy Spell Disc	£9.95
Future Finance	£9.95
Assembler Tutor	£4.95
Programmers Utilities	£4.95
64 — Music Maker Keyboard	£5.00
64 — Prog. Reference Guides	£3.95
Macro Assembler Development	£4.95
Simon's Basic	£20.00
Simon's Basic Exp. (disc/cassette)	£4.95
Commodore Music Expansion System	£79.95

+ £5 p&p

**SPINNAKER SOFTWARE**

**ALL AT £1.95 EACH.**  
Fraction Fever, Make A Face, Ranch, Story Machine, Alpha Build, Dance Fantasy, Alphabet Zoo, Logic Levels, Number Tumblers, Sea Speller, Song Maker, All, Aegean Voyage.

**p&p 85p all orders overseas £1.20 per tape**

**LOGIC SALES LTD**

17 Leofric Square,  
Peterborough, Cambs.  
24 hour ordering on 0733 313870

**BUY ONE GET ONE FREE!!!**

With the price of quality games ever rising only Cascade brings you this outstanding offer on 3 great titles. No catches —

**BUY ONE TITLE AT THE ADVERTISED PRICE AND MAKE ANOTHER SELECTION COMPLETELY FREE OF CHARGE!!**



**ACE...the air combat flight simulator. Zzap! 64 and CCI Flight Simulator of the Year. Need we say more?**

**SKY RUNNER... 'An excellent and entertaining follow up to ACE' — Computer and Video Games. You play the part of future drug buster.**

**DISK 50...An outstanding compilation of 50 — yes 50 — games on one disk.**

Also available **CASSETTE 50...Same great value. Same great offer.**

Insert the number you require in the boxes below to indicate the games of your choice.

**Remember...Buy one cassette — get one cassette free. Buy one disk — get one disk free. Buy two — get two free!!!!**

**ALL CASSETTE GAMES £9.95**

**ALL DISK GAMES £14.95**

TITLE	DISK	CASS.	COMM.	SPECTRUM	AMSTRAD	PRICE
ACE						£
SKY RUNNER					★	£
DISK 50		★		★		£
CASSETTE 50	★					£
TOTAL						£

★ INDICATES NOT AVAILABLE IN THIS FORMAT

NAME \_\_\_\_\_  
ADDRESS \_\_\_\_\_  
POSTCODE \_\_\_\_\_ COUNTRY \_\_\_\_\_



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

Allow 28 days for delivery  
I enclose a cheque/postal order for [£.....] made payable to Cascade Games Ltd.  
or through any Post Office by TRANSCASH (Giro No. 655 6655)  
For even faster ordering when charging to ACCESS, BARCLAYCARD, VISA, AMERICAN EXPRESS or DINERS CLUB use our 24 hour express order service by telephoning 0423 504663. Be sure to quote Ref. CCI, or by post tick the appropriate Credit/Charge Card and enter number here

\_\_\_\_\_

C64

**ITFY**

# LEADERBOARD EXEC

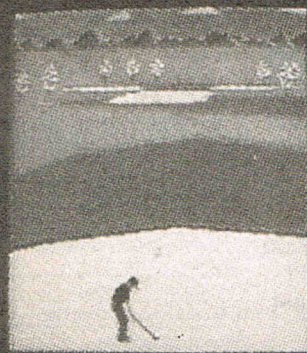
## Leaderboard Executive by U.S. Gold

"Grooving your swing" is a golfing expression that U.S. Gold and Access, who wrote this software, seem to have taken to heart. Leaderboard was certainly one of the entertainment software world's successes of 1986. One magazine has even claimed that it sold more than any other in the year. Yes, more than any game at all! Personally I don't believe that. I simply can't accept that a golf simulation no matter how good outpaced all the arcade shoot'em ups and especially Mastertronic mass sellers. But Leaderboard was without an '86 chart smash.

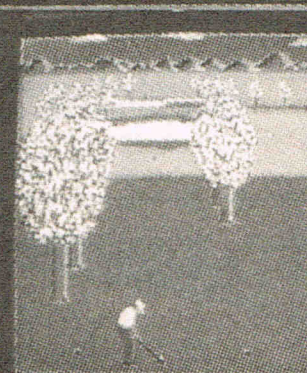
U.S. Gold followed it up with a sequel that let you play new courses but for which you needed the original Leaderboard. Now trying to "groove the swing", in other words following a winning drive with another by using exactly the same action, old U.S.G. have slipped the white glove on the all important left hand and blasted away down the sport sim fairway again with Leaderboard — Executive Edition.

Now as regular readers will know that while CCI liked Leaderboard and its sequel, we certainly preferred Ariolasoft's Golf Construction Set as a more original contribution to the 18 hole torture of frustration that is sometimes called "That XXXXXX game!" And, though Leaderboard — Executive Edition is a good and fun game, it still, in our humble opinion, doesn't get close to beating G.C.S. Further, if you read CCI May you would have seen a lukewarm review of the Amiga Leaderboard that now has to contend with another Amiga golf simulation Mean 18, reviewed in this issue, that leaves it gasping in the rough.

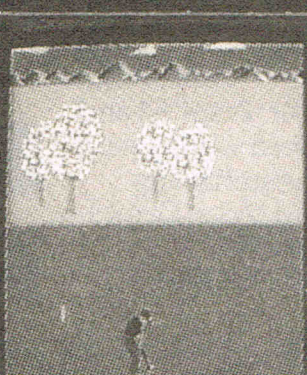
"Executive Edition" gives you two new courses to play. You can take novice, amateur or pro levels and it



HOLE # 1  
PAR 4  
COURSE 1  
WINDS  
CLUB YARDS 200  
POWER  
GRAB



HOLE # 2  
PAR 5  
COURSE 1  
WINDS  
CLUB YARDS 450  
POWER  
GRAB



HOLE # 1  
PAR 4  
COURSE 1  
WINDS  
CLUB YARDS 450  
POWER  
GRAB



HOLE # 1  
PAR 4  
COURSE 1  
WINDS  
CLUB YARDS 450  
POWER  
GRAB

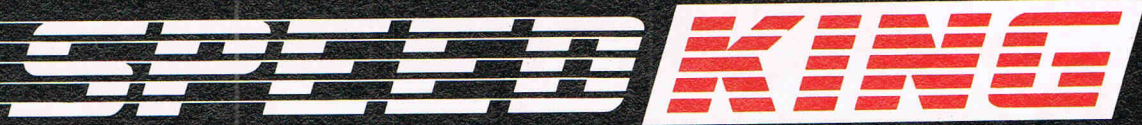
will take up to four players at the same time. There is a choice of 14 clubs. The first two Leaderboard levels are not affected by the wind and are really pretty easy to master. The Pro level is more difficult but with some practice doesn't make too many demands on your skill. There is a very useful set of instructions that makes everything perfectly clear even for someone who has never been on a golf course. But if you have already played Leaderboard and its follow-up should you buy their follow-up's follow up? Well, if you are mad about trying another course or two maybe, but personally I feel that there has not been made much effort to carry the Leaderboard theme forward, to offer a greater challenge, really different graphics or techniques; to find that magic ingredient which would make it all seem brand new and special. It feels a little tired as a formula. You can hear that "It worked the first time and the second time, let's give them another basinful of the same thing." echoing through it. It might sound hard to ask for something new to be done when the first Leaderboard success is still only a year or so old, but that's the world of sport kid, and specially sports simulation on the computer — ye, you're only as good as your last shot — and I think this one ended up somewhere in the light rough. And by the way, don't get stuck on the island at Hole 8 Course B, it looks like there's a bug ther and you can't get any power into your shot. We gave up after dropping 32 shots into the water! That XXXXXX game!

ZS

Rating: Itfy  
Graphics: ★★★  
Sound: ★  
Playability: ★★  
Price:



**KONIX**



# **VROOM!** **CAN YOU** **HANDLE THIS** **MUCH POWER?** **BLAT!**

The **KONIX SPEEDKING** packs more punch. That's why it's fast overtaking ordinary joysticks to become one of the world's most popular hand control.

As its name suggests it's built for fast handling to give you lightening fast control. Micro switches await your slightest movement, and fly into action - **ZAP, POW, SPLAT, BLAM** - giving you instant reactions to every command. Tough, rugged and made in Britain to the very

# **ZAP!**

highest standards, the **KONIX SPEEDKING** comes with a twelve month guarantee.

Available for:- Spectrum and Spectrum Plus, Commodore 64, 128 Vic20. All Atari Computers, Electron, M.S.X. Computers, Amstrad and Oric at **£12.99**.

Also:- BBC, Commodore C16, Plus 4, and Dragon at **£14.99**.

Trade and export enquiries contact Wayne or Sandra on **049525 5913**.

Please send me \_\_\_\_\_ Speedkings at **£12.99** each.  
\_\_\_\_\_ Speedkings at **£14.99** each

(Price includes postage and packing in the U.K. Overseas orders please send **£2.50** per Speedking.)

Computer make and model \_\_\_\_\_

I enclose a Cheque/Postal Order for \_\_\_\_\_ made payable to **KONIX**.

Please charge my Access/Visa No. \_\_\_\_\_

Card holders can telephone on **049525 5913**.

Signature \_\_\_\_\_

Name \_\_\_\_\_

Address \_\_\_\_\_

Postcode \_\_\_\_\_ Telephone \_\_\_\_\_

Send to **Konix Computer Products, Unit 13, Sirhowy Hill Industrial Estate, Tredegar, Gwent NP2 4QZ. U.K.**



C64

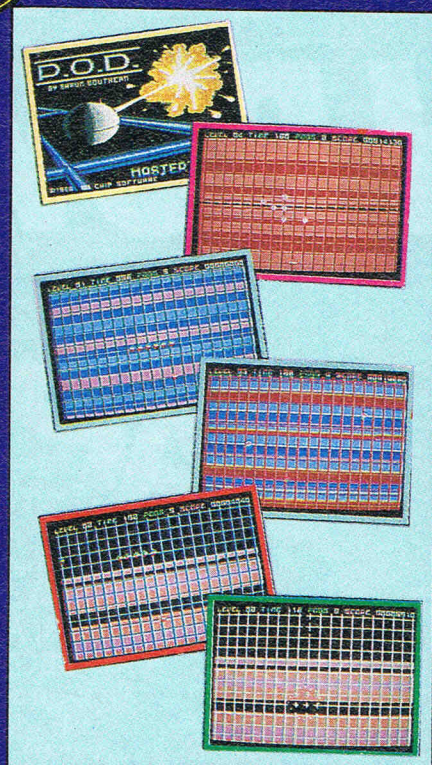
MEGA

# POD!

## P.O.D. — Mastertronic

POD! POD! POD! And more POD! Mastertronic we love you. One day when you die you will be transported to game makers heaven for having created and released POD onto an unsuspecting world for just a measly £1.99. This could easily be a full price game and it would still be worth it. No wonder our competition chief picked it out last month before I even got my eyes on it. I love it. As Masterly Mastertronic say it has no pretentious story line and no mega reality to justify its existence. It's just an out-and-out shoot 'em up that is as exciting and addictive as any game you'll buy this year. There are 25 levels to play — or rather to survive — each more difficult than the last and all of them needing hair-trigger responses and your total attention.

You play across an interconnecting grid of wire along which your POD moves. The aliens which you have to shoot out of existence generally come down on you from the top. You blow them away — if you are lucky! But when you do that you cause some damage to the grid and neither you nor they can move across the damaged area until a few seconds later when it heals itself. Of course, you are vulnerable while that happens so you've got to watch that you don't trap yourself in with the aliens raining out of the sky! You have at each level to stay alive for a certain time and each time you finish a level you get a much needed extra life. In Gauntlet style there is a dual player option with



both players on screen simultaneously and helping each other. You pile up a joint score then that really takes you zooming and is terrific fun. Every fourth level there is a bonus screen or a high

scoring level that gives you the chance to increase your score. Blowing up aliens gets you fired on in response and at the higher levels you'll get hunted across the grid. Sometimes you will do better just concentrating on staying alive than shooting up the baddies and that is difficult enough.

There is only one piece of advice that is worth giving in POD. Keep shooting. Keep shooting and then keep on shooting some more! Trailblazer and Kik Start were two of most successful games of recent times. They were both written by Stuart Southern who wrote POD. I'm going to send him the Sidner Benefactor of the Human Race (Shoot 'em up Class) Award. He — and Mastertronic — deserve it for POD which is the best value shoot 'em up game of the year so far. Even the sound is quite good. All this for £1.99. Amazing!

Price: (you won't believe it!) £1.99  
 Graphics: ★★★★★  
 Sound: ★★★  
 Playability: ★★★★★  
 CCI Rating: Mega

# TOTAL BACKUP POWER CBM 64/128

PERIPHERALS..THE FINAL FRONTIER..OUR MISSION..TO BOLDLY  
GO WHERE NO OTHER UTILITIES HAVE GONE BEFORE

CAPTAIN'S LOG...THE TOTAL SOLUTION TO ALL YOUR BACK-UP NEEDS... THE ULTIMATE BACK-UP CARTRIDGE HERE NOW !!

## REPORT ON FINDINGS

Action Replay Mk III is more powerful, more friendly and will back up more programs than any competing utility by taking a 'Snapshot' of the program in memory so it doesn't matter how it was loaded... from disk or tape, at normal or turbo speeds... the results are the same - Perfect!! Amazing!!!

## STARBASE UPDATE

- Simple to use: just press the button and make a complete backup: Tape to Tape, Tape to Disk, Disk to Disk, Disk to Tape. - THE PROCESS IS AUTOMATIC - JUST GIVE THE BACKUP A NAME.
- All backups will reload at turbo speed independently of the cartridge.
- Dual speed tape turbo system. Programs can load up to 3 times faster than commercial turbos - that's over 10 times normal Commodore speed.

- Freeze the action then view the program with the monitor feature. Add pokes for infinite lives etc. Then restart the game or backup - ideal for customised versions of your games.
- Picture Save. Save any multi-colour. Hires screen to disk or tape. Compatible with Blazing Paddles, Koala, Slideshow etc.
- Fully compatible with 1541, 1541C, 1570, 1571, and ehancer or any CBM compatible data recorder.
- For C64, 64C, 128, 128D (in 64 mode).
- Unique Sprite Monitor. Freeze the Action and view all the Sprites, watch the animations scroll across the screen! Save Sprites to disk or tape. Customise your games by loading sprites from one game to another - then restart the program or make a backup.

- Compatible with fast DOS and Turbo ROM systems.
- Backup process in turbo speed - faster than any rivals.
- Special compacting techniques. Each program is saved as a single file.
- Transfers multistage tape programs to disk - more than any other cartridge - even the extra stages are turbo load - a unique feature.
- Sprite Killer! make yourself indestructible by disabling Sprite collisions in games.
- Fast disk format (20 secs).
- Built-in unstoppable reset button.

ONLY  
**£29.99**  
POST FREE

## PLUS Built In FASTLOADER

Action Replay III even has a built in disk fast loader which speeds up loading 5 times. Uses no memory - invisible to the system. You could pay £20 alone for this feature.

**ACTION  
REPLAY  
MK III**

## PERFORMANCE GUARANTEE

100% Success? Rival Claims? Who's Kidding Who?

Action Replay Mk III will backup any program which any other cartridge can backup - and more! It also has an unmatched range of features. Consider 'Freeze-Frame' for example, which uses more disk space, saves at slower speed, has slower tape loader, has no built in disk fast loader, no picture, Sprite or restart features and costs £10 more than Action Replay. So who's kidding who? Buy Action Replay Mk III. If you find that it does not live up to our claims return it within 7 days of receipt and your money will be refunded.

### ACTION REPLAY ENHANCEMENT DISK

Extending Action Replay's capabilities even further, this disk contains a collection of tape and disk routines for a few newer games which load subsequent parts in a non-standard way. All the latest titles are catered for - more than any competing utility and unlike other systems, ACTION REPLAY LOADS EXTRA SECTIONS AT TURBO SPEED. Disk includes file copy, disk backup and other useful utilities. Regular updates at low cost for use with Action Replay only. Disk £7.95

### GRAPHICS SLIDESHOW SOFTWARE

Cartridge based backup systems usually destroy loading pictures - NOT WITH ACTION REPLAY. Multicolour pictures from games, graphic packages and viewed singly or in sequence with this sophisticated slideshow package. Turbo load throughout. Sixteen pictures per disk. Joystick or keyboard control. An interesting new use for your computer. Disk £4.95.

USUALLY SAMEDAY DESPATCH ON ALL ORDERS.

**datel  
electronics**

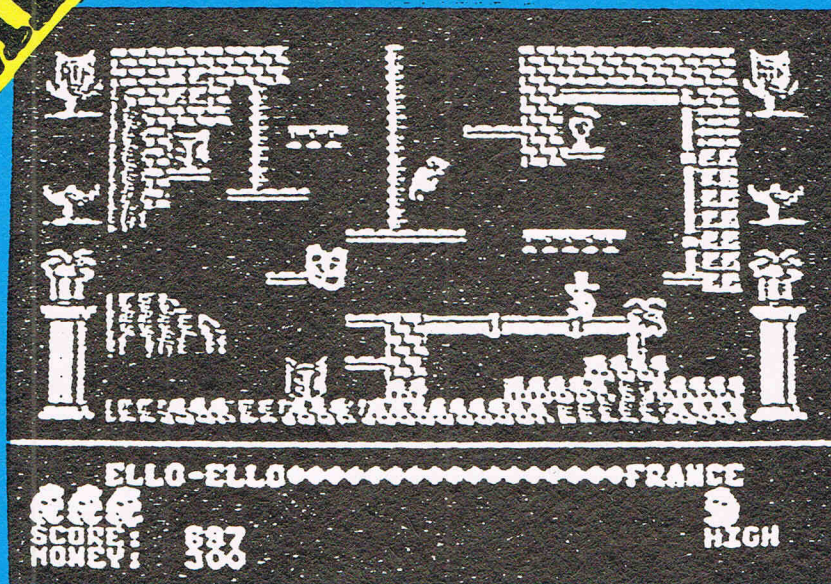
Send cheques/postal orders to:  
**DATEL ELECTRONICS,  
UNIT 8/9 DEWSBURY ROAD,  
FENTON INDUSTRIAL  
ESTATE, STOKE-ON-  
TRENT. TEL: 0782 273815  
TELEX: 367257 TELSER G.**

SEE OUR DOUBLE PAGE ADVERTISEMENT ELSEWHERE IN THIS MAGAZINE FOR OUR FULL RANGE OF  
COMMODORE ADD ONS. SEE US ON PRESTEL PAGE No 258880000A 12 PAGE CATALOGUE + ORDER PAGE.



CALL 24HR CREDIT CARD LINE  
**0782 273815**

**AWESOME**



### Auf Wiedersehen Monty — Gremlin

Monty's back! Once again he's on the run and this time he's trying to buy an island where he can be safe from extradition. Whether he succeeds or not, this, (sob, sob!) is his last adventure — (sob, sob, boo-hoo!) and with tears in our eyes we sob!) have to say good-bye to our longtime, animal hero. (Gremlin even sent us a tissue to wipe our tears!)

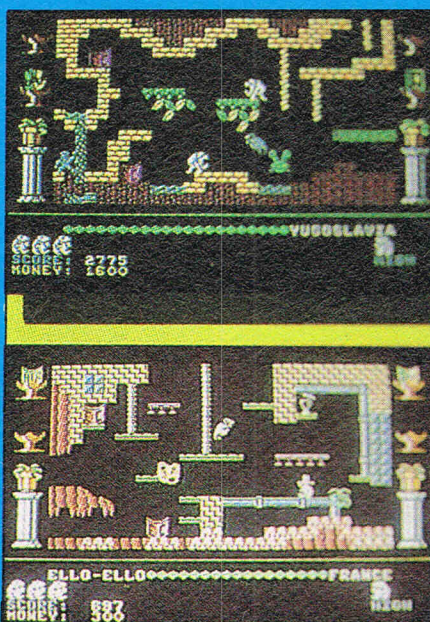
But have no fear — Monty is going out with a bang in this — his greatest, yes, greatest adventure. You will find yourself trekking through mountains in the Pyrenees, flying a plane to Paris, getting electrocuted, walking on the ceiling and doing many other quite extraordinary things just to get enough money to buy your paradise island.

As you explore the first little island — Gibraltar — which is only one screen large, you will begin to see some of the clever little touches which this game incorporates; as you walk down a slope you roll onto your back — or just to catch you out — you don't. On some platforms you jump in it takes control of you and starts spinning and bouncing you higher and higher until you go into the next screen or it runs out of bounces. Sometimes you get a bottle of wine, you start moving up a rope, or running around, or you get reverse joystick controls, i.e. right equals left, and other times nothing happens. This really helps you muck up your routine!

Another nice touch is on a little island where, when you walk on — three coconuts fall down from a palm tree. On the screen next to it, a creature slides onto the screen, opens its eye, peers around and then slides off the screen again.

Once you've cleared Spain of its treasure, and climbed the icy Pyrenees — dodging a snarling tiger head on the way — you must take to the air and fly to Paris. When in flight, if you can keep behind the planes in front of you just on their tails you increase your score.

Then there is Grand Prix Racing and selling the Mona Lisa! Give yourself lots of time though. Your next go will have you jumping out of the way when you land your plan. It is amazing!



The graphics of Monty itself are plain grey, but really detailed and you'll think "oh how cute" when you see him jump — reaching out with his paws and stretching his body. There is plenty of other colour and the sprites of the meanies are detailed and endearing. On one screen, what looks like a little pixie with an oversize cowboy hat takes a pot shot at you with his gun instead of feeling angry you just have another go. It's that kind of game!

Now I've come to the best bit — the sound. It is just incredible! The tune is about six or seven minutes long and all the way through I was sitting there tapping my feet. The music really makes the game and helps drive you on, I love it! It's got to be the best music of the year so far.

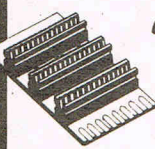
The whole game is great — graphics, sound and playability. It's a long and extensive game but you don't feel overwhelmed by it. Even when you get killed ten times in the same place you DON'T get frustrated. (Well not always!)

If you don't get this last Monty game and you're one of his many fans you must be cracked. If you're a not a fan give it a go anyway — you won't be disappointed. This is really awesome.

CK

Price: £9.95  
 Graphics: ★★★★★  
 Sound: ★★★★★  
 Playability: ★★★★★  
 Rating: Awesome

Save wear on your expansion port: 3 slot Motherboard for 64/128



ONLY £16.99 POST FREE

- ACCEPTS 3 CARTRIDGES
- SWITCH IN/OUT ANY SLOT
- ON BOARD SAFETY FUSE
- HIGH GRADE PCB/CONNECTORS
- RESET SWITCH

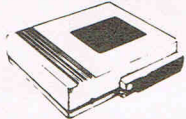
AVAILABLE NOW!!

Now a full Midi Interface for your 64/128 at a realistic price! POST FREE  
NOW ONLY £24.99



- MIDI IN
  - MIDI THRU
  - 2x MIDI OUT
  - Compatible with most leading software packages: Advanced Music System • JMS • SEIL, etc.
- Special Offer! Buy Midi Interface + advanced music system only £49.99 + £2 postage (disk only).

## COM-DRUM



ONLY £29.99 POST FREE

### DIGITAL DRUM SYSTEM

Now with the Com-Drum digital system you can produce studio quality drum rhythms with real drum sounds. All the features of systems 10 times the price.

SPECIAL OFFER  
AUDIO/TV LEAD (WORTH £4) FREE!!

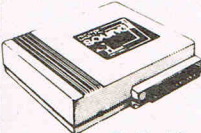
A complete digitally recorded drum kit, i.e. 8 voices - kick drum, snare, tom-tom, hi-hat, cymbal etc. etc. N.B. these are real drum sounds - not synthesized.

- Real time and step time sequences • Full editing system. • 16 Alternative voices supplied free.
- 8 pre programmed rhythms to start you off.
- External sync facility. • Very simple to use.
- Line output to hi-fi amp or through TV with optional audio TV lead (see offer).
- On screen menus. • Stylish case. • Please state tape or disk software.

#### COM-DRUM EDITOR

Enables you to construct your own drumkits. 24 Drum sounds supplied on disk which you can arrange yourself to make custom kits. Names are then added and saved as a complete set for use in the Com-Drum. Existing kits as supplied with Com-Drum can also be editing to your choosing. Available on Disk only £4.99 post free.

## DIGITAL SOUND SAMPLING COMPLETE PACKAGE



£49.99 POST FREE

FREE AUDIO (TV LEAD)

NOW FOR YOUR COMMODORE 64  
The Datel Sampler now brings you this technology at a sensible price!

- The Sampler allows you to record any sound digitally into memory and replay it instantly at any pitch, backwards, forwards, ascending scale, descending, with echo, reverb, flanging, endlessly looped etc. Truly professional hardware incorporating: Full 8 bit D and ADC conversion
  - Line or MIC input, line output and feedback control
  - A comprehensive software package including:
    - A live effects menu with echo, reverb, digital delay, etc.
    - Full sample editing facilities with review and on screen frequency plotting
    - A powerful real time sequencer
- Copy Drum Software available separately at £9.99 to turn your sound sample into a Com-Drum system as well as a sampling system.

## IT'S BACK TOOLKIT IV ONLY £9.99 POST FREE

THE ULTIMATE DISK TOOLKIT FOR 1541/1540  
Toolkit IV has, for some time, been generally recognised as the best disk toolkit available. The only problem for Datel was that it was distributed by someone else!! So when the opportunity to obtain the rights came our way, we jumped at it. And what's more, in keeping with our general pricing policy, we are offering it at less than half the previous selling price. A disk toolkit is an absolute must for the serious program hacker and TOOLKIT IV has more features than most for less:

**DISK DOCTOR V2** - Read and write any track and sector including extra and renumbered tracks. Repair damaged sectors. Look underneath read errors.

**HEADER/GAP EDITOR** - Decodes and displays ALL header information including off bytes and header gap. Rewrite the entire header and header gap. Renumber sectors. Also edit any sector tail gap.

**DISK LOOK** - Sort directory. Recover lost files. Display file start/end addresses. Disassemble any file program directly from the disk to SCREEN or PRINTER including undocumented opcodes. Edit Bam. Much, much more.

**FILE COMPACTOR** - Can compact machine code programs by upto 50%. Saves disk space. Compacted programs run as normal.

**FAST DISK COPY** - Copy an entire disk in 2 minutes or less using single 1541.  
**FAST FILE COPY** - Selective file copy. Works at upto 6 times normal speed.

**FORMATTER** - 10 second format an entire disk or format any individual track or half track 0 to 41. Redefine any of 30 parameters to create or recreate unique disk formats.

**ERROR EDIT** - Quickly find and recreate all read errors including extra and renumbered tracks or sectors and half tracks from 0 to 41. even recreates data under errors and allows you to redefine any necessary parameters.

PLUS DISK DRIVE SPEED TEST, DISK ERASE, DISK DRIVE RAM MONITOR, DISK LOG, BASIC COMPACTOR/UNCOMPACTOR, FILE MAKER + MUCH, MUCH MORE.

TOOLKIT IV is an absolute must for the serious disk hacker. It has all the routines that the others have plus all the ones they don't... there is no better product available at any price... available now complete with comprehensive instructions.



USUALLY SAME DAY DESPATCH ON ALL ORDERS  
SEND CHEQUES/P.O.'s TO:  
UNITS 8/9  
FENTON INDUSTRIAL ESTATE,  
DEWSBURY ROAD, FENTON,  
STOKE-ON-TRENT TEL: 0782 273815  
FAX: (0782) 264510

24 HR CREDIT CARD LINE  
SEE US ON PRESTEL  
PAGE No. 258880000A  
12 Page Catalogue + Order Page

FOREIGN ORDERS ADD £2 POSTAGE

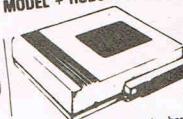
## COMPUTER DATA RECORDER



ONLY £24.99 POST FREE

- QUALITY COMMODORE COMPATIBLE DATA RECORDER.
- PAUSE CONTROL  COUNTER.
- SUITABLE FOR 128/64.
- ALSO AVAILABLE FOR: C16/PLUS 4 PLEASE ADD £1.00.
- SEND NOW FOR QUICK DELIVERY.

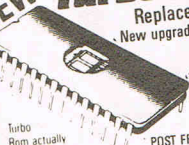
## MODEL + ROBOTIC CONTROL MADE EASY WITH ROBOTEK 64



£39.99 POST FREE

Robotek 64 is a comprehensive hardware/software package to interface your 64 to the outside world, models, robots, lighting, sensors etc. etc. The features make Robotek 64 the most sophisticated unit available at any price:  
• 4 digital inputs fully buffered.  
• 4 output channels each with on board relay.  
• Analogue input with full 8 bit conversion.  
• Sound input for voice recognition and voice controlled switching.  
• Software features: sequencers to control output. Analogue measuring module. Test Program. Voice Activation Module, much more. Voice recognition software to be released soon.  
Total package no more to buy!

## NEW Turbo Rom II Replacement Kernal



Turbo Rom actually fits inside your computer and replaces the normal slow Kernal Rom with superfast disc loading routines, plus extended DOS commands

- Loads most programs at 5 times speed
  - Improved single key commands
  - Fits inside computer so all ports are free
  - Return to normal kernal at flick of switch
  - Fitted in minutes - no soldering usually needed (on a few C64's the old Rom may have to be desoldered)
- Turbo Rom I can be upgraded for £5 plus old chip.

POST FREE £14.99

Fast Format Fast Save

Turbo Rom I can be upgraded for £5 plus old chip.

## NEW smart card

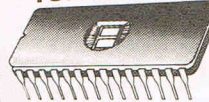


An 8K or 32K pseudo ROM cartridge  
£14.99 8K version  
£29.99 32K version

Now you can have a cartridge that you program as if it were computer RAM then acts as if it were ROM.

- Battery backed to last for upto 5 years (lithium battery). Simply load in the program and flick the switch. The cartridge can be removed and will retain the program just like ROM.
- Make autostart cartridges without the need for an EPROM burner
- Can be switched on/off board from keyboard
- 32K version offers 4 x 8K pages under software switching
- Some knowledge of m/c is required but full instructions included.

## TURN YOUR MPS 801 INTO 4 PRINTERS IN ONE! ONLY £19.99 POST FREE



Alternative character Rom fitted in minutes - no soldering required.

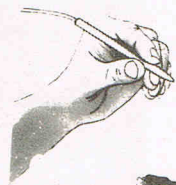
At the flick of a switch you can choose between any of 4 different superb new character sets.

DESCENDER ECLIPSE SCRIBE FUTURE

Each set has true descenders. All 4 sets can be mixed within one document. Printer IV is a direct replacement for the normal printer ROM so it is 100% compatible with your existing graphics. No Problem either. SEND NOW FOR QUICK DELIVERY  
For anyone who uses their printer often this chip is a must. It's quick and easy to use and the end results are impressive. YOUR COMMODORE Jan '87. #1

## IT'S A COMPLETE LIGHTPEN SYSTEM ... IT'S AN ALL IN ONE ILLUSTRATOR/GRAPHICS PACKAGE.

## IT'S BLAZING PADDLES ILLUSTRATOR



DEALER ENQUIRIES WELCOME

Complete with the **Blazing Paddles** Advanced Lightpen featuring state of the art fibre optic technology.

ONLY £24.99 POST FREE (PLEASE STATE WHICH) TAPE OR DISK

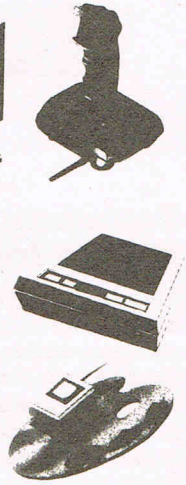
Yes Blazing Paddles is one of America's top selling graphics packages. Fully Icon/Menu driven, comes complete with the Datel Laserwriter - A lightpen featuring the latest polymer fibre optic cable and sensor for pin point accuracy of a calibre simply not possible with conventional system.... But that's not all - Blazing Paddles will also work with any standard input device including Joysticks, Touch Tablets, Paddles, Mice, Trackball and Professional Graphic Tablets

### A SUPERB PACKAGE WITH ADVANCED FEATURES

- Advanced Colour Mixing to create over 200 textured hues
- Painting with a range of brushes  Air Brush  Ovals
- Rectangles  Lines  Rubberbanding  Text Mode
- Fill  Single Dot Mode  Freehand Draw
- Shape Library  Clear  Printer Dump
- Hires Screens saved from Action Replay can be loaded and edited etc (Disk)

PLUS A zoom feature for single Pixel editing while viewing, the results at full scale.  Powerful cut and paste facility, shapes can be picked up, moved around, repeated and saved.  Full Load and Save feature for pictures, shapes and windows which are supplied.

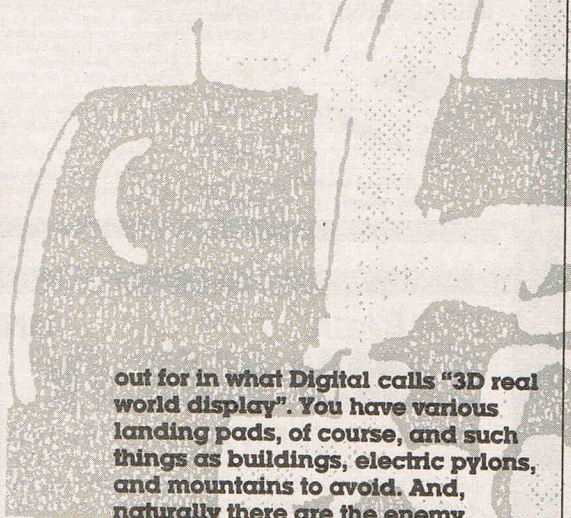
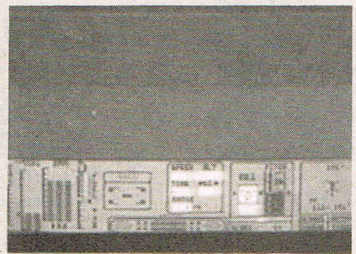
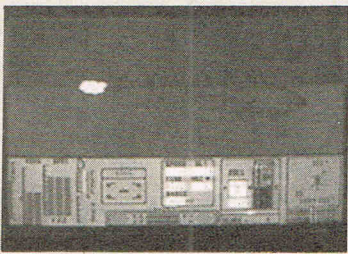
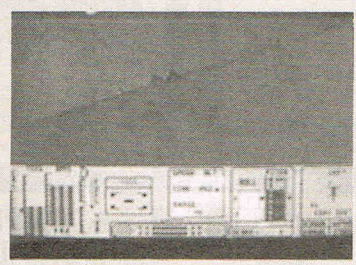
If you think the Software you get with your Mouse/Graph tablet is a bit weak then you can buy Blazing Paddles Software alone. FOR ONLY £12.99 TAPE OR DISK (PLEASE STATE)  
Note: conventional Lightpens cannot cope with the high pixel resolution of Blazing Paddles - only Laserwriter is suitable as a Lightpen input.



PADDLES ILLUSTRATOR IS FOR EVERYONE!

Using the Laserwriter a child can use it as a colouring book or a computer artist can create superb graphics.

# TOMAHAWK



out for in what Digital calls "3D real world display". You have various landing pads, of course, and such things as buildings, electric pylons, and mountains to avoid. And, naturally there are the enemy tanks, guns and helicopters to fight against. You can go on Flying Training or Combat Missions of different kinds. In some you are required to liberate certain sectors, in others you may need to get to grips with the whole enemy force and free the complete map area. In one mission, a strategic battle is taking place for the whole battle zone and your task is to support all forces in their fighting along the whole front line.

## Tomahawk — Digital Integration

When you buy Tomahawk, you get among the excellent documentation, the instructions for the controls etc. They are not only in English but also in German and French. This multilanguage approach is not surprising, for a flight simulation of this quality immediately commands an audience wherever there are computers on which it can be run. There are, of course, already helicopter simulations you can buy. Micraprose's recent Gunship springs to mind. But somehow the

noisy Chopper holds a magical attraction for all of us who picture ourselves as one of the lucky few who fly these totally absorbing "toys". And if you are one of us dream chopper pilots then the odds are that you will find Tomahawk excellent fun.

You can choose from four option levels — Trainee, Squadron Leader, Instructor or Ace. Unless you've really been practicing for months or you've got the speed of light reflexes my advice is, initially at least, to stay away from Ace. I found it extremely frustrating to discover myself crashing the chopper all the time at that level. However, the others offer a more reachable and extremely enjoyable challenge.

There are loads of features to look

There are also other complicating factors that can be introduced such as night flying, cloudy skies, crosswinds and turbulence. Tomahawk has over 7000 ground features and you can perform aerobic manoeuvres — within, as Digital Integration points out — the limitations of real helicopters, which means you can't fly upside down underground as I apparently tried to do a couple of times. Another useful and well-developed

# HAWK

feature is air-to-air interception in addition to the usual ground attack.

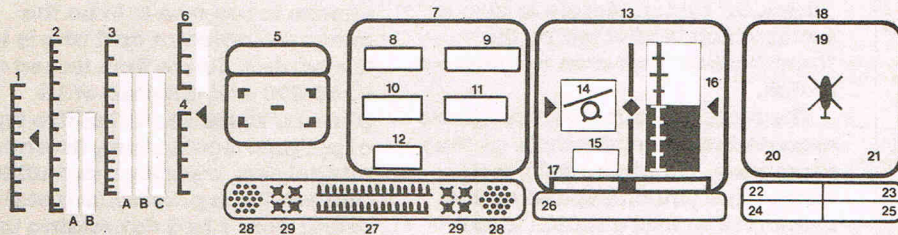
With this simulation you receive a very instructive leaflet on real helicopter air-to-air combat techniques which is well worth reading in its own right. It give a fascinating view of the techniques that are in use in the rare occasions when helicopters battle against each other as opposed to their normal wartime role as ground support.

Digital Integration are already well known for other simulations like the highly regarded *Fighter Pilot*, still thought of as a classic of its kind.

*Tomahawk* is a worthy successor and there is no doubt that Digital Integration have reached the same standard with this one. For simulation fans, a long time will pass before another helicopter simulation will be as interesting and value for money as *Tomahawk*. For what it is and at under ten pounds for the cassette and a few more for the disk, it has got to be mega-rated value.

Z.M.S.

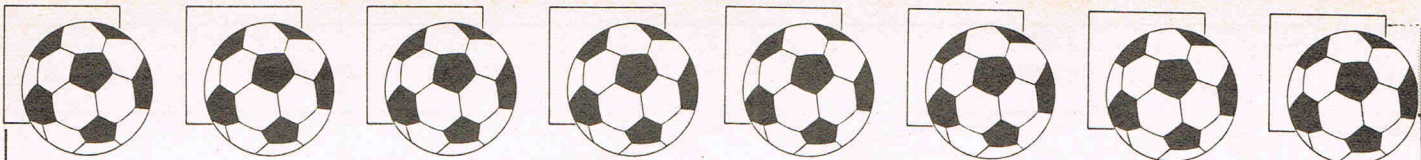
## INSTRUMENT PANEL



### INSTRUMENT PANEL NOTATION

- |   |                               |
|---|-------------------------------|
| 1 Collective lever                                      | 20 Bearing                    |
| 2 Torque % (a) Engine 1 (b) Engine 2                    | 21 Track                      |
| 3 RPM % (a) Engine 1 (b) Rotor blades (c) Engine 2      | 22 Engines                    |
| 4 Throttle indicator                                    | 23 Weapons                    |
| 5 TADS - Target Acquisition & Designation System        | 24 Nav computer               |
| 6 Fuel level  | 25 TADS                       |
| 7 Pilot's Visual Display Unit                           | 26 Score                      |
| 8 Speed, in knots (yellow = forwards, cyan = backwards) | 27 30mm chain gun ammo supply |
| 9 Altitude, in feet                                     | 28 Rockets                    |
| 10 Time to objective, hours & mins                      | 29 Hellfire Missiles          |
| 11 Vertical speed indicator, VSI, feet per sec          |                               |
| 12 Distance from objective, in feet or miles            |                               |
| 13 Artificial Horizon                                   |                               |
| 14 Roll symbol  |                               |
| 15 Roll angle   |                               |
| 16 Pitch angle  |                               |
| 17 Sideslip (drift) indicator                           |                               |
| 18 Doppler  |                               |
| 19 Navigation/Compass Heading                           |                               |
|   | ) Failure Status Panel        |

**Price: £9.95 (c) £14.95 (d)**  
**Graphics: ★★★**  
**Sound: ★★**  
**Playability: ★★★★★**  
**CCI Rating: Mega**



# Special Football Special

## F. A. Cup 1987 — Virgin

This is a new and improved version of last years F A Cup Football. The reviewer last year gave it the thumbs down and was very scathing indeed! Let's see if Virgin have redeemed themselves.

This is a game for 1 to 8 players. The object is to manage one of your TEN teams — (I wonder what kind of salary you get!!!) — to win the Cup. There are 124 teams from which you choose your ten. Before each match you must set through the draw for that particular round (BORING!). The computer takes ages! For instance the first round draw takes 2½ minutes! You have control over your team in as much as that your tactics can be to play as an aggressive team, or a defensive team or as a balanced team.

As the round progress you are given some managerial questions to answer so giving an additional "strength" factor. Morale is also a factor which is effected by the "newsflashes" that crop up before a match.

The matches and their scores are recorded minute by minute as they progress — (Another real bore!) — except that you can speed up the clock rate so that a match takes around 45 seconds. From round 5 onwards you can have the opportunity to bring on a substitute at ¾ time. After that you can change tactics during each ¼ of a match.

I have given up completely with this program. I was as "sick as a parrot, David". There were 4 main reasons.

1. If you choose all first division teams you will win the cup with one of your teams every time!

2. There are no animated sequences such as you get with Addictive's "Football Manager" or arcade sequences like Macmillan's "World Cup Manager".

3. The sound and graphics were mega-pathetic. I also thought that response to keyboard touch was over sensitive as one wrong touch still sent you on the next input without giving you a chance to correct your error.

4. This program is nowhere near the standard we have all come to expect in todays market place.

*Price: £7.95  
Value for money: NONE!  
Don't be taken in!*

## Brian Clough's Football Fortunes — CDS Software

Here we have a very different game indeed. First you need at least two players although as many as five can play.

The program revolves around a traditional "board type" game. You have a counter which you move around the board as and when asked to do so by the computer. The board supplied I found very difficult to keep flat on the table. It comes folded and about eight times — so a little tip — glue it on to a board and keep it flat.

At the beginning of the game you choose to see who is to be the computer operator and who is to be the banker. You're then issued with £200,000 and a squad of 13 players. These consist of five types of players. Goalkeeper, defenders, midfielders, attackers and utility players. Each player has a star rating from 1 to 5 depending upon his skill. There are 112 player cards from which you can choose the equivalent star players. The remainder of the cards go on the board face down.

As with traditional board games you move your counter around the board according to the roll of the die. The problem being that there are different topics to land on some are good and some can decimate your team beyond recognition. This is down to luck more than judgement. They either help or hinder your prospects as a manager. New players come up for auction and often you get the chance to buy a 5 star utility player. This really gets you gong with hectic bidding as if for a Van Gogh rather than a Van Den Hauwe. It's easy to see how some players get a rather inflated price tag put on them.

The different topics you come across are very varied and keep the interest going. Football Fortunes lets you make a move on the board followed by a match and so on until the end of a season. Sponsorship gives you extra cash. A crisis in the club leads you to sell your best player and pay up fines imposed upon you.

Buying and selling your players in a shrewd manner gives the squad extra strength so you can beat the opposition in the next match. There are the usual selection problems that any manager faces during a real season. The second season in the league allows you to play in European matches — (that's more than in real life!!). After each match the computer works out the scores and the revenue from the gate money.

The player with the most points and money wins at a predetermined point. I believe this program will set a trend and in the future we will see many more such games that take two people, a traditional type board game and integrate it with an all action shoot 'em up type arcade game to give a more social appeal to computer gaming. Such a game could combine many subjects and be a huge success. Jeff Minter think on!

"All in all I must say that I'm over the moon David!!".

*Price: £14.95 (c) £17.95 (d)*





ONLY THE BRAVEST FLY....

# TOMAHAWK<sup>®</sup>



## THE DEFINITIVE HELICOPTER SIMULATION

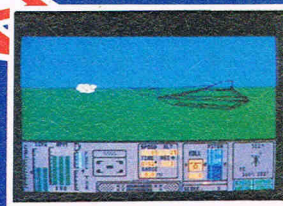
BY D.K. MARSHALL

**TOMAHAWK** – a stunningly realistic flight simulation that puts you in command of an Apache Advanced Attack helicopter. Flying low over a spectacular 3D real world display with over 7000 ground features – TOMAHAWK puts you in the hot seat.

Ground attack and air-to-air interception is the challenge – day or night in the thick of the battlefield. Your combat mission is to locate and destroy enemy ground forces. It could be science fiction – it isn't – the Apache is for real.... the meanest, deadliest combat helicopter ever. You have the weapons, the machine.... climb in and prepare for take off!

- Spectacular 3D cockpit view with over 7,000 ground features.
- Authentic aerobatic performance.
- Ground attack and air-to-air interception, with laser guided missiles, rockets and 30 mm gun.
- Doppler navigation and target tracking.
- Day/Night vision systems.
- Cloudy, Crosswinds, Turbulence.
- Pilot ratings – Trainee to Ace.
- Impressive sound effects.
- Pilots Notes.

**TOMAHAWK**  
 NOW AVAILABLE  
 ON COMMODORE 64  
 & ATARI 600XL, 800XL,  
 130XE (MIN 64K)



ATARI Screen Pics

FOR ALL POPULAR HOME COMPUTERS

**SPECTRUM**

- TT Racer 48/128K  £9.95
- Tomahawk 48/128K  £9.95
- Fighter Pilot 48K  £7.95
- Night Gunner 48K  £6.95

**COMMODORE 64**

- Fighter Pilot  £9.95
- Fighter Pilot Disk  £14.95
- Tomahawk  £9.95
- Tomahawk Disk  £14.95

**ATARI**

- Fighter Pilot  £9.95
- Fighter Pilot Disk  £12.95
- Tomahawk  £9.95

**AMSTRAD CPC 464, 664, 6128**

- TT Racer  £9.95
- TT Racer Disk  £14.95
- Night Gunner  £7.95
- Night Gunner Disk  £13.95
- Tomahawk  £9.95
- Tomahawk Disk  £14.95
- Fighter Pilot  £8.95
- Fighter Pilot Disk  £13.95

**AMSTRAD PCW 8256/8512**

- Tomahawk Disk  £19.95

VAT and p.&p. inclusive within UK (overseas inc. 55p per cassette)

Tele Sales (0276) 684959



Please debit my Access/Visa card no.

\_\_\_\_\_

Expiry date \_\_\_\_\_

Cheques made payable to Digital Integration Ltd

I enclose a cheque/P.O. for \_\_\_\_\_ Total

Name \_\_\_\_\_

Address \_\_\_\_\_

Please send to

**DIGITAL INTEGRATION**

Watchmoor Trade Centre,  
 Watchmoor Road,  
 Camberley, Surrey  
 GU15 3AJ

Trade and Export enquiries welcome. Lifetime Guarantee.



C64

MEGA

# SAMURAI TRILOGY

## Samurai Trilogy — Gremlin

Gremlin have pulled together all the different varieties of the Kung Fu/Karate game genre oriental fighting arts of which, the Samurai are supposedly masters: Karate, Kendo and Samurai Sword fighting.

The format of the game is very similar to their previous karate offering, *Way of the Tiger*. It's a multi-load, and the first event is an unarmed karate game; the second involves the use of Kendo poles (the equivalent of Pole fighting in *Way of the Tiger*), and the third is a fully fledged sword fight against other masters.

Now don't yawn and turn the page yet, this game isn't boring as are the many other run-of-the-mill games involving the martial arts. You must prepare yourself by meditating (very useful in real life too, if you work for a mad magazine!), you must also do sparring, reflex training, breathing exercises and many other things before you are ready to meet your fearsome opponents.

You start with karate and under the advice of your mentor Chu Yu. You must award yourself attack and defence patterns, this determines your hitting power and lets you

program various defence strategies against different opponent. The way you fight in karate is totally different to any other game. It reminded me of these karate films you can get on video, where people fight in the style of animals. The style in which you are is mostly like a snake, as you move along on your toes, whipping your arms around furiously.

The karate makes the whole game work, and in my opinion is the best event on the tape. It is excellent. To get on to Kendo you can either Kayo opponents outright or win on points. You must, however, get your Chu Yu's favour.



Kendo is played out in a small room and it isn't worth going into much details about it as it is the most unexciting of the events.

Samurai is the penultimate event and it takes some fighting to get there. It is very good as you make sweeping swings with your sword and spin it around, and is the most accomplished sword fighting game I've ever played.

While one could ask Gremlin, "Why not put your efforts into something different next time?"

All in all this is another excellent game from Gremlin whose standard of production continues to be outstanding and value for money second to none.

C K

Price: £9.99  
 Graphics: ★★★★★  
 Sound: ★★★★★  
 Playability: ★★★★★  
 Rating: Mega

Five Great Games For The Price Of One

# FIVE STAR GAMES



**COMMODORE 64/128**

**FIVE STAR GAMES**

**PARADROID**  
Newson

**DANDY**  
Electric Dreams

**STRIKE FORCE COBRA**  
Piranha Software

**WHO DARES WINS II**  
Alligata Software

**CAULDRON II**  
Palace Software

**FIVE GREAT GAMES IN ONE GREAT PACK**

## AMSTRAD

£9.95 CASSETTE  
£14.95 DISK

## SPECTRUM

£9.95

## COMMODORE 64/128

£9.95 CASSETTE  
£14.95 DISK

Also available for **BBC, ELECTRON AND C16/PLUS 4** Computers  
(Titles may vary by System)



**The name behind the great games**

Beau Jolly Ltd, 29A Bell Street Reigate, Surrey RH2 7AD. (07372) 22003

# THE WARLOCK

2000 A.D.

CUT OFF HERE

says...



**C.C.I.**  
is...

**TOTALLY  
AWESOME**

Available in...  
prices...

C64

MEGA



## Nemesis The Warlock C64 — Martech

Nemesis the Warlock is a hero from 2000 AD the best selling British comic, and is the latest in a long line of games with characters from the comic. I'm pleased to say this is the best release so far and they haven't totally changed the storyline to adapt it to the game.

Nemesis is the leader of all aliens in the galaxy — well — not the leader, a kind of hero, and he defends them from Torquemada, an evil, fascist human — who hates all aliens. Torquemada being the evil person he is has now attracted enough of Nemesis' personal attention to warrant an assassination attempt. You, as Nemesis, armed with sword, gun and physic fire balls enter Torquemada's domain and must hunt him down and face him one to one, in a confrontation from which there'll be only survivor.

Battle your way through screen after screen — killing a certain number on each before moving onto the next. Collect bullets strewn on the floor, by bending down on exactly the right spot and picking them up. Aim your gun and fire, shoot the zombie that's just exploded from that dead body. Oh no! You've run out of bullets. Use your sword! Three, two, one man togo! He's too close for your sword;

use your fireball! There! Finished! Now on to the next screen before the hand squeezes your life force.

That's what this games about — blood and guts, bodies exploding to reveal zombies that drain your energy quickly — a macabre hand that holds your life force and slowly, as you lose energy, squeezes your heart till it bleeds away. This may sound gruesome and sick but it entirely fits with the comic strip in character and style.

The graphics are excellent, with Nemesis drawn with all his haughty, arrogant proud bearing and he is exactly as you'd have pictured him if you've seen him in 2000 AD.

The music by Rob Hubbard, micro maestro, also excellent. It is eerie and atmospheric, but it doesn't play during the game which is a shame. My only real criticism of this game is its difficulty — we had trouble getting off even the first screen for a while. It took us ages to move further along, it must be one of the most difficult ever. However, if you relish a real challenge, you'll love Nemesis the Warlock.

C K

Price: £8.95 (c) £12.95 (d)  
Graphics: ★★★★★  
Sound: ★★★★★  
Playability: ★★★★★  
Rating: Mega

# Super Felix is "Fee-line". That means pay cash and he won't

## A Mess of Potsdamage

Katie Veats, Commodore's fabulously wealthy spokesperson is strongly rumoured to have found a new use for her Amiga. The elegant Katie's fascination for very expensive jewels is well-known to be second only to movie star Liz Taylor. Reliable information has reached me that stories of the major part of the Switzerland auction of the late Duchess of Windsor's multi-million pound jewellery



collection heading to Harvard College in the U.S. are mistaken. It was Katie ('I don't bother with cheques under a million') Veats who snapped up most of the Windsor sparklers — the "Harvard Story" was just a front. (It always is! Ed). Katie connected her Amiga to the auctioneers' close circuit TV system and using Genlock software from Ariadne and DeluxePaint from Electronic Arts indicated her million dollar bids with neat little ikons for the cash. Katie has admitted to O.S.E. that she laid out at least 10 million florints (what the hell is a orint anyway?) on that little jewelled Windsor leopard that had set her many faceted heart a-flutter. She promised him to wear it at the next CBM press conference — no doubt to announce the sixth CBM UK boss in 2½ years. And the begemmed Katie has a shrewd sense of history too. When O.S.E. asked her about Chris Kaday, the most recent CBM UK supremo who disappeared abruptly one Monday morning, she coolly answered "Who?".

Ah yes, le pauvre Chevalier Kaday (R.I.P.) is now, as in the Stalin show trials in the thirties in Russia, an 'Un-person'. Then when someone offended Stalin, they didn't just disappear but were shown never to have existed. History books were reprinted without even their names, as international socialist — sorry socialite, Katie is well aware. Oh well, Professor Lepski, my globally famous linguistic consultant reminded me "Sic Transit Gloria Mundi!" which does not mean as I thought 'Gloria (or even Chris) was sick travelling on Monday' but "At CBM all change but everything remains the same". (Are you sure that's right? Ed). Anyway, the Prof has put me and everyone at CCI in the doghouse (again? Ed). Speaking from the professorial hideout in rural Kricklevitch, the accusation was hurled that we are a bunch of louts — umlauts to be precise. We mentioned a game called "Moebius" in the last CCI. The Prof woke me at dawn last week and shrieked down the phone "You lot do not know your umlauts from your

elbow! You need a couple of dots on top!" I think Prof Lepski was saying that it should have been ö not oe in Moebius, sorry Möbius. Those two dots, an "umlaut" also seen with CBM's logotype on the Bayern Munich football team shirts give everthing a proper Cherman Aksent. Jawohl mein führer Prof... anything you say. In German, nütürllich. Do you think the Prof is going potty — or Potsdam as they say in Berlin? In the same conversation Professor ("Linguists do it with their tongues") Lepski seemed to want to take the name Alan Sugar, of Amstrad notoriety. I'm sure I heard "Me Sugar Dumköp!" grunted down the phone "and it's University not King's College! Schmock!" (I thought we weren't going to use that word again! Ed. — And who is this Professor Lepski? I don't understand this umlaut business. It sounds foreign to me and so should not be mentioned in a decent magazine! And what's it got to do with sweet Katie Veat's? umlauts! Get onto something more respectable or you're fired!)

## Danish Blues

CCI ad ace Major Billy ("Thatcher should have nuked Garbidgoff when she had him in the same room") Brown came stomping up to my basket in a fury (as usual). He had phoned Melbournatronic House's marketing supremo Lady Jane Denning to congratulate her on MH's unbroken string of software successes and her elevation to celebrity by appearing in this column when she accused him of being sexy. Major Billy was rather pleased — that hasn't happened for the longest time. Unfortunately the Major is rather deaf from grenade explosions in his cellar. It turned out she'd said "Sexist". And it wasn't him but me. Apparently Ms Denning thought the term "Chef" qualified as sexist. Now innocent me thought "Chef" simply meant someone who knew their onions in the hot plate stakes, if you see

what I mean. From my reading of the Danish magazine where the description of Miss Denning's talents appeared it seemed Mrs Denning's cooking abilities were being lauded to the leaden Swedish skies. It's true my Norwegian is a bit rusty these days but whose isn't. So don't blame me, Mistress Denning. This little pussy (no relation) was simply miaouing in praise. blame the evil Scandinavians, Master Denning for spreading such rumours. So I will, just for your satisfaction, totally unsexistly announced to all that you are a rotten cook and would not recognise a tasty dish if you stared at one in the mirror. (We know that's not true, don't we but if that will make you happy... Mr Denning) (Don't you think, dear reader, that software folk are very odd? And didn't you think it was a pity that Lord Denning retired from being a judge?)

## Wronging a Wright

Well, well, did Mr Right go Wrong? Sir Andrew (Andy Pandy) Wright last year left Activision to join Thalamus a company founded by Newsfield, a publishing company that is believed to advertise in Dandy and Beano in the hope that their readers will mistake its computer publications for comics of a similar intellectual level. Mr Right has now returned to Activision which recently announced that it is to keep up its position as world number one by releasing some coin-ops selling its old titles to Firebird Silver. I can now exclusively reveal however that the true Activision strategy is to form a Corps Diplomatique to enter international arcade politics with such titles as 'Big Trouble in Little China', written personally by the famed Sino-Hampstead programmer and Chinese leader Dung Show Penn. This global coup was delicately negotiated by Mr Right who has now been elevated to the rank of "Ambassador". (I swear O.S.E. has a business card that says just that!). I understand that His Excellency Andy Pandy as the press has been instructed to call him will shortly be discussing with P.M. Margaret ("What no 3 millionth 64?") Thatcher a new arcade shoot 'em up called "Nuclear War — and How to Cause It" for which Andy Pandy is keen she should write scenario. Thalamus was originally called Thanatos but they found out through these humble columns that it meant 'Death Wish' and they realised they already had enough of that. The software company has clearly been a raving success — the other founding boss, one Gary Pencil, has also departed and the whole mega-operation is now taking shelter somewhat sheepishly in the offices of Incentive Software. The name Thalamus, as I'm sure you all realised, referred to the Greek tragedy (or was it comedy?) play acted by

mention you... (UNLESS SOMEBODY ELSE PAYS ME MORE !!)



idiotic workmen in Shakespeare's 'Mid Summernight's Dream'. His Excellency Andy Pandy is not telling how close a similarity his recent Thalamusian experience bore to that part of Shakespeare's play, or whether his employers were a tragedy or a comedy — at least not to anybody who will listen.

### Pursuing the Trival

You've got to admire Domark, and their aristocratic Spanish PR man David 'Zapatos Blancos' Carlos. Their restless intellects are ever searching for some new way of exciting the Commodore Media. They have now, I and the rest of the world's press can exclusively reveal, grabbed the computer rights for the latest James Bond masterpiece 'The Living Daylight'. But the reason they continually capture my attention is the never ending shower of different 'Trivial Pursuits' that plops into my basket. I have just had the IBM PC version, the Genus (whatever that may mean) edition and now the Baby Boomer edition, which has nothing to do with babies, I am relieved to say. This was the most interesting of all because they and maybe you, might not have

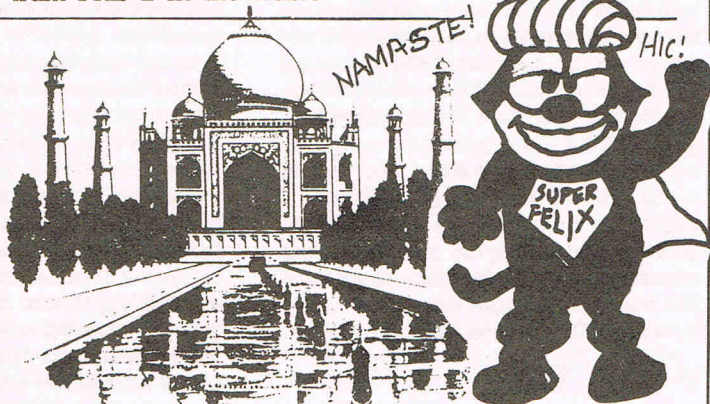
noticed this is a Commodore magazine yet they sent me a version which was for another computer called Spectrum plus 2 that I believe no-one really thinks exists. I was intrigued to receive this Spectrum version. What did it mean? And do you know something? When I tried it on my trusty 64 — it did not work. Not at all. Very impressive. Damned clever these Domark people, ..... Now was this, I wondered, a subtle criticism of Commo-

dore for not calling the 64 — Plus Two? Was it a hint that they wanted us to change the name of the magazine from CCI to Trivial Pursuit? Was it some machiavellian Hispanic plot as a revenge for the defeat of the Spanish Armada which everyone knows was mostly achieved by Admiral Francis ("Pirate") Drake and his ships of 64 guns? Until I find the answer I have carefully filed Trivial Pursuits Spectrum Plus 2 in the waste-

paper basket. Something else is going to happen! I am too wise an old pussy not to realise that Domark and Señor Carlos know exactly what they are doing all of the time. (As my American pussy cousin says) "I'm waiting for the other shoe to drop" Which country did the Spanish Armada come from? and send your answer on a postcard to P.O. BOX 007, Domark Hall, Wimble Don, Spain.

### Oh quel cue t'as

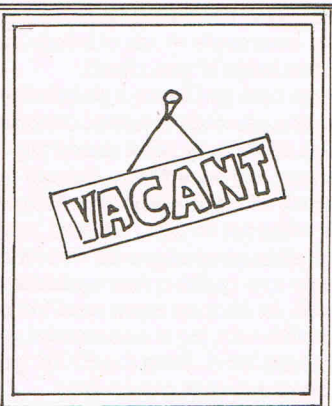
I have just heard something very moving about the Very Reverend Anil Gupta, Lord of the Anco Empire. While on his recent visit to India to advise Prime Minister Rajiv Ghandi on spiritual and Plus/4 matters, the Very Reverend Gupta's hair suddenly turned pink and green. As great stress can make heads white overnight, I understand so, in India, intense holiness can turn hair pink and green. Isn't it wonderful in this sinful computer world we inhabit that we have such spirituality as the Very Reverend Gupta's example to follow? I hear he has been asked by the conservative politicians who run the State of Kerala to organise for them an inter-



national holy computer festival in Calcutta to be called, I believe, "Anco Summer Events". They are especially keen on inviting a certain German athlete called Fritz who is favourite for the crown of "Kingsoft" that goes to the supreme champion rather like at Krupps or is it Kruffs Dog-show? I should warn any of you however that although

Anco is paying the expenses for the entire 5000 strong U.K. team even the Class Snooker players, that, as is the custom in these "Summer Events", the losers, if the Very Reverend Mr Gupta gives the thumbs down are thrown into the Ganges — unless, of course, their hair turns pink and green overnight. Namaste.

I have been repeatedly asked for photos of CCI's staff so when Palace Software wanted some models for their new Barbarian Game, I invited them to use some of CCI's attractive people. From left to right, Major Billy ("My skirt doesn't seem to fit today") Brown; Maria, Princess Krotoa de Mose's social secretary whom you may sometimes see on Page 3, and Anthony Mael, CCI's Features Editor with the editorial instrument for cutting text. They have given the 5 million florints (what the hell is a forint?) that Palace paid for their services to the "Save the Barbarians" Fund. Please send your contributions to Buckingham Palace Software, The Mall, London SW1 HRH.



YOU CAN HAVE YOUR PHOTOGRAPH HERE FOR SENDING ME THE BEST BIT OF TOTALLY UNTRUSTWORTHY GOSSIP. NO LONGER THAN 'WAR AND PEACE' — BETTER THAN BEING ON THE COVER OF SOME OTHER MAGAZINE I WON'T MENTION!

HAPPY BIRTHDAY TANET

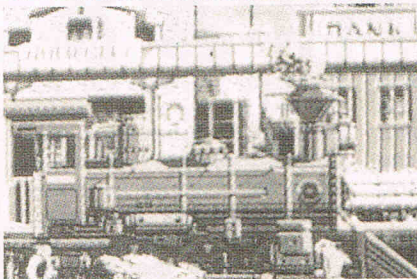


HAVE YOU HAD ENOUGH MISS NICHOLSON OF EASTBOURNE? OR WOULD YOU STILL LIKE CCI CENSORED? 5,000,000 FLORINTS STOPS THE SCANDAL HERE!

## Express Raider — Data East (U.S. Gold)

# CRISP

Express Raider will appeal to everyone who can be said to be a one-time or even still today arcade player. It reproduces pretty accurately the arcade game from which it has been taken and it provides a load of non-stop frenzied action to keep you joystick bashing until you have reached the gold stacked up on the locomotive. All you have to do is fight you way past some western style bruisers who are out to punch, kick and shoot you off the top of a train. It has undoubted addictive qualities for it will make you clutch your joystick for many a try as the attackers send you flying head first off the train roof. There are horse riding levels too in which you have to be highly accurate and sensitive with the joystick to control the horse and shoot down the baddies. Or are you the baddie?



Stealing the cash is generally thought to qualify for that! The graphics are neat and if not sensational at least acceptable as the train scrolls left under you. There is a time limit for you to get past everyone — an a bomb splits up the train if you don't.

You can get bonus points by shooting passing birds carrying bags of money (Not many fly around my way these days!) or from a sack of cash someone throws out the window to you... There tunnels and swinging signs to watch out for. There are quite a few options and levels to choose from and I'd say that this will be a successful game for Data East. Why East? I'd guess it is because this game was programmed in Hungary where, ironically, because violent games are officially frowned on, it is almost certain that it won't be available! Funny place this computer world is, isn't it?

Z.M.S.

CCI Rating Crisp  
 Graphics ★★★  
 Sound ★  
 Playability ★★★  
 Price £9.99 (C) £14.99 (D)

## Arkanoid — Imagine

# CRISP

Arkanoid? The name isn't familiar but the game certainly is. This is Gremlin's Krakout! NO, sorry, of course it is Breakout. No, not really, it says on the box Arkanoid, so it must be that. Whatever they call it — and it has one of those stupid stories that is supposed to make you think you are up in space rescuing something — whatever they call it, it is really an arcade conversion of longtime favourite Breakout. And it is no worse for that. It is extremely playable and it's got a very listenable sound track. It's also very good to look at. There is nothing very complicated about the idea. You have to move from screen to screen, getting rid of everything in your way. You toss a ball from the bottom up and, like Krakout, it bounces around and knocks out everything it hits. A few of the squares you have to knock out will take more than one hit to blow away and some will give you extra features like catching the ball and a different route to the next screen. You have also to watch out for some nasties that will blow up your ball.

I like this kind of game. It is totally mindless but is a real challenge to your concentration and speed of response. It also has the addictive quality of the good arcade money swallower — it will bring you back again and again for just one more try. It has a nice option of being able to use a mouse. You might as well get used to that. The Amiga 500 will have us all using one soon. And they are much more fun than joysticks!

Z.M.S.

Price: £8.95 (c)  
 Graphics: ★★★  
 Sound: ★★★  
 Playability: ★★★  
 CCI Rating: Crisp

## Shoot 'em Ups — Master Games

# CRISP

Master Games has produced a four-game compilation of US Gold games. The four games are: Super Zaxxon, Dropzone, Blue Max 2001 and Fort Apocalypse. The first for you to tackle is Super Zaxxon. It is a copy of the old arcade favourite. You are on a solo mission to

penetrate the innermost reaches of the Super Zaxxon fortress. There are many forms of enemy life out to obstruct your mission. Your ultimate task is to get to the ultimate weapon of the fortress, the fire breathing dragon. If you get to the dragon and destroy him then you will go on to the next level. The game scrolls horizontally and you view the game diagonally. The graphics are reasonable. The sound is also so-so. A game for the enthusiast.

## Dropzone

In Dropzone, the year is 2085. There has been a robot war that has stunned the solar system. Only a few people have survived. It has been decided to try and move the survivors to another star system. The cruiser you are gonna use has to have ionian crystals to get its power. These crystals are rare and can only be found on the third moon of Jupiter. It's a very good version of defender. The graphics are good and sound is reasonable. The best game on the tape.

## Blue Max 2001

You are Max Chatsworth IX, a direct descendant of the Max Chatsworth of Blue Max fame. You are now about to fight the most evil think the world has ever seen. The Furax have captured the earth base Gamma IV. You've gotta stop the Furax before they capture earth itself. Not the best shoot 'em up I've ever played.

## Fort Apocalypse

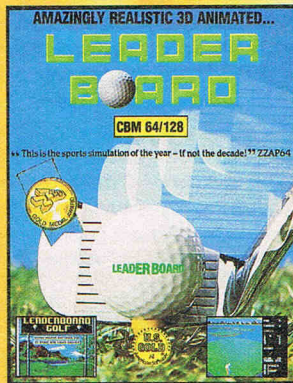
This game has the usual story line, destroy or be destroyed. You must rescue eight prisoners that are missing and eventually destroy the Apocalypse. The graphics are large and chunky and nothing earth shattering. All the games on this tape are a bit dated and I find I got bored very quickly. I want some variety to life not repeats (sounds like the BBC!). Overall here is a very decent package for the shoot 'em up lover and is really good value for the price.

Price: £9.95 (c)  
 Graphics: ★★★  
 Sound: ★★  
 Playability: ★★  
 CCI Rating: Crisp



# Three Up & Dozens to Play

With 3 different versions of the famous Leaderboard now available across 7 systems there are dozens of testing courses, hundreds of challenging game variations, designed to test your skill and judgement, designed to integrate and complement each other and lead you from one level of competence to the highest possible plane of tension and excitement. Leaderboard is the individual challenge with unknown variations and tests of your abilities.



## LEADERBOARD

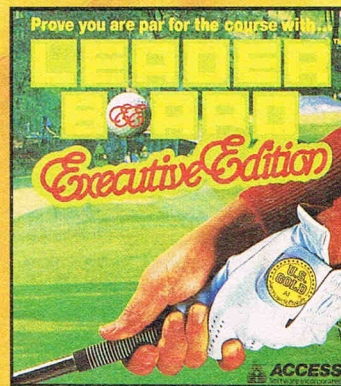
The exciting world of professional golf, realistic 3-D animation, multiple 18 hole golf courses and 3 levels of play from amateur to touring professional.



## TOURNAMENT LEADERBOARD

Four exciting new 18 hole golf courses demanding more concentration, more precision if you're to stay out of trouble. (To be played with original Leaderboard).

This is the sports simulation of the year - if not the decade. Zzap 64.



## LEADERBOARD EXECUTIVE EDITION

From sports simulation of the year progress to another dimension of gameplay, another experience in excitement and graphics as you battle to master sandtraps, trees, water hazards and rough.

What you learnt on the original Leaderboard courses will really be put to the test on these exciting challenges.

A game that's frightening in its demand and realism, only the mentally tough will survive these encounters unscathed.

	Spectrum	Amstrad	CBM64/128	Atari	Atari ST	IBM	Amiga
<b>LEADERBOARD</b>	£ 9.95 c	£ 9.95 c	£ 9.95 c	£ 9.99 c			
		£14.95 d	£14.95 d	£14.99 d	£24.95 d	£24.99 d	£24.95 d
<b>TOURNAMENT LEADERBOARD</b>	£ 4.99 c	£ 4.99 c	£ 4.99 c	£ 4.99 c			
		£ 6.99 d	£ 6.99 d	£ 6.99 d	£ 9.99 d		
<b>EXECUTIVE LEADERBOARD</b>			£ 9.99 c				
			£14.99 d				



U.S. Gold Ltd.,  
Units 2/3 Holford Way,  
Holford,  
Birmingham B6 7AX.  
Tel: 021 356 3388.



## S.O.S. — Mastertronic

# NAFF

Mastertronic have now established themselves as a popular software house producing some good and some bad software. I am afraid to say that S.O.S. is not one of their best. This looks so much like Chimera by Firebird that I had to check my data cassette to make sure I had the right game in it!

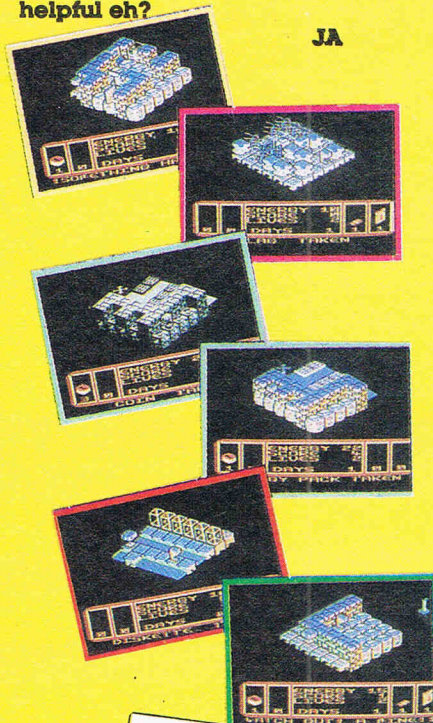
You control a droid called Blomech I (Sydney to his friends) they keep telling me. Blomech I has lost himself in a ruined city and unless he finds his way back safely the his inventor will turn him into a ZX81! (A fate worse than death!).

Sydney must find a radio which will lead him to safety. On this planet there are several other not very friendly robots who attack our poor little Sydney. Items you may find on your travels are coins, lamps, tickets etc.

All in all a 3D maze/arcade adventure which is so dated it's unbelievable. The graphics are clear and without a doubt the best thing about this rather poor game.

Sound is limited and it is difficult to control Blomech I (that's Sydney in case you had forgotten) because he rotates so quickly and I ended up getting eaten when I wanted to go left. Watch the screen as it gives you helpful messages like "You have trodden on a mine"! Really helpful eh?

JA



Price: £1.99  
Graphics: ★★  
Sound: ★  
Playability: ★  
CCI Rating: NAFF

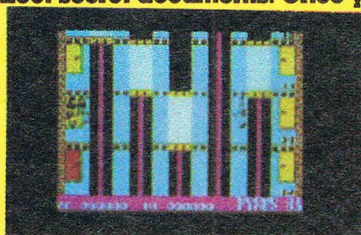
## Elevator Action — Quicksilva

# IFFY

You may have seen this game in your local arcades and Bingo halls recently. (Bingo halls? Ed).

It's called Elevator Action and Quicksilva have snapped up the copyright from Taito whose arcade original it belongs to and have released it.

The game revolves around a little agent by the name of Otto who you control. As Agent Otto your task is to collect secret documents. Once you



have found these top secret papers you must fend off your enemies and hop into your getaway car which is waiting patiently for you at the bottom of the building.

The building is linked together by escalators. As you may have guessed the escalators play a big part in the game. You defend yourself with your trusty gun, however if that fails you always have your karate chops to fall back on.

There are lights on each of the floors which can be shot for extra points also it gives you the opportunity to have a kick at your enemy.

The secret papers are hidden behind one of the doors which are opened quite easily by our tough little agent.

One little hint do not attempt to ride on the top of elevators as you will get crushed — nasty!

Overall not a bad game, however when the game first started I thought my TV had shrunk because the graphics were so small but as I progressed down the building the building got bigger. The scrolling is average.

Colour hasn't been used to the 64's full capability and the same can be said for the sound. Just spot effects here and there plus bullet sounds. I can't remember the last decent game Quicksilva did. It's time they got their act together and brought out something to make us jump.

Price:  
Graphics: ★  
Sound: ★★  
Playability: ★★  
CCI Rating: IFFY

## Return of the Space Warrior — The Power House

# CRISP

Return of the Space Warrior has somewhat of a misleading title as I expected it to be a space shoot 'em up and it turns out to be an arcade action game based on the arcade favourite 'Joust'.

The basic idea of Return of the Space Warrior is to hit your opponent from above just by going into him and then pouncing on him again (sounds exciting eh?) You have 3 lives and have various skill levels to choose from. If you are equal with another space monster when you hit it then he wins and you lose a life.

Mind that you don't fall in the water because you can not float and this results in you losing another one of your valuable lives.

This is the kind of game that I like to play when I've got half an hour or so to spare because it only takes literally seconds to load. Okay so the graphics are a little chunky and the sound isn't up to much but it makes a change from your average agame. Also an added bonus is a free audio track by H.E.X., no I hadn't heard of them either . . . for the price it is very fair value.

JA

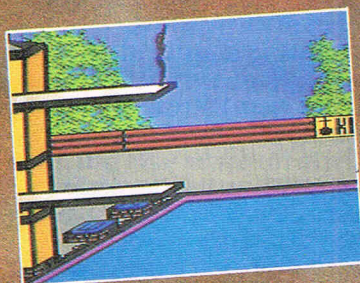
Price: £1.99  
Graphics: ★  
Sound: ★  
Playability: ★★★  
CCI Rating: CRISP

## Cyborg — CRL

# IFFY

Cyborg? Cyborg? Haven't I heard that name somewhere before? Yes, indeed you have. From this very same old Cyborg. What do I mean by that? Well, Cyborg is one of those games that is talked about for a long time before it actually comes out. You hear about games like this — sometimes in hushed tones and sometimes with impatience. You know like Knight Rider. The pre-publishing story just goes on and on until you are almost tired of the game by the time it reaches the shops. Now I know that's unfair and it's really not always the fault of the software house. You can bet that they want to get it out on the street.

# SUMMER EVENTS



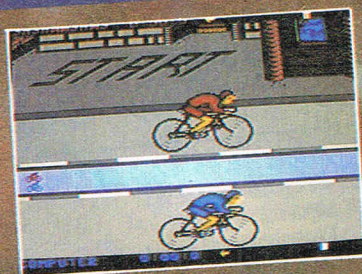
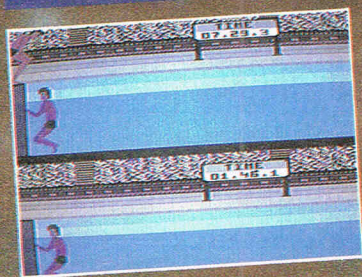
**C16/+4**  
**£9.95**

**SUMMER EVENTS**  
by UDO GERTZ

UDO GERTZ, voted programmer of the year for his chart topper, WINTER EVENTS, has once again excelled himself.

The opening ceremony signals the start of a breath taking contest for supremacy in six events - Swimming, Cycling, High Board Diving, Kyaking, Steeple Chase and Pole Vault.

One to four players can practice or compete in one or all events and select the country they wish to represent. The Medal Ceremony at the end of each event, music, superb graphics further enhanced by expanded screen display (no border) and challenging game play set a new standard for C16 and Plus 4 games.



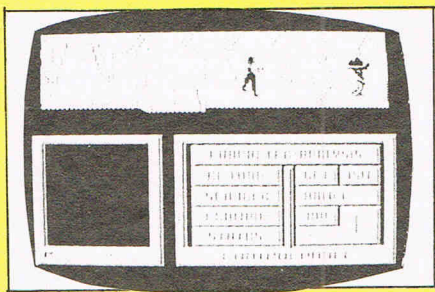
**ANCO SOFTWARE**  
35 WEST HILL, DARTFORD,  
KENT. DA1 2EL.

**MAIL ORDER:**  
4 WEST GATE HOUSE,  
SPITAL STREET, DARTFORD,  
KENT. DA1 2EH.  
Telephone: 0322 92513/8.  
Payment by Cheque, P.O.,  
Visa or Access.  
24 Hour Credit Card Service:  
0322 522631.

CONTINUED FROM PAGE 66

They are not holding it up just to spite you! You can bet your bottom dollar on that. But something beyond their control is holding them up. In the case of Knight Rider, it was supposed to have gone to four different versions before Ocean finally gave up and, in desperation put out what they had, which was probably a mistake after such a wait you expect something terrific. It was not terrific. No and neither is Cyborg. Not but but not terrific.

The year is 2087 and — to cut a long story very short — you've got to stop an asteroid from crashing into the earth and causing (yawn) widespread death and destruction. Nasty things like that always seem to happen computer games, don't they? You have to ferry fuel and supplies to the astronauts on the asteroid and restore communications.



Now this game is very well worked out. You move up and down on various levels of the asteroid and through different 'rooms'. It has some very nice touches by which you can get into a "Character filing" system for information. You can examine objects you find and there is a useful scanner that lets you take a closer look at the immediate area from above. You have to shoot up the baddies you meet on your way and you can re-load your weapons when they run low.

The graphics are very well done — CRL always seem to be able to create very visually successful games. And the different tasks you have to complete certainly give the game interest but somehow it just did not excite me. Who knows, I may be alone in feeling this but it just seemed to lack that special magic that drags me back to the screen again and again. It's a pity because it looks very good.

Z.M.S.

Price: £8.95 (c) £14.95 (d)  
 Graphics: ★★★★★  
 Sound: ★  
 Playability: ★★  
 CCI Rating: Ify

## Death or Glory — CRL

# CRISP

Across the immeasurable void of space, an incredible fleet approaches the peaceful island planet of New Stratford. Just a speck on the civil radar system, a simple spacedozer ship was sent to survey the conundrum. With horror, the pilot of the asteroid demolition craft saw the radar speck become a huge invasion fleet. Then like a storm of meteors they were on him. Android fighters peppering his collision armour with a shower of missiles. Automatically he ploughed into them, crushing their super-structures like insect's thin shells. He cried out in fury and plummeted into a mothership, which ruptured into a blaze of dazzling plasma. "Death or Glory" he screamed triumphantly as his craft tore into the fleet.

Now I hate inlays that talk that sort of rubbish. There are too many games that are sold on a hyped up story of some amazing space exploits that come straight out of a space comic or an SF cowboy story. "Space the ultimate frontier" — they waffle — like this one and they turn out to be a load of old codswallop as a game; something that no self-respecting shoot 'em up fan would bother twice with.

Now having got that off my chest. I will tell you that this Death or Glory isn't half bad. If they'd only given a bit more attention at CRL to the game instead of writing the inlay tosh then it would have been very good indeed.

You've got a sharp little craft and you belt across space blowing away nicely drawn scrolling blocks and some speedily attacking alien ships. The background to your movement is not very convincing but the blast away action — which is what this game is all about — is pretty good fun. There is an odd difference between the sharply depicted enemy fleet and the disappointing primitiveness of your own ship that, I've got to admit, doesn't matter once you're into the fast and furious action.

It's not a difficult game to play. You'll find that you can get some high scores without it being too demanding but there is something addictive about it. It's not going to be one of the games of the year but a lot of people are going to like it a lot. It's certainly worth giving it a try (in spite of the gush on the inlay!)

Z.M.S.

Price: £8.95 (c) £14.95 (d)  
 Graphics: ★★★★★  
 Sound: ★  
 Playability: ★★  
 CCI Rating: Crisp

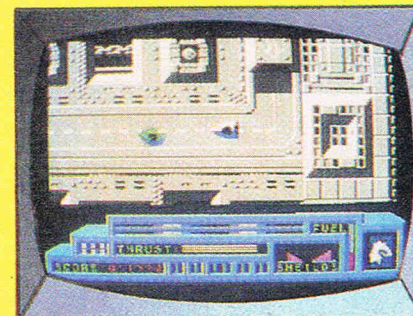
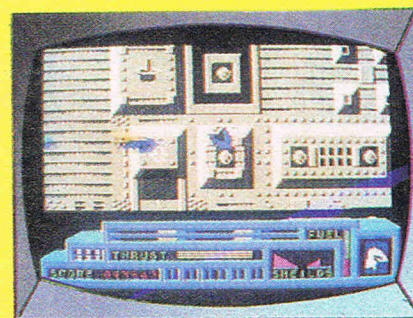
## The Equalizer — The Power House

# CRISP

The Power House who are releasing titles for the princely sum of £1.99 have improved the quality with this one. No, it's not about some vigilante blasting away with his "Equalizer". In fact it is totally different from that. You are back in Paleolithic times — the stone age to you. You have to rescue your girl friend and climb up the Darwinian evolutionary timescale to get to her. It isn't easy. There are lots of nasties out there, even things like prehistoric snails and lizards want to gobble you up and of course, as was natural, as time passes so the organisms get more complicated and you have to compete for your existence with animals and birds. You get fruit that when picked moves you along a level. There are 18 different side to side scrolls and you also have quite a few other natural hazards to avoid along the way to your evolutionary destiny.

By no means a bad game this. It's got some nice graphic touches and a not too disagreeable soundtrack. For £1.99 it is something out of the ordinary and must be excellent value. Buy it.

CCI Rating: Crisp  
 Personal rating: 6  
 Value for money: 8



# C16/PLUS 4 Centre

Music Makers

Joysticks - Interfaces

Books - Games - Leads - Ram Packs - Utilities

Budget Games - Flight and Sports Simulations

Text and Graphic Adventures - Data Bases

Paint Programs - Graphic Designers - Spread Sheets

Word Processors - Peripherals - Power Packs

Disc Drives - Printers

Anything and everything for C16 or PLUS 4

Send S.A.E. for the new 12 page catalogue.

## ANCO

HOTLINE: 0322 522631  
(24 hour service)

C16/PLUS 4 Centre, Anco Marketing Ltd.  
4 West Gate House, Spital Street,  
Dartford, Kent DA1 2EH. Tel: 0322 92513-18

# WORLDWIDE software

C64/128	cass	disk	C64/128 disk only	
Ace of Aces	7.25	11.20	Alter Ego (M or F)	19.95
Auf Wiedersehen Monty	7.25	11.20	Alternate Reality I or II	14.95
Acrojet	7.25	11.20	Borrowed Time	11.20
Brian Clough Football	11.20	13.45	Destroyer	11.20
Championship Wrestling	7.25	11.20	Enchanter	19.95
Colossus Chess 4	7.25	11.20	Expert Cartridge + ESM	34.50
Conflict in Vietnam	11.20	14.95	Heart of Africa	11.20
Delta	7.25	11.20	Hitchhikers Guide to Galaxy	19.95
Decision in Desert	11.20	14.95	Hollywood Hi Jinx	19.95
Dragons Lair II	7.25	10.45	Kampgruppe	24.95
Elite	11.20	14.95	Leather Goddess (Adults only)	19.95
F15 Strike Eagle	7.25	11.20	Mind Forever Voyaging (128)	28.95
Field of Fire	7.25	11.20	Moonmist	19.95
Fist II	7.25	11.20	The Pawn	14.95
Gauntlet	7.25	11.20	Phantasia II	14.95
Gunship	11.20	14.95	Planetfall	19.95
Hell Cat Ace	7.25	11.20	Portal	14.95
Indoor Sports	6.55	11.20	Shard of Spring	14.95
Inspector Gadget	7.25	11.20	Swift Spreadsheet (128)	19.95
Into the Eagles Nest	6.55	10.45	Subbattler Simulator	11.20
Jewels of Darkness	11.20	11.20	Spellbreaker	19.95
Kayleth	7.25	11.20	Suspect	19.95
Krakout	7.25	11.20	Suspended	19.95
Leaderboard Exec	7.25	11.20	Tass Times in Tonetown	11.20
Marble Madness	7.25	11.20	Trinity (128/80 col)	28.95
Mig Alley Ace	7.25	11.20	Toyshop	39.95
Mini Office II	12.75	14.95	USAAF	23.95
Nato Commander	7.25	11.20	Wishbringer	19.95
Paradroid/Uridium	6.55	11.20	Witness	19.95
Scrabble	9.75	11.20	10 Blank 5 1/4" disk with labels	7.99
Silent Service	7.25	11.20		
Silicon Dreams	11.20	11.20	<b>AMIGA</b>	
Solo Flight	7.25	11.20	Hitchhikers Guide to Galaxy	24.95
Spitfire Ace	7.25	11.20	Hollywood Hi Jinx	19.95
Star Games One	7.25	11.20	Leather Goddess (Adults only)	24.95
Strike Force Harrier	7.25	11.20	Silent Service	19.95
Triv Pursuit (2nd edit)	11.20	14.95	World Games	19.95
Vera Cruz Affair	7.25	11.20		
Vietnam	7.25	11.20		
World Games	7.25	11.20		

Prices include post & packing in U.K. Overseas orders please add £1.00 per cass/disk for AIR MAIL delivery. Cheques or postal orders payable to:



**WORLDWIDE SOFTWARE**  
1 Bridge Street, Galashiels TD1 1SW  
TEL: 0896 57004

LOOK FOR  
THE PLAIN  
PACK...

THAT PACKS  
TWO PLANES!

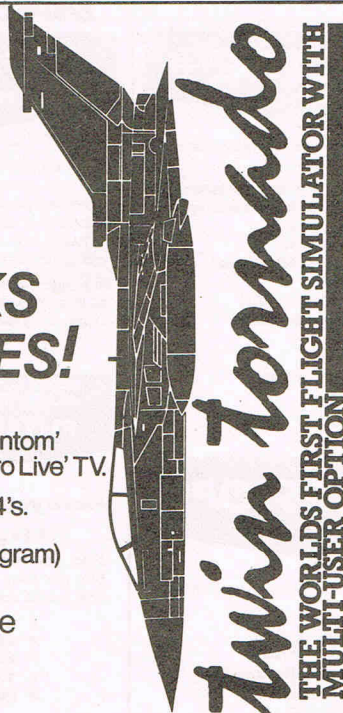
Developed from 'Double Phantom'  
on the BBC, as seen on 'Micro Live' TV.

Runs on single or linked C64's.

(Link cable voucher with program)

£9.95 Turbo Cassette

£11.95 Disc



PHONE  
24  
HOUR

Locally, or direct, first class post free.

**0903 776000** ACCESS/  
VISA

OR CHEQUE/P.O. TO P.O. BOX 66  
EAST PRESTON WEST SUSSEX BN16 2TX

**DOCTOR SOFT SIMULATIONS**

'Have You Had Enough  
Of Arcade Games  
Or Spreadsheets?'

'There Is An Alternative..'

STRATEGIC  
PLUS

**C64 SOFTWARE AMIGA**

SPECIALISTS IN QUALITY COMPUTER GAMES FOR  
THE DISCERNING GAMER  
All programmes are on disc only

Ring for our NEW Catalogue

(Only £1.00 — Redeemable on first order)

AND DISCOVER A WORLD OF ENTERTAINMENT

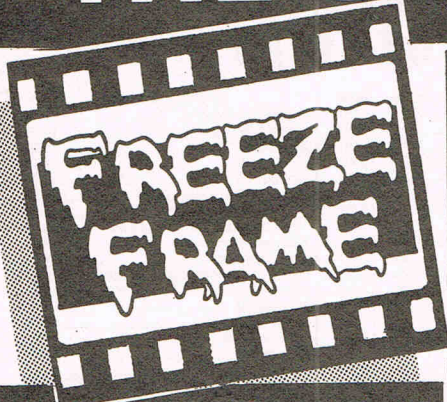


**01-979 2987**



STRATEGIC PLUS SOFTWARE PO BOX 8 HAMPTON  
MIDDX TW12 3XA

# THE CHOICE IS YOURS!



## BACKUP CARTRIDGES THE FACTS

Almost eighteen months ago, Freeze Frame Mk I revolutionised backup methods. Since then many imitators have appeared on the market. Some of the claims being made for certain of these products are rather misleading. Let us inform you of some positive facts.

1. Much of the new software released uses "Anti-Freeze"; only Freeze Frame and one other product can handle these.
2. Only Freeze Frame can automatically handle these and other programs. You don't need to be an "Expert" or need "O" levels to operate Freeze Frame.
3. At press date (11.2.87) our exhaustive tests were unable to find any memory resident program that both Freeze Frame Mk IV and Lazer were unable to back up, completely automatically.
4. Similar tests with all rival products proved disastrous.

**THESE ARE THE FACTS**  
(not outrageous advertising claims)

## FREEZE FRAME Mk IV

NEW PRICE . . . WHY SETTLE FOR LESS!

Now you can buy a pedigree Freeze Frame backup cartridge for a startling new price. **No need to settle for less**, this is the latest development of the originator. **More power, more features, easier to use.**

### POWER

Legendary amongst Commodore owners but with continual development now even more impressive.

### FEATURES

Three cartridges in one . . . fast load, utilities and backup.

**TAPE TO DISC  
DISC TO DISC**

**TAPE TO TAPE  
DISC TO TAPE**

So simple to use, just plug in and switch on, at the menu choose your option, no messing with software, it's always ready.

Load the program that you wish to backup, press the button on Freeze Frame, then you can either:

1. Press "D" to save to disc with fast reload.
2. Press "S" to save to disc with standard reload.
3. Press "T" to save to tape with fast reload.

### MULTI STAGE PROGRAMS

The standard cartridge will transfer to disc many tape based multi stage programs, e.g. Summer Games II, Silent Service, Winter Games, etc. and when used in conjunction with the regularly updated "F.F. Utility Disc" the vast majority of programs of this type can be handled.

### MORE FEATURES

- \* Doubles as a fast load cartridge
- \* Loads extra parts fast
- \* Built-in Fast Format
- \* Built-in File Copier (up to 248 blocks)
- \* New "SELECTLOAD" feature (Press "L" for directory, select with cursors, then press F3 to load).
- \* Undetectable by software
- \* Files compressed for disc economy
- \* 128/128D compatible in '64 mode

PROGRAM RELOAD IS INDEPENDENT OF CARTRIDGE

NOW ONLY **£28.95**

At this price there is no need to settle for less  
UPGRADES: Mk I or II . . . £14.95  
Mk III or IIIB . . . £9.95  
Mk IV to LAZER . . . £11.95

## FREEZE FRAME LAZER

ANOTHER TRENDSETTER?

From the design team that changed the face of backup technology comes **another innovation**. The powers of Freeze Frame have been combined with a **staggeringly quick** new loading system. An **amazing 32K of ROM** provides you with **all the facilities of Freeze Frame Mk IV** as described opposite, plus the stunning new **LAZER** loading technique.

### Check these LAZER features:

- \* Reload a program in 10-15 seconds \*
- \* Save a program in 10-20 seconds \*
- \* Loads extra parts at VERY HIGH speed \*
- \* Load speed approx. 20x normal \*
- \* Save speed approx. 20x normal \*
- \* Includes RESET \*

Cartridge must be present to reload at LAZER speed  
Proven power with stunning new technology:

ONLY **£39.95**

UPGRADES: Mk I or II . . . £29.95  
Mk III or IIIB . . . £19.95  
Mk IV . . . £11.95

## "F.F." UTILITY DISC V2.0

Now with many more routines to allow the complete transfer from tape to disc of programs that load parts as the program progresses. Used in conjunction with Freeze Frame for the awkward ones that cannot be handled by the standard cartridge. Included are routines for most popular games like **Supercycle, World Games, Gauntlet, Trivial Pursuit, Ace of Aces, Dragons Lair I & II** (includes training mode), etc., etc.

ONLY **£7.95**  
Update fee for owners of V1.0 is **£2.00**

## DISC DISECTOR V5.0

The fifth version of the country's leading disc backup/utility program. This latest version includes many "PARAMETERS" to handle the latest highly protected discs. This includes the latest **American and English software**. Be warned if you want to back up software by Ocean, Gremlin, Hewson, Domark, and even U.S., Gold whose protection schemes are NOT always the same as the American versions, then you **MUST** have "D.D.". At press date, we are sure **NO** other advertised product will handle all these, be it American or German.

### INCLUDES THE FOLLOWING

- \* EVESHAM 3 MINUTE NIBBLER
- \* EVESHAM 8 MINUTE NIBBLER
- \* MANY PARAMETERS (The vital code for the protection schemes)
- \* DUAL DRIVE NIBBLER
- \* MENU MAKER (with select facility)
- \* DISC ORDERLY
- \* FAST FORMAT
- \* FAST FILE COPY
- \* UNSCRATCH
- \* DISC RESCUE
- \* DISCMON+
- \* ETC., ETC., ETC.

The whole package is menu driven and has its own fast boot system built in for your convenience. Pays for itself the first day you receive it.

ONLY **£24.95**

Customers with earlier versions may return them along with a payment of **£7.95** to receive **V5.0**. Most routines are **CBM 128** and **1570/71** compatible in '64 mode.

## QUICKDISC+

Our highly popular fast load and save plus utility cartridge has received many favourable reviews.

- \* FAST LOAD (5 to 7 times improvement)
- \* FAST SAVE (5 to 7 times improvement)
- \* FAST FORMAT (20 seconds)
- \* FAST BACKUP (4 minutes)
- \* FAST FILE COPY (up to 248 blocks)
- \* EASY DOS COMMANDS
- \* CENTRONICS PRINTER DRIVER
- \* RESET BUTTON (unstopable)
- \* HELPS MENU
- \* USES NO MEMORY
- \* '128 COMPATIBLE ('64 mode)

Exception value for money at only . . .

**£19.95**

## 1541 QUIET STOPS

Cure for ever the dreaded 1541 drive head "hammering"

- \* Easy to fit
- \* Detailed instructions
- \* One kit does two drives
- \* Helps prevent misalignment

ONLY **£4.95**

Not suitable for "turn lever" type drives.

## DOUBLER

THE tape backup "device"

Many thousands of this popular product have been sold and sales continue to flourish. Why? We think because it is the best product of its type. Consisting of hardware and software it uses a unique method controlled by the software that allows you to produce perfect backups of your tape software.

It is very easy to use and very successful, in fact our tests have proved that Doubler can achieve 100% success.

ONLY **£12.95**

## 1541 PHYSICAL EXAM

Have you got . . .

### Alignment problems

If so, you need this package. Contains digital alignment disc and drive fault diagnosis software that allows you to check and correct head alignment.

- \* CHECKS RADIAL ALIGNMENT
- \* CHECKS SPEED
- \* CHECKS BELT AND CLAMPING
- \* THOROUGH INSTRUCTIONS
- \* INCLUDES QUIET STOPS

ONLY **£39.95**

### ORDERING INFORMATION

ALL PRICES INCLUDE VAT AND FREE DELIVERY WITHIN U.K. (Despatch within 24 hours whenever possible)

#### By Post

Send cheque, P.O., or ACCESS/VISA details to our Evesham address

#### HOW TO ORDER

Call our Evesham branch and quote your ACCESS/VISA details

#### By Phone



**EVESHAM MICROS, 63 BRIDGE ST, EVESHAM, WORCS. WR11 4SF**

CALLERS WELCOME

**Tel: 0386 41989 Telex: 333294**

TRADE ENQUIRIES WELCOME

Also at: 1756 Pershore Road, Cotteridge, Birmingham B30 3BH. Tel: 021 458 4564

All items subject to availability. E & O.E. Orders from Government and Educational departments welcome.  
Overseas Orders: Within Europe, please send advertised price. Outside Europe, add **£2.00** for Air Mail

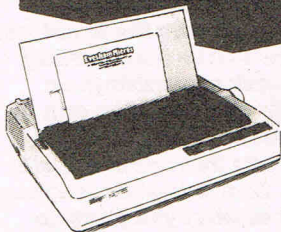
# Evesham Micros

ALL PRICES INCLUDE VAT & DELIVERY

THE **Star**  
PRINTERS FOR BUSINESS

NL-10

WHICH MAGAZINE  
BEST BUY



- Automatic single sheet handling
- Tractor feed built in
- "Front Panel" mode selection
- Double and Quad height characters
- 120 cps draft and 30 cps NLQ

This is the best Commodore ready printer you can buy. Combines many unique features with superb reliability, styling and print quality. But the real beauty is that the interface cartridge is interchangeable so if you change comp-uters just buy a new interface.

In a group test with other popular printers such as Epson, Citizen and OKI What Micro magazine described the NL10 as 'the Rolls Royce of this group'. ONLY **£249.00**

Automatic cut sheet feeder available as an option for **£63.25**

## SELECTED PRODUCTS

### SEIKOSHA SP 180VC

A new Commodore ready printer that offers both friction and tractor feed combined with NLO ability. Print speed is 100cps in draft and 16cps in NLQ.

ONLY **£189.95**

**1541C DRIVE.** The latest version of the 1541, better drive mechanism and new colour ..... ONLY **£189.95**

**DISC NOTCHER.** Double the capacity of your discs with this handy gadget. Cuts second write protect notch accurately and easily ..... ONLY **£5.95**

**AZIMATE 3000.** Handy package allows you to easily check and realign the tape head of your CBM data recorder. Includes screwdriver ..... ONLY **£6.95**

**MOTHERBOARD.** 4-slot, with either all upright sockets, or three upright and one through socket, to suit modem; please specify ..... ONLY **£28.00**

**POWER PACK.** High quality replacement power pack for CBM 64 ..... ONLY **£24.95**

**XETEC SUPERGRAPHIX.** The best centronics printer interface for your 64/128. Large buffer, downloadable fonts, etc. .... ONLY **£69.00**

**DATA RECORDER.** CBM compatible, same performance as the C2N/1531 but cheaper and includes a pause button. .... ONLY **£24.95**

Large stocks of Commodore-related equipment at sensible prices. If you don't see what you want, give us a call.

## DISKS AND BOXES

25 bulk-packed DS/DD disks with w/p tabs and labels ..... ONLY **£13.95**

25 disks as above with 50 capacity lockable box ..... ONLY **£22.95**

25 disks as above with 100 capacity lockable box ..... ONLY **£24.95**

50 capacity lockable box ..... ONLY **£10.95**

100 capacity lockable box ..... ONLY **£13.95**

## THE EXCELERATOR+

For **COMMODORE** Computers

Why buy a 1541C when you can buy this neat, reliable and compact drive for less money?

### FEATURES

- ★ Handles Disc Turbos
- ★ Direct Drive Motor
- ★ 1 Year Guarantee
- ★ Ultra Compatible
- ★ External 8/9 Switch
- ★ Very Reliable
- ★ Compact Size
- ★ Very Quiet
- ★ Doesn't Overheat
- ★ 20% Faster



ULTRA  
COMPATIBLE

Tests have shown the Excelerator to be more compatible with protected software than the CBM 1541C. We can't find any software that it will not load.

TWO PURCHASE OPTIONS —

DON'T BUY A LUMBERING HIPPO (1541C)!

THE EXCELERATOR+ OFFERS MORE FOR LESS MONEY

SPECIAL INTRODUCTORY PRICE ONLY **£159.95**

COMBINATION OFFER EXCELERATOR+ and FREEZE FRAME Mk IV ONLY **£179.95**

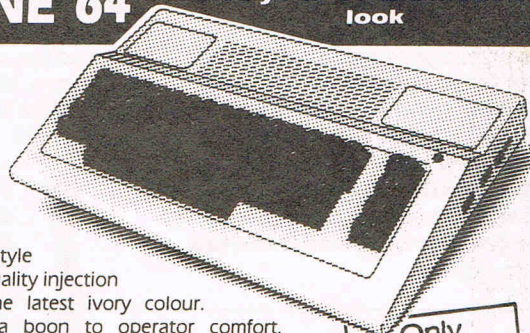
## THE SLIMLINE '64

Give your '64 the modern look

A NEW IMAGE FOR THAT FAVOURITE COMPUTER

- Easy to Fit
- Lower key height

This modern case with its sleek style will transform your '64. The high quality injection mould is superbly finished in the latest ivory colour. The lower key height is also a boon to operator comfort. Fitting is very simple, requiring just a Philips screwdriver, and can be completed in less than 10 minutes. Stock now available so order for quick delivery.



Only **£19.95**

## DOLPHIN DOS

YOU WON'T BELIEVE YOUR EYES!

### THE EFFECT IS STAGGERING.

Now established as **THE parallel operating system** for the 1541 disc drive. Hundreds of satisfied users include business, hobby, full-time programmers, and many leading software houses, including **Gremlin Graphics, Domark, Superior, Alligata, Thalamus, Adventure International, and Software Projects.**

The speed and efficiency is truly unbelievable, it is compatible with the vast majority of commercial software, speeding up both the loading of the program and of **SEQ/REL files.** (It is brilliant with Superbase, EasyScript, etc.) For non-compatible programs it can be **completely switched out.** It DOES NOT use a special disc format and your existing discs will be compatible.

### FITTING

Fitting involves the insertion of two sub assembly circuit boards, one in the 1541 and one in the '64/128. These normally just plug in but on some '64s a small amount of soldering is necessary.

### SOME OF THE FEATURES

- ★ 25x FASTER LOADING (PRG FILES)
- ★ 12x FASTER SAVING (PRG FILES)
- ★ 10x FASTER LOADING (SEQ FILES)
- ★ 8x FASTER SAVING (SEQ FILES)
- ★ 3x FASTER LOAD/SAVE (REL FILES)
- ★ E.G. LOAD 202 BLOCKS IN 5 SECS
- ★ EASY AND FAST DOS COMMANDS
- ★ USE 40 TRACKS FOR 749 BLOCKS
- ★ MONITOR BUILT IN
- ★ DRIVES CENTRONICS PRINTER
- ★ ENHANCED SCREEN EDITOR
- ★ EXTRA BASIC COMMANDS

(These figures do not allow for searching)

### EXTRAS AVAILABLE

Kernal for '128 in '128 mode ..... **£9.95**  
User port expansion card (3 slot) ..... **£14.95**  
Dolphin Copy (Whole disc in 18 secs and lightning fast file copier) ..... **£7.95**  
Dolphin main board for second drive c/w lead ..... **£44.95**

If you require further information, please send SAE for fact sheet



Best Hardware Utility of year

Only **£69.95**  
Available for CBM 64, or '128 in '64 mode, please specify.

## C16 Storm — Mastertronic £1.99

# IFFY

Storm is Mastertronic's attempt at a Gauntlet style game. I suppose I expect too much for £1.99 though, because this isn't what I hoped for — with pretty ugly, chunky graphics and rather tedious gameplay.

The story might set you in a fantasy world where wizards and warriors exist and you must rescue a fair maiden. Well, that's not exactly the story I suppose, so here it is.

Corrine your wife has been abducted by Una Cun, an evil warlock-like being, and you, with the aid of a wizard friend, Agravain Undead, must rescue her from his lair.

As you play you are confronted with Una Cun's evil minions who drain your energy, you must shoot them, and the generators that they appear from. If you re-enter a room the generators appear again so you have to watch your step. You can also pick up armour that protects you slightly, from your enemies.

Other things to watch out for are masks — that give a kind of smart bomb effect, scrolls and amulets — which destroy the evil minions temporarily, and food and water which replenish strength. There are traps which you can spring, that are either good or bad, and there are keys to collect.

## Summer Events

After almost a year of waiting we've finally received a preview copy of Summer Events. From first impressions it looks very good indeed, well up to Winter Events standard!

The finished copy should contain six events: Platform, Diving, Pole Vault, Cycling, Kayaking (canoeing), Steeple Chase and Butterfly.

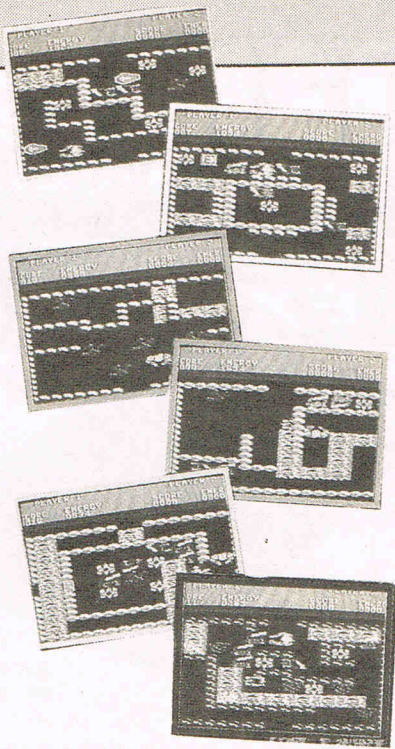
As a professional platform diver you have two attempts at dives and can choose which type of dive you want, from a choice of four: forward, this is a normal dive with you facing front on the platform; backward, which starts you off with your back to the water; inward, which throws you forward and spins you inward again; and, outward, which starts you off backward and throws you forward.

Cycling is a race against the computer or another player along a length of road. To move you push

your joystick in the direction shown by an arrow, which spins around. As you follow the point of the arrow you start to go faster and as it goes faster you begin to lose control of your man.

Butterfly is the other game we were able to see. It contains excellently drawn large sprites, and smooth, fast animation. You can compete against the computer and this game approaches swimming in a very different way from previous games. The swimming action is very accurate and this is a really good event.

From what we saw in this exclusive preview (thank you, Karen of Anco) this looks well up to the usual high standard of Kingsoft and Udo Gerz the ace programme who created Winter Events. We'll try to give you a full review in the next CCI. This game could be sensational. It looks as good as a 64 product.



Price: £1.99  
Graphics: ★★  
Sound: ★★  
Playability: ★★  
Rating: Iffy

C.K.

## Gun Law — Mastertronic £1.99

# CRISP

Gun Law is Mastertronic's first attempt at a game for the C16 that involves Commando style tactics.

You are the last soldier left after four months of fighting the invaders. All the civilians have fled, leaving you with the task of surviving, on your own, with one machine gun as your companion.

Fight your way through five levels and then . . . And then it doesn't say what you get or what you must do next. Nice bit of incentive to complete the game eh?

You start the game off with four lives and get an extra life at every ten thousand points, by no means an easy feat.

As you hide behind trees and run for cover, men suddenly materialize before you — they don't come from the very top of the screen but jump out at you in ambushes. Huts, pods



and trees block your path and you must also dodge the occasional bullets from the enemy.

Your man runs along at quite a pace and the scrolling of the screen is fast. Although your score is not displayed during play, when you die it is shown, along with the number of lives you have left.

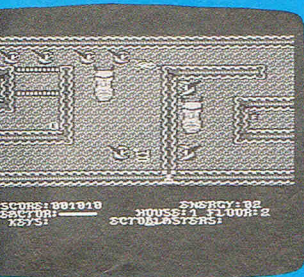
The graphics of this game are quite good with chunky, though well animated, defined graphics. The sound is okay though rather sparse.

Another good release from the boys (and girls, don't want to be sexist), at marvellous (no relation to poor old Marvin Hagler) Mastertronic.

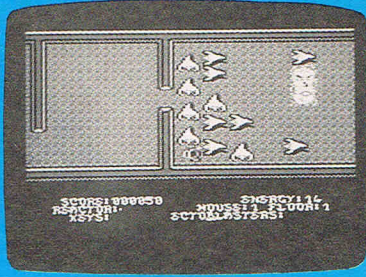
Price: £1.99  
Graphics: ★★★  
Sound: ★★  
Playability: ★★★  
Rating: Crisp

C.K.





# PHANTOM



Horrific News from  
Courtney King!

# AWESOME

Phantom.... by Tynesoft....

It's positively frightening...How good this game is...It is the kind of game we have been waiting for since Winter Events...This is a game that uses the underrated C16 to the limit.

I am writing this in the dark and sending it to C.C.I. in invisible ink...Because I don't want the Phantom to get me... Phantom is maybe a Glove clone, even a Gauntlet clone.It is haunting and totally BRILL.....Yea,Awesome...

The object of this terrifying game is to clear four buildings of (who) ghosts using a high powered laser. No,it is not Ghostbusters.It's much better.Each house is made up of four floors.Each floor has one or several transporters.These are the (eek!) ghosts' link between this world and hell!If you destroy the transporters no more ghosts can arrive to hinder you.(Help help, I think something cold has just touched my neck!) Various objects are to be collected such as keys,fuel -

which can be fast and powerful laser fuel.speed fuel which is extremely fast but weak and power fuel which is extremely strong but slow.There is also food, which restores your ever decreasing energy and glucose pills which speed you up for a limited period.(Did you just hear a door creak?)

Now we come to your gadgets - first there is a radio immobiliser which broadcasts a high-pitched signal and stuns the ghosts and second there are ectoblaster that act as a smart bomb, clearing your surrounding area of ghosts (I wish I had one here now.There is something giving me a nasty chill up my spine.)The smart ectoblaster gives you a welcome breather from the attentions of the ghosts.

Phantom is played at a very fast rate and you must fathom each level's problems (by causing the game) before tackling it.The scrolling is spirit smooth and as fast as a flash of lightning at midnight. The graphics of the

ghosts and the transporters are particularly good.(Why is the hair all over my body standing on end?) AS you finish the fourth floor of the first house, the next house is loaded up and you begin your fearsome job of exorcising the nasties once more.This time, however, with totally different surrounding graphics and a new load of ghosts and transporters. To get a look at all the types of ghosts available instead of rewinding the tape when you die, you just load up the next level.You will get the same layout as level one but, believe it or not, another set of different ghosts. Loading up the houses takes about ten seconds and is no hassle at all. (It is only the way the curtains wave even on a windless night that is the problem.)As you play, a tune is banged out in the background and it totally suits the pace of the game.It is what I call a haunting melody...

I have always said that multiloading games are the best and have been

proved right with Winter Events,Jet Set Willy II and European Games.So come on you other companies, why don't you give it a go...not to say a ghost of a chance...

This game is totally ghoulish...sorry I meant awesome.Could it be better? Well, what I'm really hoping is that Anco's 64k rampack sells by the thousand Then Tynesoft could really go to town and make Phantom 2 that would blow everybody's minds.I've already heard that if this game sells by the billion as it should,Tynesoft will bring out additional levels.As it is it must find its way into everyone's favourite game chest.You will miss Phantom at your peril...

I Hope you can read this.I am typing it in the dark.The candle has just blown out and there is the clanking of chains and I'm beginning to break out in a cold sweat.I'll have to get back to Phantom.

Graphics \*\*\*\* Sound\*\*\*\* Playability\*\*\*\*\*  
Price £6.95 Rating AWESOME

# MEGA REVIEW

C64 C16

MEGA



HAVE  
TINESOFT  
GONE  
BANANAS??



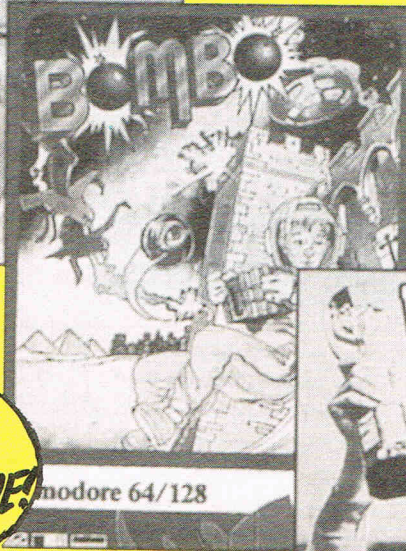
## Micro Value — Tynesoft £3.99

Micro Value is a new budget label set up by Tynesoft. There are many versions on the full line of computers and each represents great value for moneh. The C16 version is no exception to this with two new releases, one old game of exceptional quality, and only one naff game as a filler.

The first game on the list is US Drag Racing, which was to be released singly at £6.95, is a flashy, souped up version of the familiar Decathlon type game. Your car, and your opponents, are pushed into the starting position on the grid, you must then rev your engine, and a the light changes to green, get into gear. You keep building up enough revs to change to a higher gear and as the race ends, your parachute is ejected to slow you down. You have six opponents; Pizton, Tex Turbo, Clint Clutch, and others with similar automobllish names, each with a more powerful car than the last. A good game with colourful graphics and many pleasing frills.

3D Maze, the next game, is a variation of Pac Man. It actually puts you inside the maze, with corridors receding into the distance and you must guide yourself down them, watching out for the ever present Maze-Monster/s. You have a map to guide your way, but there are many variations of the game to ensure you don't rely on this as your means of movement. This game, though simple, is extremely

£3.99!  
IT'S  
MACROVALUE!



addictive makes an excellent addition to the tape.

Apollo Rescue is the only real no-no on this tape and even this is mildly addictive for a while. It involves you having to reassemble the part of an Apollo 16 rocket. You are hindered by many aliens and these are very fast. You must pick up each piece of rocket in the correct order and then go on the next planet and get more pieces. In between this planet hopping you must retrieve satellites floating in space, using a robot arm. This is the most boring game in the compilation. New we come to Gunslinger, the best game of the tape. You are Jesse James, a deadly bounty hunter. To increase your money you've decided to hunt down outlaws and collect the reward money. The outlaws hide out in doorways and on roofs but you can aim by pushing his gun arm up or down. This game doesn't sound like much but it is totally addictive and is a really great game.



If these games were £1.99 each I would rate US Drag Racing as Crisp, 3D Maze as Crisp, Apollo Rescue as Iffy-Dodgy and Gunslinger as Mega. From these ratings judge for yourself how good the value of the compilation is. I'd rate it as 'Amazing'.

C.K.

Price: £3.99  
CCI Rating: Mega

# COMMODORE

BUSINESS and

# AMIGA USER

OCTOBER 1986

## The Unstoppable Amiga...



### Amiga Marble Madness!

# SUBSCRIBE!

You can keep up to date with everything that's happening in Commodore Business and with everything new on the AMIGA by taking out a subscription to Commodore Business and AMIGA User. This new and unique international magazine is presently published every other month and will be mailed to you direct. Simply fill out the coupon for this special introductory offer, and send it to us now.

**To: Subscriptions Manager, Commodore Business and Amiga User**  
 40 Bowling Green Lane, London EC1R 0NE. Tel: 01-278 0333 Telex: 267247 FINSEC  
 Please send me 6 issues of Commodore Business and Amiga User  
 Subscription rate UK U.K. £9.00  
 Europe £16.00  
 Outside Europe £22.80  
 Date subscription to commence \_\_\_\_\_

Name \_\_\_\_\_ Expiry date \_\_\_\_\_ Signature \_\_\_\_\_  
 Address \_\_\_\_\_ Postcode \_\_\_\_\_ (business)  
 County \_\_\_\_\_  
 Telephone (home) \_\_\_\_\_

Cheque enclosed  
 Please debit my Access Card No. \_\_\_\_\_

## AND MUCH, MUCH MORE...

£1.50

# Talking Word Processor

Talker does everything you'd expect from a full-featured word processor, plus Talker does just that—talks. It reads your text, word-for-word or letter-by-letter.

So, Talker is great for proofreading, learning to type and the sight impaired.

Talker's pull down menus and

simple commands make it easy to use, and at \$69.96 it's easy on your budget.

Bring your words to life with Talker.

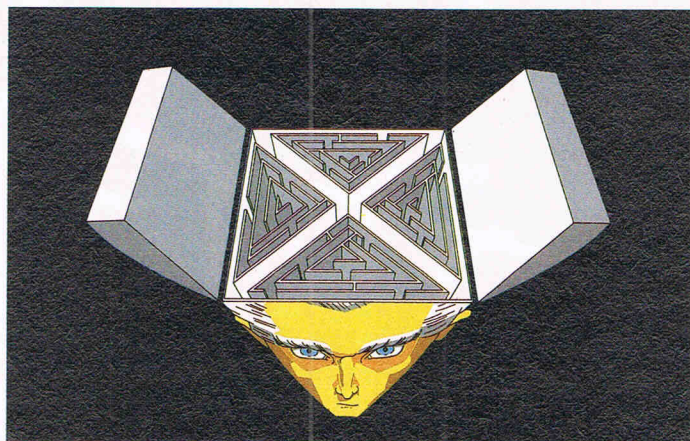
**\$69.96**

**(714) 854-4434**



**FNALY**  
SOFTWARE

4000 MacArthur Blvd. Suite 3000  
Newport Beach, California 92663

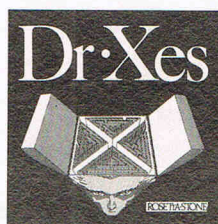


## Shrink In A Box

A detailed psychotherapeutic game on a disk, Dr. Xes takes the form of a Gestalt therapy session. Learn more about artificial intelligence, psychotherapy, and yourself. Dr. Xes even talks. More fun than a padded room, great for parties. **\$49.95.**

Call collect to learn more about Dr. Xes. Or, order risk free, your satisfaction is guaranteed.

**(714) 854-4434**



**FNALY**  
SOFTWARE

4000 MacArthur Blvd. Suite 3000  
Newport Beach, California 92663



**We Teach Your Computer Spanish.  
It Teaches You.**

Señor Tutor leads a beginning Spanish student through self-paced, changing lessons. You learn greetings and phrases, household terms, and much more.

Sophisticated speech synthesis actually lets your computer speak Spanish.

Turn your computer into your Spanish teacher with Señor Tutor.

¡El Español es fácil!

Call collect to learn more about Señor Tutor. Or, order

risk free, your satisfaction is guaranteed.

**(714) 854-4434**



**FNALY**  
SOFTWARE

4000 MacArthur Blvd. Suite 3000  
Newport Beach, California 92663

# ZING

**PROBLEMS WITH CLI?  
IN NEED OF SOME  
USEFUL UTILITIES?  
YOU NEED ZING!**

Copy, Rename, Delete, Move,  
Edit, Create, Protect and  
Comment your files without  
using a Workbench Disk.  
Plus Hot Keys, Screen Dimmer,  
Print Spooler, IFF Capture,  
System Monitor, Redefine  
Function Keys etc.  
Not to be confused with CLIMate.

**Only £49.95**



# AMIGA Users Group

- ★ Bimonthly Newsletter
- ★ Technical Information
- ★ Discount on all products
- ★ Users Bulletin Board
- ★ Problem Solving — Software & Hardware
- ★ Allied with U.S.A. Amiga Groups
- ★ Special introductory modem offer
- ★ Send or call for details

**AMIGA USERS GROUP**  
66 London Road, Leicester LE2 0QD  
or Tel: (0533) 550993

# AMIGA CENTRE

ADV CON SET .....	£19.95
SKYFOX .....	£19.95
ARCTIC FOX .....	£19.95
ONE ON ONE .....	£19.95
LEADERBOARD .....	£24.95
WORLD GAMES .....	£24.95
WINTER GAMES .....	£29.95
MULTI FORTH .....	£129.95
MIDI INTERFACE .....	£49.95
SILENT SERVICE .....	£24.95
MARAUDER II .....	£39.95
DELUXE PAINT .....	£69.95
DELUXE PRINT .....	£69.95
DELUXE VIDEO .....	£69.95
GRABBIT .....	£29.95
2 MEG RAM .....	£519.95
FLIGHT SIMULATOR II .....	£49.95
AMIGA WORLD .....	£2.50
or SUBSCRIPTION .....	£14.00



# AMIGA

- ✓ Supplies of Amigas to industry, education, business and personal users.
- ✓ One year warranty including on site maintenance.
- ✓ Large range of software already available, over 100 including technical reference manuals.
- ✓ Technical support from people who have been using Amigas for over 18 months.
- ✓ Over 80 megabytes of Public Domain programs already available to all Amiga owners.
- ✓ Books, papers and disks for all models — in fact everything you need for any Commodore.
- ✓ The only dealer in the UK to support all Commodore products.
- ✓ Run by Commodore enthusiasts — at your service.

**CAVENDISH COMMODORE CENTRE**  
**66 LONDON ROAD, LEICESTER LE2 0QD.**

**or Tel: 0533 550993**

## CLIMate

The cleverly named title of this software product refers to an AmigaDOS utility rather than something connected with the weather. Its function is to control and manage disk and disk files more easily and effectively. This is done through a well-designed Intuition front-end making full use of the mouse with the sole purpose of keeping the unskilled user away from the Command Line Interface, otherwise known as the CLI.

I was lucky enough recently to meet the two programmers responsible for **CLIMate**. Chris Nicotra and Dave Milligan allowed me a sneak preview of the unfinished project and I was suitably impressed at that point. Now that I have had the opportunity to look at the finished article, I'm even more impressed.

The basic construction of **CLIMate** is two columns — a source and destination. The respective disk directories appear in each column, selection of the drives is all done by the mouse. Support is given any AmigaDOS *trackdisk* device — which means that a 5.25 inch drive, ram disk and hard disk as well as the conventional 3.50 inch drives are usable. All the file manipulations are carried out by selection with the mouse. Thus there is no need to enter the file names, even changing disk directories or disk drives is accomplished by clicking the mouse.

When I say everything *'is all done by the mouse'* this includes renaming files and deleting files — although naturally the user does have to type in some file names for this task, it is the selection of the AmigaDOS operation which is made by the mouse. Another useful point of these file manipulation is the support given to pattern-matching. This is a very powerful feature of AmigaDOS and is

something that all users would do well to study since pattern-matching offers considerably more than those provided by MS-DOS.

Printing of files is another function which **CLIMate** excels in. Once more complete control is given by the mouse and the user can closely control the format of the output.

Unfortunately there is no print detection of binary files — this is important as any AMIGA user will inform you since these generally contain large number of form feed characters. Attempting to print a binary file results in large volumes of paper being sent through the printer before the user realises what is going on! Hopefully this will be rectified in the next release of **CLIMate**.

One of the most interesting uses that **CLIMate** can be put to is the *showpic* function. This allows the user to display files containing an IFF image — IFF is a standard AMIGA file format for audio, text or visual data and allows full interchangeability between different software products. The IFF file display is selected entirely by mouse and should the file contains a colour table, then some manipulation of the colours is possible.

A disk can be formatted from within **CLIMate**, although this is restricted to DF0: and DF1: drives. Should the user want to format a 5.25 inch disk then this drive should be made the first external drive. In other words, this drive should be connected to the system and any others daisy-chained to this unit. In my own system the 5.25 inch drive is configured as DF2: and forms the last drive in the floppy *chain*. I prefer to operate it this way because of the vagaries of AmigaDOS when using the 5.25 inch drive. I mean by this the problem of the system not recognising when a 5.25 inch disk is changed and I find it easy to operate this drive when formatting disks to be at the CLI level.

It is difficult not to compare **CLIMate**

with its nearest competitor **ZING!** in the AMIGA disk utility field. The two products use an INTUITION front-end although **CLIMate** makes greater use of the mouse, an integral part of the environment. However, as things stand, **ZING!** provides a greater number of user facilities, for example the screen dimmer and task monitor. I found it very difficult to choose between the two, for **CLIMate** is probably easier to use.

Prospective purchasers should realise that **CLIMate** will run under WORKBENCH 1.2 only — ensure you have this before parting with any money. Knowing Chris Nicotra and Dave Milligan, they are not likely to let the grass grow under their feet and product enhancements are probably well under way.

I would suggest that readers view and use both Zing and **CLIMate** before arriving at their decision. Try to ensure that the conditions under which the demonstration takes place are similar to your own system configuration in terms of the hardware. Also consider the structure of your disks — are they mainly single files or do they contain multiple levels of directories. Check them out operating with a hard disk — OK, you might not be lucky enough to have one right now, but prices of these are steadily falling and the great day may be closer than you think. The mention of hard disks bring me to a neat conclusion because for the moment I reserve my opinion on which is the better. However, I will say this — whichever the two brings out a hard disk backup utility which will spool between DF0 and DF1: thus making the process multi tasking and quicker gets my vote!

**UK Distributor: Precision Software Ltd, 6 Park Terrace, Worcester Park, Surrey KT4 7JZ. Tel: 01-330 7166.**

**USA Distributor: Progressive Peripherals and Software Inc. 464 Kalamath Street, Denver, Colorado 80204. Tel: 303-825-4144.**

## Jumpdisk

Jumpdisk is the first of what is bound to be the movement toward the future development of Amiga information — a magazine on a disk. With everyone who owns an Amiga by necessity a disk drive owner too, it makes a good deal of sense to issue a magazine that can be read directly by the machine to which it is intended to offer information. In addition, of course, it can offer programs without the tiresome requirement of to type them in. Of course, disk or cassette based publishing has been tried before — without a great deal of success it has to be said. However with the obvious usefulness it has to the Amiga, for this computer it will probably turn out

differently. What will decide finally will be the interest that the disk offers. In this case, with Jumpdisk which is the first to reach outside the US, it certainly appears to be likely to attract a substantial number of buyers.

It is very easy to enter and has two menus — an article menu and a program menu. The first describes what can be found on the disk and the second lets you get at it. As with any magazine there has to be a balance of different interests and on Jumpdisk it varies between simple arcade games and the famous Eliza, where you can have a conversation with the computer, to articles about technical aspects of the new 2000 Amiga. It has to be said that these articles do not go very deep into the

subject and are more for the general reader than the expert in search of deep technical enlightenment.

I think that the audience for this type of publication will increase but will be somewhere between the newish 1000 owner and someone who is starting with an Amiga for the first time. If you are among that group then Jumpdisk will certainly prove of interest to you. It is to be published monthly and is very reasonably priced at £8.95. However one of the valuable guarantees is that if the disk is defective it will be replaced at once.

**Contact (UK) George Thompson Services, Old Reigate Rd, Betchworth, Surrey RH3 7DR. Tel: 073 7844675.**

**LONDON'S LARGEST DISPLAY OF PRINTERS MONITORS  
COMPUTERS AND PERIPHERALS**

# HI VOLTAGE

## The London AMIGA Centre

### NEW AMIGA A500 IN STOCK NOW!

'The Ultimate Home Computer' 512K machine with built-in 3 1/2" 880K double sided drive. Runs original Amiga software

**PRICES FROM £499 + VAT  
INCLUDING FREE SOFTWARE**



### AMIGA A1000 IN STOCK NOW!

Based around the Motorola 68000 CPU, with multi-tasking as standard along with a palette of 4096 colours.

**PRICES FROM £599 + VAT  
INCLUDING ON SITE  
MAINTENANCE**

**ALEGRA 1/2 MEG  
A1000 RAM PACK CAN  
BE UPGRADED TO 2 MEGS  
NOW ONLY £299 + VAT**



### NEW AMIGA A2000 IN STOCK NOW!

'The Only Desktop Computer You Will Ever Need' capable of running 2 x 3 1/2" disc drives, 1 x 5 1/4" drive and a hardcard with IBM Emulation simultaneously.

**PRICES FROM £1095 + VAT  
INCLUDING FREE SOFTWARE + ON SITE MAINTENANCE**



- Organize Database** £99.95 inc VAT  
Dbase III compatible high power database
- Scribble V2.0 Wordprocessor** £99.95 inc VAT  
Now includes mailmerge and spellchecker
- Analyze II Spreadsheet with Graphics** £149.95 inc VAT  
New version now much faster with integrated graphics
- Deluxe Paint II** Now in stock

### PUBLISHER "Move over Mac"

Desk top publishing for the Amiga integrates with deluxe paint, scribble wordprocessor etc. Can produce copy in both colour and black and white

Desktop Publishing Software

**£199.95 inc VAT**

PHONE FOR NEW UPDATED AMIGA CATALOGUE AND PRICE LIST

**Largest range of floppy disks and printer ribbons available in London over the counter.**

**London's largest range of games and software. Thousands of titles in stock.**

**PHONE FOR NEW CATALOGUE**

**Mail Order + Export Hot Line Phone 01-686 6362**



Delivery by Securicor (4 day) please add £5.75 per item.  
Delivery by Securicor 24 hour please add £9.95 per item.



Send off or order by 'phone quoting your Access, Visa No.  
'Phone 01-686 6362. Immediate despatch on receipt of order or cheque clearance. Or Telex your order on: 946240 Attn 19001335.



**EXPORT**

Contact our specialist export department on 01-686 6362

**EXPORT CUSTOMERS SUPPLIED TAX FREE.**

**ALSO A VAST RANGE OF DISK DRIVES, JOYSTICKS, DISK BOXES, INTERFACES, SHEETFEEDERS, ETC.**

**HI VOLTAGE** 53-59 High Street, Croydon, Surrey CRO 10D. Tel: 01-681 3022

OPEN MONDAY-SATURDAY 9 AM-6 PM

OPEN MONDAY-SATURDAY 9 AM-6 PM

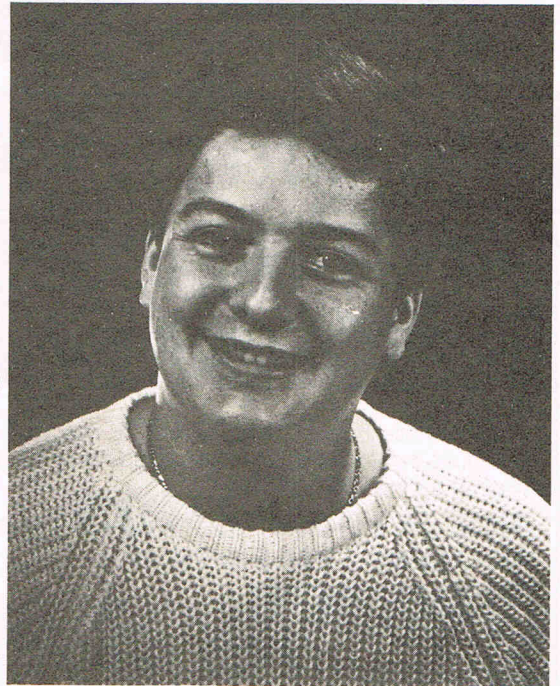
# Hello Neighbors!

Thank you for your support and concern for our software products.

I have gained much experience with microcomputer software design by acting as a consultant and custom programmer for several companies, including Tandy Corporation, Timex Computer Corporation, I.B.M., Epson American, Inc., and Panasonic Computers.

As founder of Micro-Systems Software, Inc., and the primary author of all our programs, it is now my intent to create practical and quality software for you, by devoting my full efforts to the MSS Research and Development Division.

Enjoy your Amiga!



**Steven Pagliarulo**  
Vice President

## Micro-Systems Software

### 7 Years of Quality Software and Still Growing Strong!



#### ANALYZE!

- Powerful Electronic Spreadsheet
- Full Featured Macro Language
- Graphs and Sort



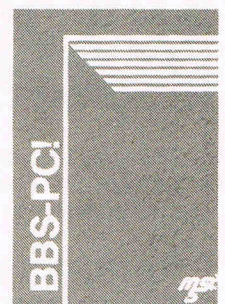
#### ORGANIZE!

- Professional Data Information Manager
- Powerful Mathematical Functions
- Reports, Files, Sorts



#### SCRIBBLE!

- Full Featured Word Processor
- Spelling Checker
- Mail Merge



#### BBS-PCI

- Electronic Bulletin Board System
- File Transfer System
- Custom Menu Creation

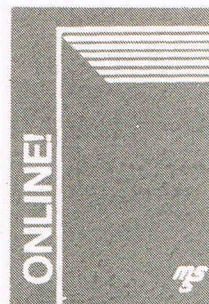
**MICRO-SYSTEMS SOFTWARE, INC.**



4301-18 Oak Circle, Boca Raton, FL 33063  
Telephone: (305) 391-5077

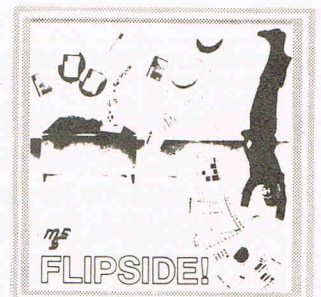
Ask for a dealer demonstration of these fine products.

For Dealer Information:  
Vision Technologies Limited  
Croydon, Surrey  
Tel: 01-760-0013



#### ONLINE!

- Full Featured Terminal Program
- Unattended Operation
- File Transfers



#### FLIPSIDE!

- Valuable Printing Tool
- Perform Wide Side Print Magic
- Print any Text or IFF File wide



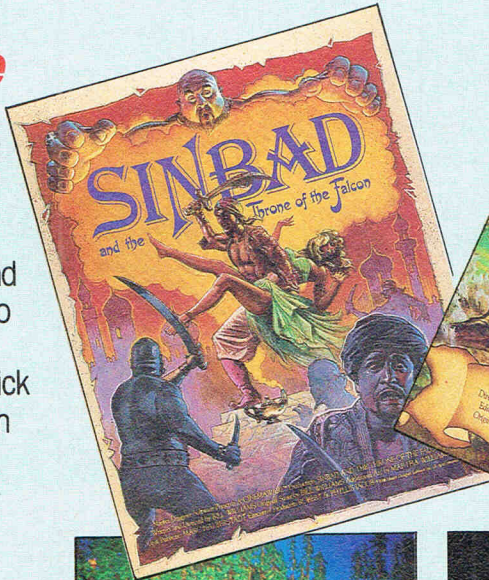
# MINDSCAPE from MIRRORSOFT

## FOR YOUR AMIGA

"Cinemaware. . . , an extraordinary and incredible use of the Amiga's graphic qualities to make a game that just leaves you stunned." Amiga User.

### Sinbad and the Throne of the Falcon

An interactive mystery and action thriller, designed to test the player's swordfighting mettle, quick wit, and ability to perform under pressure.



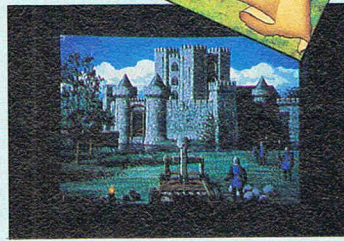
### Defender of the Crown

An interactive movie tale of brave knights, beautiful maidens, jousting, swordfights and enemy castle sieges.



### S.D.I.

A game of space combat with an exciting flight simulation, combined with romance, intrigue and heart-stopping action. And the fate of the world hanging in the balance. ▼



### Balance of Power

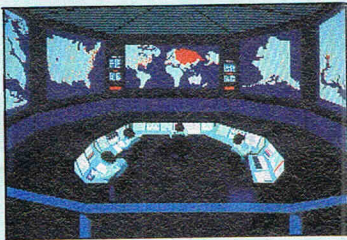
A strategy game of geopolitics in the nuclear age. ▼

### Deja Vu

Set in a sleazy underworld reminiscent of Raymond Chandler, this game allows interaction with almost everyone and everything on screen.

### Uninvited

A high resolution graphics create a compelling Gothic setting which, combined with horribly realistic sound effects and sophisticated animation, will draw you into its complex web of mystery.



Available from all good software dealers or direct from us – UK only.

Phone for latest prices 01-377 4644

I would like to order:-

- |                          |                       |        |
|--------------------------|-----------------------|--------|
| <input type="checkbox"/> | Defender of the Crown | POA    |
| <input type="checkbox"/> | Sinbad                | POA    |
| <input type="checkbox"/> | S.D.I.                | POA    |
| <input type="checkbox"/> | Balance of Power      | £39.95 |
| <input type="checkbox"/> | Deja Vu               | £29.95 |
| <input type="checkbox"/> | Uninvited             | £29.95 |

I enclose a cheque/PO No. \_\_\_\_\_  
for \_\_\_\_\_ payable to Mirrorsoft Ltd

Please debit my Access/Visa/American Express

A/c No.

Signed \_\_\_\_\_

Name \_\_\_\_\_


Address \_\_\_\_\_

Postcode \_\_\_\_\_

Tel No: \_\_\_\_\_ Date \_\_\_\_\_



Mirrorsoft Limited; Freepost (BS4382), Paulton, Bristol, BS18 5BR.



You feel very dis

## 'Sinbad and the Throne of the Falcon'

Are computer buffs sexless wonders? Are they really propeller heads who after a hard night slaving over a hot keyboard simply retire to bed and dream of printed circuits? Are they for that matter completely lacking in a sense of humour and merely interested in the more serious things of life such as databases and sub-routines. Do they have read only memories? If on the other hand, they actually relax for a while and indulge in something a little less heavyweight like games, does it have to be mindless, kill-everything-in-sight-with-the-finger-never-off-the-fire-button frenzy? Well, I can tell you one company that does not think that any of the foregoing is totally true. That company is Mindscape. It

has got to be said that when you are talking Amiga games then you are — this far in the lovely little machine's brief career — without doubt talking Mindscape. In the year or so that the Amiga has been gaining a place in the range of computers that the public can really use for life enhancing activities whatever they may be, Mindscape — not a previously lapel grabbing name to most computer users — has emerged with a certain sparkle that has made all other home entertainment software houses look pretty dull. I suppose to be fair, Electronic Arts might just be excepted from that satisfyingly sweeping overstatement. E.A. have, after all already brought out some really excellent products to grace

the Amiga's colourful screen. But I repeat, when you are talking Amiga games, you are really talking Mindscape.

One of the reasons for this is that as you will know from my frequent complaints, there are not that many Amiga games as such. Most have been quietly lifted from other formats, generally the 64. So it has not been too difficult for someone, in this case Mindscape to make an impact in such a sparse field. And it has achieved that impact with only two major games "Defender of the Crown" which you are no doubt fed up with hearing this magazine praise and now what I will predict

zy.



will be its second big success "Sinbad and the Throne of the Falcon". This another release in Mindscape's much and worthily vaunted Cinemaware series in which the graphic wonders that the Amiga does provide are beginning to be adequately if not yet excellently exploited. We still await the highly-touted 'King of Chicago' with some impatience.

It has to be said that "Sinbad" is not a "Defender" — but it does not set out to be. "Defender" was really an old fashioned strategy game, set conventionally in medieval times with some delightful moving style pictures that made wide-eyed

crowds gasp. I don't think that "Sinbad" is going to achieve the same immediate stunning effect. First because we have already seen "Defender" and we are looking for something that will put even that in the shade. Second, because, although the graphics still bear that vivid Amiga stamp they are by no means highly sophisticated or employ high technology style tricks to make us feel we are watching something excitingly new as it must be admitted did "Defender".

Sinbad might indeed have been written on another less complex or advanced computer. Much of the "action" take place with relatively still graphics, and the techniques used — answering questions from a



multiple choice are as old as adventure games on any computer. However, it's clear that the creators of "Sinbad" have set out to build something else. They have I believe succeeded in writing what is really the first graphic adventure for the Amiga and with the lack of interesting games software about, they will probably reap a rich harvest for their efforts.

For "Sinbad" clearly contains one element that will make it popular

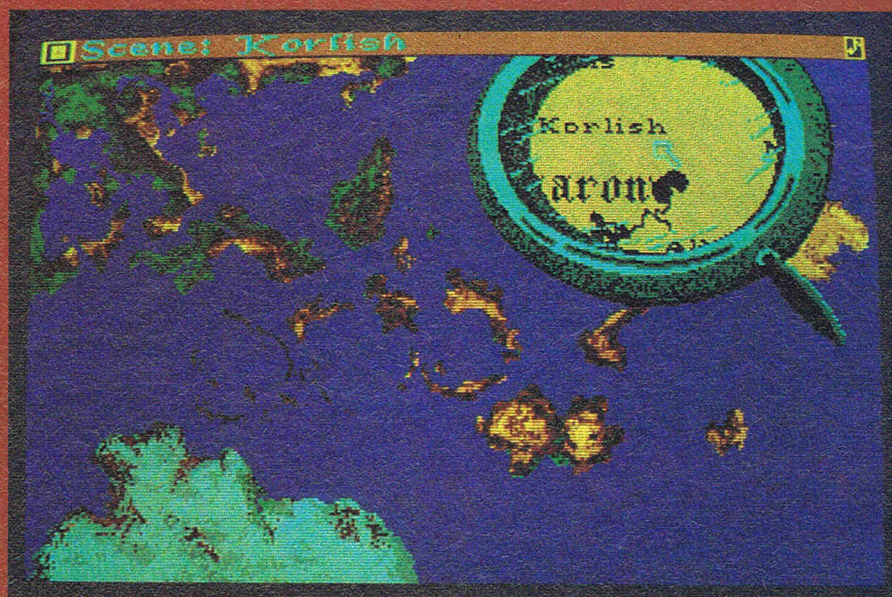
Sinbad continues here...

among almost every age group. It is fun. Further, although its graphics are not highly sophisticated and it gives the appearance of an almost children's book style presentation, it is not at all easy to complete. The cartoon-like pictures can easily fool you into thinking that it is going to be a pushover to complete. It isn't. And I think a great many people are going to get a great deal of pleasure trying to work out exactly what you, as Sinbad are seeking and the complicated way you have to travel to find it.

In Sinbad, you find yourself in some mythical land that just might be the site of the Arabian Nights. You have a ship and you must travel on some mysterious quest, gathering a crew as you go. As you reach different ports of call — you select them for a changing menu — you are allowed to speak to certain characters: Prince Haroun, a Princess, Libertina, a Mysterious Gypsy and so on. They will have conversations with you, through cartoon style bubbles which you can answer from the multiple choice menus. These conversations are always the same when you meet the same characters

in different places but there is a certain order of question and answer that you must discover, probably by trial and error, that will lead you on through to the heart of the mystery.

the sexes. The scenes with the Gypsy girl can end — if you make the correct responses — in some literally burning kisses that with Amiga graphics are going to cause quite a sensation.



Interspersed with these conversations are a number of apparently random attacks on you by swordsmen or pterodactyl-like birds. You have arcade style actions to perform to beat off these either with what looks like a scimitar or a cannon respectively. If you lose in this or other cases, things go badly for you and either your or your beloved Princess are slain and back you go to the beginning. Although pleasingly you are memorialised in a tapestry.

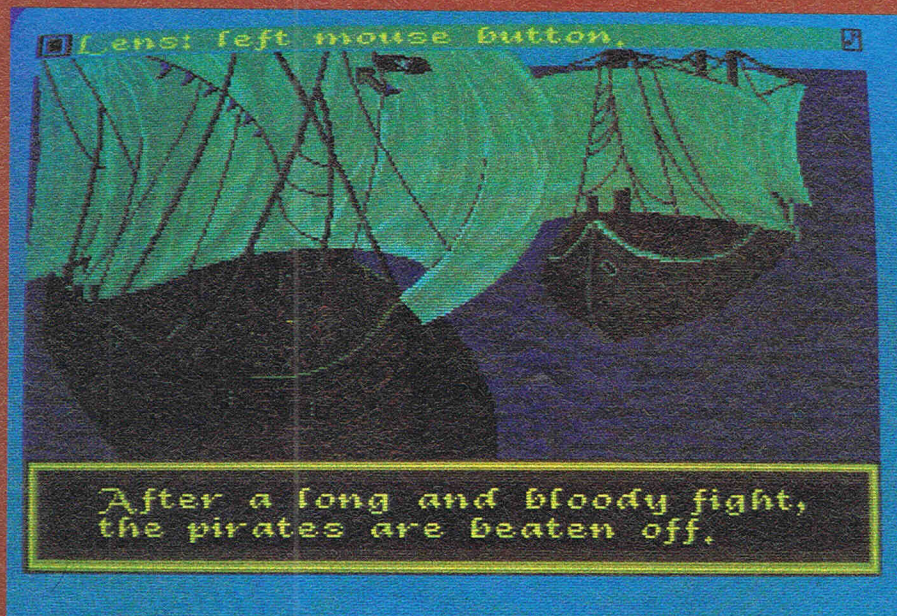
This whole adventure is very far from as simple as it seems. It also has a quite humorous turn to its conversations and an agreeably adult approach to the attraction of

I have deliberately not revealed too much of what the game is about. I am not sure how much anyone will enjoy it once its secrets are fully understood. I personally find that the game continues to be a challenge, for it offers, I am sure, a variety of different ways to achieve the same final result which are worth searching for in their own right. I also believe that as a game, "Sinbad" is probably better or at least more enjoyable than "Defender". I like its exotic feeling which I find more attractive than the coarseness of medieval England. I like its humour which was not highly noticeable in "Defender". I think that "Sinbad" being a touch sexy is not likely to be a put-off either.

My bet is that the Amiga 500 will get out in substantial numbers before the software houses, especially the games companies, will have really got to grips with the potential of the 16 bit blitter blasters that could really take the 68000 games market by storm. So "Sinbad" will gain a substantial market and please a lot of people who are just beginning to appreciate the delights of the mouse driven powerhouse that is standing there on the table just waiting to amuse them. As an Amiga product, "Sinbad" is not going to dazzle like an exploding super nova, but it does offer some tremendous fun. Can even a technomad, keyboard basher really turn that down?

Mindscape £49.95

Z.M.S.





# Expansion Memory Without The Wait.

## Introducing *Alegra*: The Amiga™ Memory Expansion Unit from Access Associates.

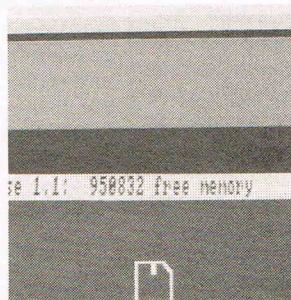
### 512 K now.

Now you can add 512K bytes of external memory to your Amiga. In the smallest package available, a footprint only  $\frac{3}{4}$ "-wide. And Alegra's no-wait-state design lets your Amiga operate at its intended speed. No delays. With Alegra you get the benefit of fast memory at a surprisingly economical price. AND, BEST OF ALL, IT'S AVAILABLE NOW.

### Upgradeable to 2 MB later.

If you'll need 2 MB of memory in the future, Alegra is still the right choice now. Our 2 megabyte upgrade (using 1 megabit DRAMs) will give you the memory you need in the same compact package.

Ask for Alegra at your quality Amiga dealer.



Total system memory is approximately 1 meg with the addition of our 512 K Alegra (depending on specific hardware configurations).

### **ACCESS ASSOCIATES**

491 Aldo Avenue  
Santa Clara, CA 95054-2303  
408-727-8520

# SCRIBBLE! VERSION 2.0

I first reviewed this word processor for the AMIGA in the August 1986 issue of **Commodore Business and Amiga User** together with **Textcraft**. Since then I have continued to use **SCRIBBLE!** as my AMIGA word processor without any problems and as time has gone on I have begun to fully appreciate the strengths of this hardware/software combination. For example, the instantaneous reformatting of documents — the use of on-screen fonts to considerably enhance the final design of documents — the very powerful ability to cut and paste between windows and not least the overall operational speed. It is no exaggeration on my part to state that **SCRIBBLE!** has paid for itself in terms of increased throughput. I mentioned in the previous review that the requirements of authors and journalists are very different from those of a secretary and this product is one of the very, very few word processors that can cater for either group of user.

In the short space of time that has passed since I first obtained **SCRIBBLE!** (July 1986), Micro-Systems Software Inc., the originators of this product have not been idle and an updated version (Version 2.0) arrived through the Donald letter box. This version makes up for the deficiencies apparent in Version 1.01, namely a **spelling checker** and **mail merge** facility. The former is obviously of great value to persons such as myself who tend to produce large columns of text whilst the mail merge would be of interest to commercial users whose output tends to be repetitive in nature. There are some additional features too.

My own AMIGA system now contains 40Mb hard disk, 2.5Mb RAM, an 8.0MHz 68010 processor together with the software developers version of version 1.2 of Workbench, must qualify me as a *power-user*, so any software is likely to have a serious workout in addition to testing compatibilities with the 68010. This version of **SCRIBBLE!** in common with its predecessor had no problems and installation onto the hard disk proved painless. In particular I looked for compatibility with files created under the earlier version and it was a considerable relief to find that these were not

chewed-up or mangled, a contrast to conditions which seems to be accepted practice in software updates in the MS-DOS world.

## Dictionaries

The spelling checker consists of two dictionaries — a main dictionary and a user dictionary named **USERDICT**. The main directory consists of 40,000 words which provides an ample platform for users to start with. The spelling facility can be controlled down to an individual word, window or a complete document and is accessed from an additional menu strip on the screen bar. **USERDICT** can be optionally merged with the main dictionary to customise the latter to your own requirements or left as a strictly personal dictionary. One of the benefits of merging the dictionaries lies in an enhanced speed of checking future documents as the software does not have to search through both dictionaries.

In addition to the usual spelling checker options of ignoring the word, learning it or editing the spelling, this spell checker will also provide a display of the next few words in the dictionary. For example, if you requested the software to **guess** the word *considerable* — the spelling checker would display in addition to *considerable*, the words *considerand* and *considerably*. The spelling checker is able to recognise the **root** of a word. Operation of this part of **SCRIBBLE!** is fast — used with a hard disk it is usually a case of the system *waiting for you* rather than the other way around. To give you some indication of how fast **SCRIBBLE!** actually is I requested a word count of a document containing circa 94,000 words — it took *less than 3 seconds* and this also included the total number of characters! The only two items I would like to see now are the inclusion of a thesaurus and user access to the main dictionary for deletions and word manipulations using character *wildcards*.

## Mail Merge

The other main addition to this version

of **SCRIBBLE!** relates to the **mail-merge** facility. Mail-merge allows the creation of standardised text to be linked with another word processor file. Thus a letter which was to be sent to many respondents would be typed once with the names and addresses held on a separate file which could be a database or spreadsheet. By calling up the **mail-merge**, the software would read the text (in this instance names and addresses) into the letter document and then print this out. The process would repeat itself until all the names and addresses had been read and printed out.

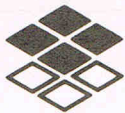
However, **SCRIBBLE!** allows more than just a simple *read variable* as these are termed — there are also *set variables* and *ask variables*. A *set variable* will insert an unchanging piece of text into the main document in several places, for example the current date or a product reference number. An *ask variable* causes the process of merging to pause and the user is prompted for a response. The text of the prompt is that which is defined in the *ask variable*. For example, this could be a request for the signatory's name or department. Another use for *ask variables* could be in response to filling in a form by unskilled users. The potential is enormous and simply a matter of using your imagination.

The other enhancements to **SCRIBBLE!** include improved system performance under version 1.2 of the Workbench additional commands using the special AMIGA keys, single word deletion, true backspacing and improved visual displays during file handling. These are just some of the many differences between version 2.0 and the earlier version of **SCRIBBLE!** Micro-Systems Software have *made a good word processor into a GREAT word processor* for the AMIGA.

B.D.

Supplier: Micro-Systems Software Inc.  
4301-18 Oak Circle, Boca Raton FLA.  
33431 USA

UK Distributor: Precision Software Ltd,  
6 Park Terrace, Worcester Park Surrey  
KT4 7JZ. Tel: 01 330 7166.



C Compilers,  
Development Tools

# Lattice

## New Lattice Amiga C Compiler

A major new release of Lattice C for the Amiga is now available from Roundhill. Version 3.1 includes an enhanced C compiler, a full macro assembler, and a new, faster and more efficient linker. The library has over 255 functions (over 100 more than standard Amiga C), with many more functions written in assembler for efficiency, faster IEEE floating point routines, support for Amiga FFP floating point, and multitasking support via *fork* and *wait*.

The compiler is delivered as a two-disk package with a bootable system disk to simplify installation. A single command line can be used to execute the compiler, linker and librarian (with AmigaDOS wildcard characters).

New compiler features include direct support of memory type specification, custom segment names, and new addressing modes that can help reduce load module size by more than 20%. The linker will support intermixed base-relative and pc-relative addressing modes.

A Professional Developer's Package is also available, which includes the new Compiler, Lattice's LMK *make* utility, Lattice Text Utilities and Screen Editor, and the Metascope symbolic debugger from Metadigm. Metascope is also available separately.

We can upgrade your existing registered copy of Lattice C to the new version. Please call for full information.

Roundhill Computer Systems Limited  
Axholme, London Road,  
Marlborough, Wiltshire SN8 1LR  
(0672) 54675



HB Marketing Ltd.,

**SERVICE  
SUPPORT  
RESPONSE**

## AMIGA Dealers:-

Contact us for all your  
Software and Hardware  
Peripheral Needs.

We stock a comprehensive  
range of product for the  
A500, A1000 & A2000  
Amigas,  
including:

*We are the authorised distributor  
to the Amiga dealer network for  
the Polaroid Palette Slide  
Production system.*

Dynamic CAD	Flight Simulator 2
Absoft A/C Fortran	Defender of the Crown
Absoft A/C Basic	Digiview
Scribble 2	Micro APL 68000
Organise	Metacomco Pascal
Analyse	Metacomco Lisp
Softwood File 2	Metacomco Shell
Mi Amiga Ledger	Metacomco Toolkit
Deluxe Print II	Modula 2
Deluxe Video	Textcraft
Aegis Range	TV Text
Lattice C 3.1	Zuma Fonts
Faery Tale Adventure	Imprint

*Reserve your copies of Faery  
Tale Adventures ready for your  
A500 sales.*

*Haba*  
Haba Systems Ltd.,  
Call for a dealer pack

Pier Road, North Feltham Trading Estate,  
Feltham, Middlesex, TW14 0TT  
Tel: 01-844 1202 Telex: 934689 HABA G

Export enquiries welcome

# Amiga SUPERBASE Personal

The long and anxious wait is over and Precision Software's blockbuster SUPERBASE is now available for the AMIGA. This is the second applications software release from a leading British software house and in each case the wait has been worthwhile. Make no mistake, SUPERBASE is destined to make its mark in the AMIGA world for it is very much a well disguised wolf in sheep's clothing. The version of SUPERBASE for the AMIGA is far removed from its namesake on the 8-bit generation of Commodore machines. Not only is it extremely fast in operation but SUPERBASE imposes very few limitations on the user in terms of sizes of fields, records and databases. Indeed, in common with its predecessor any such limitations are at the hardware level and it is memory and storage space availability that define the boundaries and not the software. Examining the published specifications and seeing figures like 16 million records/file, 999 indexes/file and no limits on the number of files/database or files/record seem to bear this out. The other major feature of SUPERBASE is that it is now a fully *relational database* — which means in simple terms that **any** SUPERBASE or ASCII file can be accessed and used irrespective of where it is located.

The product is supplied on a single disk together with a dongle and a manual that runs to over 200 pages. The dongle fits into Port 2 and is used during the loading cycle; the dongle supplied with LOGISTIX can replace the SUPERBASE during actual use, but not during loading. In any event I found both dongles to be totally innocuous on my system and I only wish other software houses would adopt this approach when they feel that software protection is necessary. The manual is written to the usual exemplary standard under the guiding hand of Dr. Bruce Hunt, an acknowledged SUPERBASE expert and provides the range and depth we have come to expect from Precision Software product manuals. There are three main sections and no less than six appendices — the first section is a familiarisation with SUPERBASE, the second section

serves as the core of the manual in terms of using the product and also provides no less than **three** tutorials! The final section functions as a quick reference guide to SUPERBASE. In the appendices are lists of error messages, ASCII codes, reserved words, etc., as well as details of the forthcoming SUPERBASE Professional product. This features a complete programming language, word processor and applications builder. In the selected direction very quickly and when I say quickly I mean like fast.

Looking at the menu structure there will be many database users particularly 8-bit SUPERBASE users wondering what half these functions are for. If you are new to relational databases then the feeling of bewilderment is probably quite natural. However, the manual covers these points with both clarity and examples and after a few hours use you begin to appreciate the width and depth of this software. The first point that strikes the newcomer is ease of constructing a database. This brings into effect the many requestor panels which are very simple to use, in most cases rendering the presence of the manual unnecessary. Error trapping on these panels is fundamental to the whole system and I found it impossible to get the software to fall over by attempting to input character data into a numeric field. Everything other than actual data entry within SUPERBASE is founded on the use of the mouse. This makes for some very slick operation by an experienced mouse user and once more the robustness of the software is checked by keeping ahead of the screen with the mouse.

The cassette or *control* buttons as Precision term them are organised as follows:

currentnext previous fast pause rewind  
record record record forward

first last stop key lookup filter  
record record record record set file

There are two major benefits stemming from the use of a cassette recorder interface. The first is the simplicity since all users will be aware of the basic functions of these, thus the product learning curve is quite short. The second benefit lies in ten speed of operation — press the *rewind* button and the file is scrolled

The front-end of SUPERBASE employs the familiar mechanism of a cassette recorder. Thus we have such components as fast-forward, rewind, playback all encapsulated in a row of buttons at that base of the screen. At the top of the screen the reassuring menu bar reminds the user that INTUITION forms the other component of SUPERBASE. The basic menu structure appears as follows:

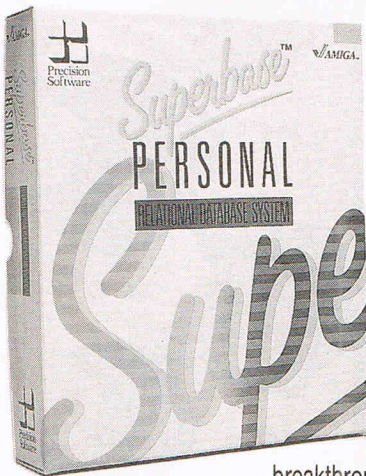
Project	Record	Process
New		New
File	Edit	Query
Index	Duplicate	Remove
Open	Remove	Import
File	Save	Export
Fields		Print
Index		Labels
Query		
Close		
File		
Fields		
Edit		
Save		
File		
Query		
Remove		
File		
Index		
Quit		

The range of control over the data given by SUPERBASE is highly detailed. Data can be displayed in either *tabular*, *record* or *form* views with complete control over the number of fields to be



# The Best in Amiga Software from Precision Software

## SUPERBASE PERSONAL



Designed to take full advantage of the Amiga Intuition interface, **Superbase Personal** is a real breakthrough in ease of use. Use the

VCR style controls to view your data — fast forward, rewind, pause or stop — it's easy as playing a tape. Yet **Superbase Personal** is a full relational system for selecting and reporting information from multiple files, giving you the power to handle any data management application. You can even include pictures!

**Superbase Personal**

**£149.95**

## PAGESETTER AND LASERSCRIPT

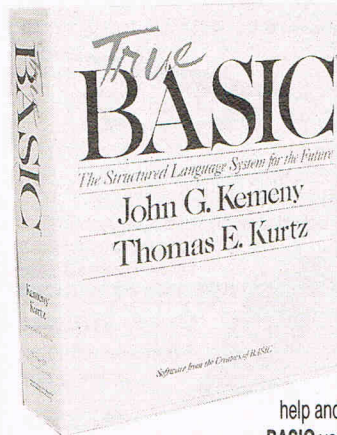
With **PageSetter**, the leading Amiga desk top publishing software, you can mix graphics and text in a variety of styles and fonts to create professional quality reports, forms, newsletters, flyers and more! **PageSetter** includes built-in text and graphics editors, and can also work with text and graphics produced by other programs. **PageSetter** comes with an extensive library of drawings and illustrations. **LaserScript** is an optional PostScript-compatible module enabling output to a wide range of laser printers.

**Pagesetter £149.95**

**LaserScript £39.95**



## TRUE BASIC



For fast, portable, compact BASIC you need **True BASIC!** Developed by Kemeny and Kurtz, the original inventors of BASIC, **True BASIC** offers full portability across Amiga, MAC and IBM PC. **True BASIC** follows the ANSI standard for advanced BASIC, supporting control structures like SELECT CASE and nested IF-THEN-ELSE. Other features include matrix maths, on-line syntax checking, multi-window full-screen editor, on-line help and 2-D graphic transformations. With **True BASIC** you can select from an expanding range of optional programming libraries, including 3-D graphics and advanced string functions.

**True BASIC Language**

**£149.95**

**True BASIC Runtime System**

**£149.95**

**Language plus Runtime**

**£249.95**

**Programming Libraries, each**

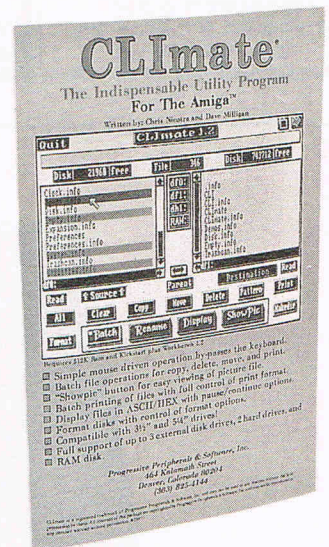
**£49.95**

## CLIMATE

**CLimate** is an indispensable Amiga utility, giving you the power to perform CLI operations under mouse control. **CLimate** includes batch operations for copying, deleting, moving and printing groups of files, with full control over print format. You can display files in ASCII or HEX and format disks with full control over formatting options. **CLimate** also includes a "showpic" button for easy viewing of picture files.

**CLimate**

**£34.95**



Available from your local dealer or directly from  
**Precision Software Ltd., 6 Park Terrace,  
 Worcester Park, Surrey KT4 7JZ**  
**Telex: 8955021 Precis G Tel: 01-330 7166**  
**Fax: 01-330 2089**

**Dealer enquiries welcome!**

**All prices are inclusive of VAT**

**ORDER FORM** Mail to: Precision Software Limited, 6 Park Terrace,  
 Worcester Park, Surrey KT4 7JZ

Please send me  Cheque enclosed  Visa  Access / Mastercard

Postage and packing free in UK

Signature \_\_\_\_\_

\_\_\_\_\_  
 (Credit Card Number)

\_\_\_\_\_  
 Expiry Date

\_\_\_\_\_  
 Name

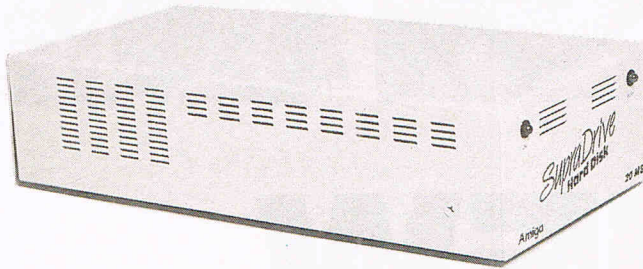
\_\_\_\_\_  
 Address

\_\_\_\_\_  
 Postcode



# The Best in Amiga Peripherals from Precision Software

## SUPRA HARD DRIVE

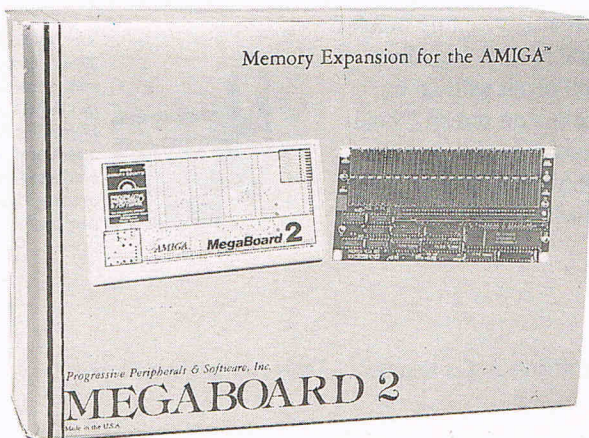


At last! A fast, reliable range of Amiga hard drives. Available with 20 or 60 MB capacities, the **Supra Drive 4x4** features a real-time clock with battery back up for time and date retention, a SCSI expansion port to connect another hard disk, and the capability to expand your system's RAM memory. The drive plugs onto the Amiga's bus expansion connector and incorporates a proprietary interface for burst data transfers of over 250 KB/sec. Other bus devices can also be connected.

**Supra 20 MB Hard Drive**  
**Supra 60 MB Hard Drive**

**£699!**  
**£1399!**

## MEGABOARD 2

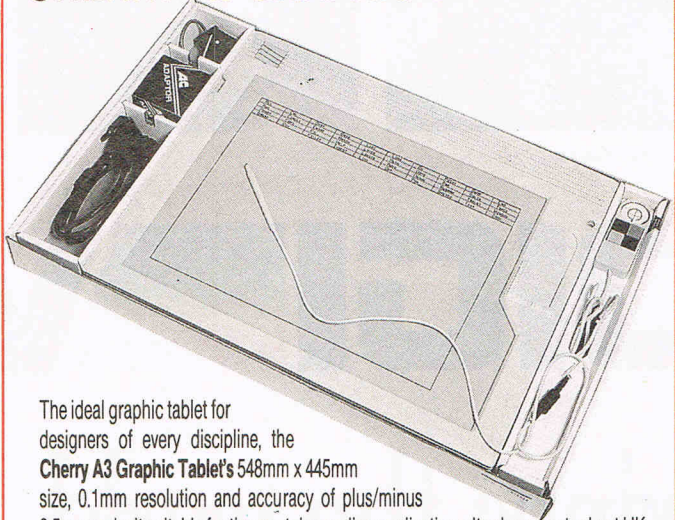


**MegaBoard 2** is a reliable new low-cost 2 MB RAM expansion unit which plugs onto the Amiga's bus expansion connector. **MegaBoard 2** comes fully populated and can be auto-configured with AmigaDos Version 1.2. One of the fast RAM units available, **MegaBoard 2** allows better use of memory oriented software — Aegis Animator, Draw Plus, Deluxe Videc, etc — and RAM disk for fast copying and handling.

**MegaBoard 2 MB RAM Expansion**

**£449!**

## CHERRY A3 GRAPHIC TABLET

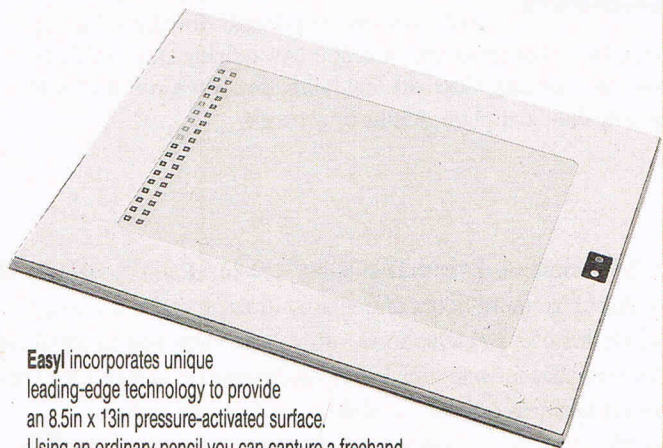


The ideal graphic tablet for designers of every discipline, the **Cherry A3 Graphic Tablet's** 548mm x 445mm size, 0.1mm resolution and accuracy of plus/minus 0.5mm make it suitable for the most demanding applications. Its elegant yet robust UK design includes both lightweight pen and "puck" with 4 colour keys and crosswired lens. The proprietary Mouse Driver software enables the Amiga cursor to be driven using either pen or puck, with the puck buttons emulating Amiga mouse buttons and screen front/back gadgets.

**Cherry A4 Graphic Tablet with Amiga Software**  
**Serial Port Gender Changer for use with A1000**

**£580.39**  
**£14.95**

## EASYL PRESSURE-ACTIVATED DRAWING PAD



**Easyl** incorporates unique leading-edge technology to provide an 8.5in x 13in pressure-activated surface. Using an ordinary pencil you can capture a freehand drawing or tracing with superb accuracy directly onto the Amiga screen. **Easyl** performs with such popular programs as Deluxe Paint II and PageSetter. You can draw with whatever colour, line width and brush your software permits. **Easyl** comes complete with AmigaDos 1.2 compatible driving software and connects to the bus expansion port.

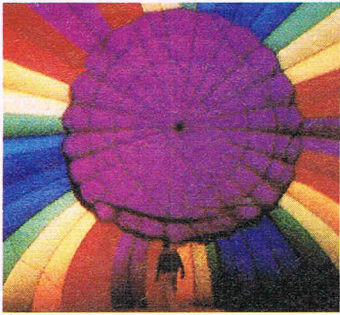
**Easyl Drawing Pad**

**£399!**



Available from your local dealer or directly from  
**Precision Software Ltd., 6 Park Terrace, Worcester Park, Surrey KT4 7JZ**  
Telex: 8955021 Precis G Tel: 01-330 7166 Fax: 01-330 2089  
Dealer enquiries welcome!

All prices are exclusive of VAT



Actual unretouched photos

# DIGI VIEW

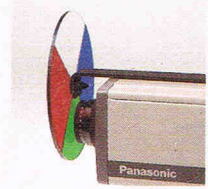
## brings the world into your Amiga!™



With **Digi-View** and a video camera, your **Amiga** can see! Faces, logos, artwork . . . anything you can imagine! Simply point your camera and click the mouse. In seconds, whatever the camera sees is painlessly transformed into a computer image that can be printed, stored on disk, or transferred to other programs. Imagine how quickly and easily you can generate stunning video art and animation when you start with high quality digitized photographs or artwork.

transferred to other programs. Imagine how quickly and easily you can generate stunning video art and animation when you start with high quality digitized photographs or artwork.

Sophisticated software included with **Digi-View** makes it easy to produce dazzling, broadcast-quality color images. Intuitive, on-screen controls are as easy to use as the knobs on your T.V. set. **Digi-View** can capture images in several modes, including 320x200 pixels with up to 4096 colors on screen ("hold-and-modify" mode), and the incredibly detailed 640x400 high resolution mode.



The key to **Digi-View's** incredible color resolution is this color separation filter which attaches to your black-and-white or color video camera.\*

- IFF disk format works with Digi-Paint™, DeluxePaint™, DeluxeVideo™, DeluxePrint, Aegis Images™, Aegis Animator, and more!
- Saves time! No more hours of freehand drawing and redrawing.
- Send photos over the telephone with your modem and terminal software.
- Capture images for scientific image processing or pattern recognition.
- Spice up business graphics — slide show program included.
- Incorporate photos in posters and greeting cards.
- Use **Digi-View** pictures in your BASIC programs.
- Catalog images with IFF database programs.
- Make red/blue 3D photos.
- A powerful tool for commercial graphic artists!

Panasonic WV-1410 video camera w/lens . . . . . \$280  
CS-1L Copy stand w/lights . . . . . \$ 75



### Only \$199.95

includes video digitizer module, color separation filter, software and manual.

Orders Only (800) 843 8934  
Customer Service (913) 354-9332

# NEWTek

INCORPORATED

701 Jackson • Suite B3 • Topeka, KS • 66603

Amiga is a trademark of Commodore-Amiga, Inc. Digi-View and Digi-Paint are trademarks of NewTek, Inc. DeluxePaint, DeluxeVideo, and DeluxePrint are trademarks of Electronic Arts, Inc. Aegis Images and Aegis Animator are trademarks of Aegis Development, Inc.

\* Digi-View software version 2.0 (or newer) required to use color camera. For maximum resolution use monochrome camera with 2.1 interlace. High-res color modes require 1 Meg expansion RAM.

included and their length. Since SUPERBASE is a full relational database, fields from other database files can be included at the same time and this new file so created can then be displayed, printed out or saved to disk. Records displayed in *table* form can have a width of 255 characters which equates to three full screen widths. Scrolling across is done by an INTUITION scroll-bar at the base of the screen. This form of display is useful in situations where a large number of records needed to be looked en masse and complete screens can be refreshed by using the *paging* option.

```

DesignedBy <          > Year <          >
FireboxLen <          >
  FboxSurface < > TubeSurface < >
  HtngSurface < > GrtSurface < >
BarrelLen <          >
  TubeDimn <          > BoilerDimn < >
  TubeNo <          > DiagramNo < >
    Pitch <          >
external CylinderNo <          >
  Motion <          >
  CylDim <          >
BuiltAt <          >
  
```

Alternatively, fields can be left out of the *forms* display where a record has large number of attached fields — the emphasis is firmly on flexibility when using SUPERBASE. This type of display is also used for data entry, thus the creation of customised forms is a

doddle. In fact, one method of operating your database could be to have a master file ready with every single field you are likely to need and to draw from this as and when necessary.

This facility of being able to draw in data from other database files without going through an import/export procedure whereby the data is converted into ASCII, is the difference between a *relational* database and a *flat-file* database.

The *query* function lies at the core of SUPERBASE and is by far and away the most sophisticated function available to the user from the menus. It provides the means of producing very closely controlled formatted output from one or more files to a high degree of visual presentation. Query output can be sorted in any order and include several fields within the *order* part of the query. Thus many levels of grouping and subtotals in ascending or descending order are feasible — I warned you that SUPERBASE was powerful! The output from query can then be directed to screen, printer, ASCII disk file or new database file.

```

CylinderNo < > Cy1Dim < > Motion < >
BoilerDimn < > Pitch < > BarrelLen < >
DiagramNo < > FireboxLen < >
FboxSurface < >
TubeNo < > TubeDimn < >
TubeSurface < >
HtngSurface <          > GrtSurface <          >
BoilerPress <          >
BuiltAt <          > Year <          > DesignedBy <          >
  
```

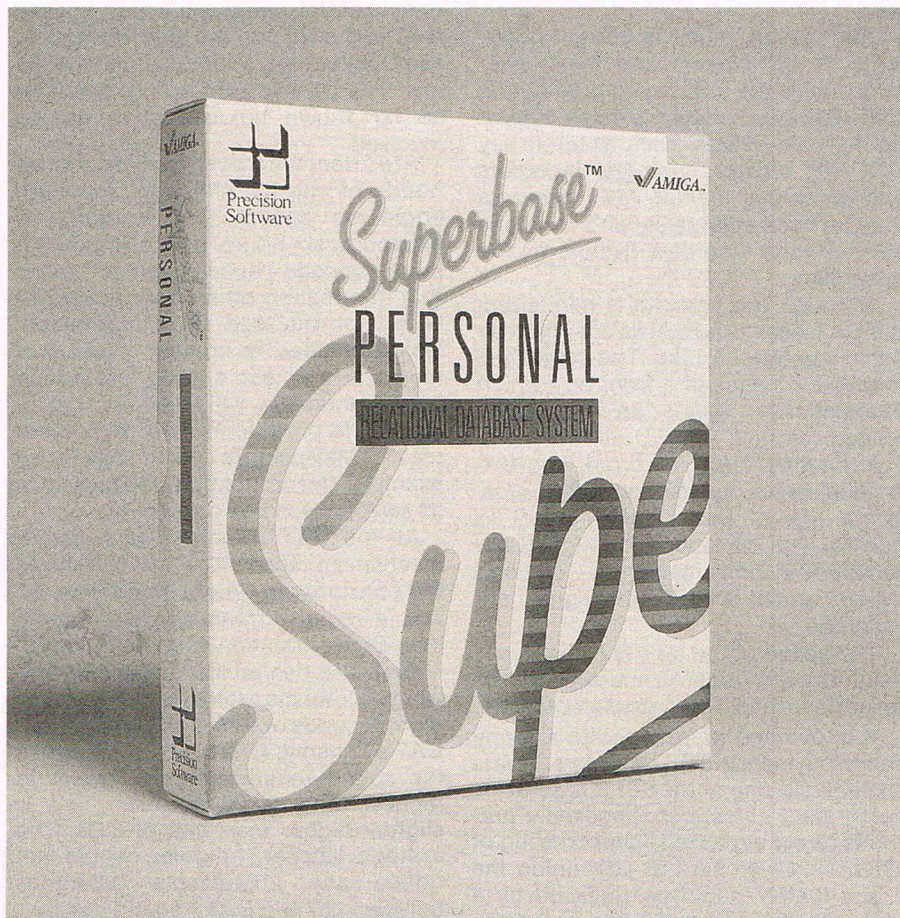
In addition to purely character and numeric data SUPERBASE can handle visual data in the sense of video captured or drawn images. This allows the user to build a pictorial database and use the picture to enhance an existing database containing factual data. I need hardly state the applications that such a facility offers — I will leave that to the imagination of the reader. But such an option places SUPERBASE at the forefront of database technology on a personal computer. From my own position as a technical writer, I can now cross-index my articles with a picture of the hardware item being discussed. This is another tangible benefit from the establishment of a defined file format (IFF) for the AMIGA. I suppose the next step would be to have an audio equivalent, for example a voice database. Not only would a personnel record have details of the person, but you could view a picture of him and hear his voice!

Unfortunately on this occasion space precludes any further examination of the facilities offered by SUPERBASE. There are many other aspects to this product such as password protection of files, multiple settings for date display, input data range checking, label control and definitions — it would take up the rest of this magazine issue! It is obviously essential to see a demonstration of SUPERBASE. One word summed up this product — **power**. SUPERBASE has brought the power of relational databases from the minicomputer level to that of the personal computer. Not only that, but Precision Software have also made the very important translation in terms of both operation speed and ease of use with complete success — this is no mean achievement in itself.

Precision Software have put a lot of resources behind this product, in both development and technical support. I was pleased to be invited to take part in the beta testing of SUPERBASE and so I know a little of the effort that went into getting the product right first time. To my mind all of this effort has succeeded and not only is SUPERBASE the first fully relational database to be launched for the AMIGA, it is probably the **definitive AMIGA database**. Precision Software have clearly come up with yet another winner.

Price: £130.39 + VAT

B.D.



**Supplier: Precision Software Ltd, 6 Park Terrace, Worcester Park, Surrey KT4.7JZ. Tel: 01-330 7166.**

# DAT — Recording Revolution

Sony, Matsushita, Aiwa, Sharp, JVC... names that dominate the consumer electronics world. Japanese companies, these and others, now control 90% of world consumer electronics. MSX apart, when they decide to bring a new product to the market, they rarely fail. DAT — Digital Audio Tape (see CCI April) looks like being the next major step in the entertainment business and may have effects elsewhere, such as computing, too. Aiwa has called it 'The greatest technical advance in the history of home sound recording' — a phrase to strike fear in the recorded music industry.

As the word digital suggests, DAT recorders use the binary language of computers to store and reproduce sound, a system which is almost completely immune to distortion, noise and imperfections. The result is music reproduction which equals or surpasses the quality of compact discs. But DAT can also erase and re-record. It is this ability, according to the music industry, which would allow wholesale copyright infringement and undermine the music business.

DAT machines should reach Europe and the US by the autumn of this year. At present they are to cost around £800 (\$1150). That is thought to be a temporary price and likely to fall quickly to the present cost of CD players — around £175 (\$280).

Like video cassette recorders, DAT players have a rotating head which reads the tape, VCRs read videotapes. Its cassettes which are about half the size of conventional compact cassettes, look like any tiny video cassettes they are almost entirely enclosed by their plastic case. The tape itself is based on the same magnetic metal powder

material used in conventional cassettes.

Although the close-box design of the cassette will protect it from fingers and dust, DAT by nature is more vulnerable to deterioration than the compact disc (CD). This is because the DAT player's rotary head is in constant contact with the tape while compact discs are touched only by the laser beam which reads the pre-recorded music on the disc.

This reason, plus the current popularity of CD players and their lower price, leads the industry to predict that DAT will not supplant CD sales, at least not for many years. Manufacturers say DAT will replace analogue recorders and widen that market. Aiwa forecasts that DAT will enlarge Japan's domestic sales of tape recorders fivefold by the mid-1990s.

Although the cassette is mini-sized, the DAT deck is not. Aiwa's is 43cm by 42cm and weighs 11kg. The cassette is loaded by means of a front tray which automatically rejects an improperly loaded cassette.

A rotating head, or drum, has two smaller heads located on either side. When one of these heads is not in contact with the tape, audio signals are retained in the machine's memory. When contact is made, the signals are recorded.

The speed of the tape is 8.15mm per second, which is about one-sixth that of an ordinary analogue compact cassette.

It is planned to incorporate a "copy inhibit" system in DAT recorders. This is included in one of the LSI (Large Scale Integrated) chips and supposedly prevents direct digital to digital copying of CDs. However the LSI containing the 'copy inhibit' could be replaced by a different chip and nullify the inhibition.

Sony is already putting into production a DAT duplication system to allow up to 50 slave DAT recorders connected to a CD mastering system.

The international music industry already under substantial pressure as the home duplication of cassettes reaches horrendous proportions — reputedly 5 cassettes for every one sold — is fighting what looks to be an unsuccessful rearguard action against DAT in the US and the EEC. It wants to see 'spoilers' not inhibitors included by law. The US and EEC authorities have so far shown no interest in getting involved.

At present the cassette will record two hours of music, although Japanese engineers expect that capacity to expand to six hours. DAT also offers a large subcode capacity, which means that information other than music can be put on the tape. This information, which includes the number of pieces of music and where a song or speech begins and ends, will allow the user to do simple programming of his or her tape. Matsushita's machines, for example, can programme and play up to 99 selections in any order of play.

All the DAT machines also have a mechanism called Skip ID, which allows the consumer to programme a tape of, say, a radio programme, by skipping over all the narration and commercials.

DAT also has an intro-play function, which allows the listener to hear the first eight seconds of each song on the tape. DAT's dynamic range, which measures the sound range from the lowest to highest tone, is 90 decibels. This is slightly higher than that of CDs. The average listener, however, would not notice any appreciable difference between CD and DAT's sound quality.

A.M.



## THE AMIGA SPECIALIST

- ★ A500 AND A2000
- ★ FULL RANGE OF PERIPHERALS
- ★ FULL RANGE OF SOFTWARE
- ★ RGB CONVERTERS
- ★ ONSIGHT MAINTENANCE FOR A2000
- ★ TRAINING COURSES

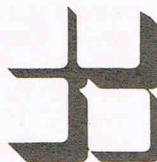
Phone for details  
**TRIANGLE TELEVISION**  
130 BROOKWOOD ROAD  
LONDON SW18 588  
Tel: 01-874 3418



153 Bridgeland Ave., Unit #5  
Toronto, Ontario Canada. M6A 2Y6  
(416) 787-0617

**STOP PRESS . . . COMSPEC'S  
AX2000 2 MEG RAM EXPANSION  
DOWN IN PRICE . . . NOW ONLY  
£519! . . . CALL . . .  
(+ VAT)**

... UK DISTRIBUTOR



Precision Software Ltd.  
6 Park Terrace  
Worcester Park  
Surrey KT4 7JZ

**01-330 7166**

## JUMPDISK THE MONTHLY AMIGA MAGAZINE ----- ON DISK -----

EVERY ISSUE HAS AT LEAST TEN READY  
TO RUN PROGRAMMES AND TEN ARTICLES  
THE MAY ISSUE IS NOW AVAILABLE IN THE UK

THIS MONTH'S PROGRAMME HIGHLIGHTS INCLUDE  
PULLDOWN MENU MANAGEMENT FOR BASIC PROGRAMMES  
KNIGHTS TOUR: THAT ANCIENT PUZZLE  
CYCLES: ARCADE GAME

PLUS BALLISTICS: FOR RELOADERS AND MANY MORE

IN THE ARTICLE SECTION WE PROVIDE AN AMIGABASIC  
QUICK REFERENCE CHART, EXPLAIN HOW SEEILBM-SHOWILBM  
WORK AND LOOK AT THE ART FORM OF ICONOGRAPHY

ALL ARTICLES MAY BE PRINTED, SPOKEN OR  
READ FROM SCREEN

# £8.50

PLEASE SEND CHEQUE OR MONEY ORDER MADE PAYABLE TO:  
GEORGE THOMPSON SERVICES LTD., OLD REIGATE ROAD,  
BETCHWORTH, SURREY RH3 7DR. TEL: 073 784 4675

PRICE INCLUDES VAT AND P&P WITHIN UK.

THE APRIL ISSUE IS STILL AVAILABLE AT £8.50

PROGRAMMES INCLUDE DESK CALENDAR,  
BLACKJACK IN HI-RES WITH SPEECH, AN APRIL  
FOOL TO IMPRESS AND THE ARCADE GAME BEAM  
BUSTER PLUS ARTICLES ON SIDECAR, GRABBIT,  
AN UPDATE ON DPSLIDE AND MUCH, MUCH MORE

## A-TALK

Communication and Terminal Program

- KERMIT - XMODEM - XMODEM/CRC - ASCII.
- FULL VT100/VT52/H19/ANSI/TTY emulations.
- Script language. 20 function keys. CB mode.
- Concurrent printing and capture. Voice option.

## A-TALK PLUS

Tektronix 4010/4014 Graphics Emulation

- ALPHA/GRAPH/GIN standard modes, plus enhanced graphics POINT PLOT and INCREMENTAL PLOT.
- All vector formats. Screen size up to 704 by 470 (NTSC systems) and 704 by 582 (PAL systems). Zoom and Pan. Retrographics VT640 support.
- Four character sizes. Printer support. Store screens in Deluxe Paint II, Aegis Draw or PLOT-10 format. All A-TALK features supported.

A-TALK lists for US \$49.95. A-TALK PLUS lists for US \$99.95. \$2.00 shipping (\$10.00 Overseas).

Felsina Software

3175 South Hoover Street, #275  
Los Angeles, CA 90007  
(213) 747-8498

# MiAmiga File Version Version II

The original version of this popular database for the AMIGA A1000 was reviewed in the October 1986 issues of this magazine. Hot on its heels and taking full advantage of release v.1.2 of Workbench comes MiAmiga File version II. The differences between these two versions run to no less than 24 enhancements and are significant enough to merit a further examination of this product. Many of these differences have also been initiated as a result of user feedback to the supplier through experience in the field.

MiAmiga File is a flat-file database using many of the elements of Intuition for ease of use and accelerated learning and acceptance by the user. These elements include a display based on the concepts of screens and windows together with usage of the mouse to select choices through *gadgets* and *requestors*.

The database directory now provides details of the individual file sizes in bytes and date of last access, the directory window also scrolls in either direction under control of the mouse. Scrolling from end to end of a long database file has speeded up considerably — another direct benefit of v1.2 Workbench. Drive path setting is made very much easier with direct support for hard disks, RAM drive and floppy drives beyond the *df1*: unit.

The introduction of a *mail-merge* facility now means that data is fully portable between applications since it can now be sent to the disk in ASCII format. The control over the format is complete and extends to record sequence and selection criteria — database reports can also be written to the disk as ASCII files. The ASCII files are specifically designed to engage cleanly with those of **SCRIBBLE!**, the current leader in word processors for the A1000. The *file save* function has been simplified and the user does not have to name the file if it is already open and in use.

On the original version of MiAmiga File the printing from the *form view* only produced a 5 line mailing label, this has been increased — indeed the only restrictions that pertain to labels are

largely those limitations imposed by the printer in use. Overflowing of columns on the printer is handled by printing the residual data on the following line correctly formatted. The whole printer output function has been considerably enhanced.

The file status function is improved and the *'Desk'* view shows the record and file size as well as how much room is remaining on the users selected storage device. The potentially disastrous situation of overflowing a disk is avoided through the introduction of a recovery routine. This will either delete user-selected files since file deletion from within a database is now permissible or request a move to another drive unit. Similarly, a database file can be renamed from within a database. The mouse *pointer* have been changed — there are now 3 to indicate the current user action. A further example of the user-friendliness is shown by the automatic addition of the file type suffix for a newly created database.

A further demonstration of the streamlining and resulting increase in user productivity is given by the *repeat* facility during data entry — this allows multiple re-entry of the same data over any number of records. A completely new feature of MiAmiga File is the introduction of a new field type — *calculated amount* fields. These permit arithmetic manipulations using the +, -, \* and / operators which can also be tested using parenthesis for complex calculations.

I had previously mentioned the creation and *export* of ASCII files, MiAmiga File now can *import* or accept data in ASCII form from external sources. The format of this is *CSV* — comma separated values which most spreadsheets and databases are capable of generating.

One particular feature that appealed to me as a user of an expanded A1000 was the ability to designate the type and amount of memory MiAmiga File could use. In the original version of this product the antisocial attribute of claiming all of available memory could lead to the inability to run other

programs. This new version allows the user to select a percentage of available memory (50%, 75% or 100%) and this can be taken from either video display memory or expansion memory. This has particular implications for those users running sound or graphics software at the same time.

Another good feature was the screen dump option — always useful when designing the field structures of a database. This was enhanced by the ability to save and retrieve label and report screen formats and print these out using this screen dump option.

The feedback from users, particularly those from outside the USA has been acted upon and the data, numeric and currency formats have been *internationalised*. This means that users are no longer restricted to the USA date format of month-day-year which could be very confusing when in complete numeric form or tied to the use of the \$ symbol for currency values. British users can have the pounds Sterling symbol appear in their files and those users in other countries now have access to the 14 other currency symbols contained within the A000 keyboard.

This is a clear indication that at least one USA software producer is prepared to listen and respond to the wishes of users. Although I have been critical of some USA products in the past, and will continue to be so to those who forget that there is life beyond the eastern confines of the Atlantic Ocean, MiAmiga File no longer belongs to those ranks.

Here is a product that can be described as truly international and coupled with the substantial enhancements has flowered into a strong, sparkling product that amply displays the spirit of the AMIGA. Still the best flat-file database for this machine by a large margin.

B.D.

Price: £99.95

UK Distributor: Haba Systems Ltd., Pier Road, North Feltham Trading Estate, FELTHAM, Middlesex TW14 0TT. Tel: 01-751 6451.



# Driving Performance.



*SupraDrive*  
Hard Disk

Any car enthusiast can tell you that a performance auto is made up of many parts. Each individual piece must be high-performance for the complete car to be high-performance. For example, a car that can do well in excess of 150mph would be very limited by tires that were only rated for 80mph. The same is true with your Amiga™ Computer. The Amiga is a very high-performance computer, but can be severely limited by the speed of its floppy disk drives. Much of the time, your computer sits there idling while loading data from the disk. This also makes you idle and greatly decreases your productivity.

Now you can turbo-charge your Amiga with a SupraDrive HardDisk and bring it up to its true performance. SupraDrive will speed up disk transfers by up to 800% and also eliminate the tedious task of constantly swapping diskettes in and out of your floppy drive. The performance of your Amiga will be enhanced in many ways; directories, icons, and graphics will appear much faster, programs will load quicker, and the general user interface will seem much better.

A SupraDrive, much like a European sports car, includes many subtle features that greatly enhance its value. The built-in real-time clock will remember the current time and date, even when you turn your computer off - eliminating the need to set the system's clock every time you use your computer. Expanding your RAM memory is much cheaper and easier with the 512K to 4MB SupraRam modules that can be quickly installed in the SupraDrive interface. Other expansion is also easy with the Amiga Buss pass-through on the SupraDrive and the built-in SCSI port (for adding another hard disk or tape back-up).

- 20, 30, and 60MB Hard Disks
- Real-time Clock with Battery Back-up
- SCSI Expansion Port and Amiga Buss pass-through
- 512K to 4MB RAM expansion capability
- Only \$995.00 for 20MB version

**Increase the performance of your Amiga. Add a SupraDrive.**

 **Supra Corporation**

1133 Commercial Way / Albany, OR 97321 USA  
Phone: (503) 967-9075 / Telex: 5106005236 (Supra Corp.)

  
Precision  
Software

U.K. Distributor

**Precision Software Limited**  
6 Park Terrace  
Worcester Park  
Surrey KT4 7JZ ENGLAND  
Telephone: 01-330 7166  
Telex: 8955021 PRECIS G

## Mean 18 by Accolade

Rumours of a great golf game on the Amiga have been around for some time. The imagination has worked on all the wonders that the Amiga is capable of being set down on the golf course and if you've ever watched those professionals making it look so easy and found when you got out on the course, it was the devil's own invention — as I have — then you just ached for the chance to practice in the privacy of your own home before the usual public humiliation. I know what golf can do to normally civilised people. I once took a terrific girl out to play golf and saw her end by throwing a club a long way into the trees in fury at her inability to hit the ball straight. I didn't mind searching for it all far bringing her to the course in the first place that got me. I wonder what ever happened to her...



Mean 18... the very sound of the name expresses it. This is a real mean game and, in my view, the best sports simulation on the Amiga or any other 16 bit machine. Accolade who are known for their ability in this field have outdone their usual high standards here.

As is usual in these golf sims, you can play up to four players. You also have four courses St Andrews, Augusta, Pebble Beach and a fictitious course called Bush Hill. There is no copy protection for the good reason that Accolade advises you copy the courses on to another disk which will save you time and trouble. It uses virtually all the 512K so you see the amount of detail Accolade have built into it.

It has a tremendous variety of options that make it virtually inexhaustible in the possibilities you could have to take a untried challenge each time. It has different tees for the varying levels of expertise. The beginner, for example gets perfect aim every time but when you move up the scale it leaves you on your own to work out club and so on. There is nearly always a wind that you have to allow for and that really — and enjoyable — complicates matters. It even has an apparently genuine response to your ball if it hits a tree. It will either ricochet back towards you at a random angle (if you hit a solid brown or black part of the tree) or go through the branches of the tree and be slowed down and come out sideways also along a random angle.



When you reach the green you immediately get an overhead view and with the multiple play option you can vary the order or play — furthest away play first, finishing the putt etc as in real life golf. You can click on your overview of the hold at any time, or if you haven't time to finish a round, save it to disk for future.

As in Ariolasoft's Golf Construction Set, you can junk all the courses — another good reason for copying them first — and then construct your own. You can either change the course in a few aspects, like modifying the trees or bushes

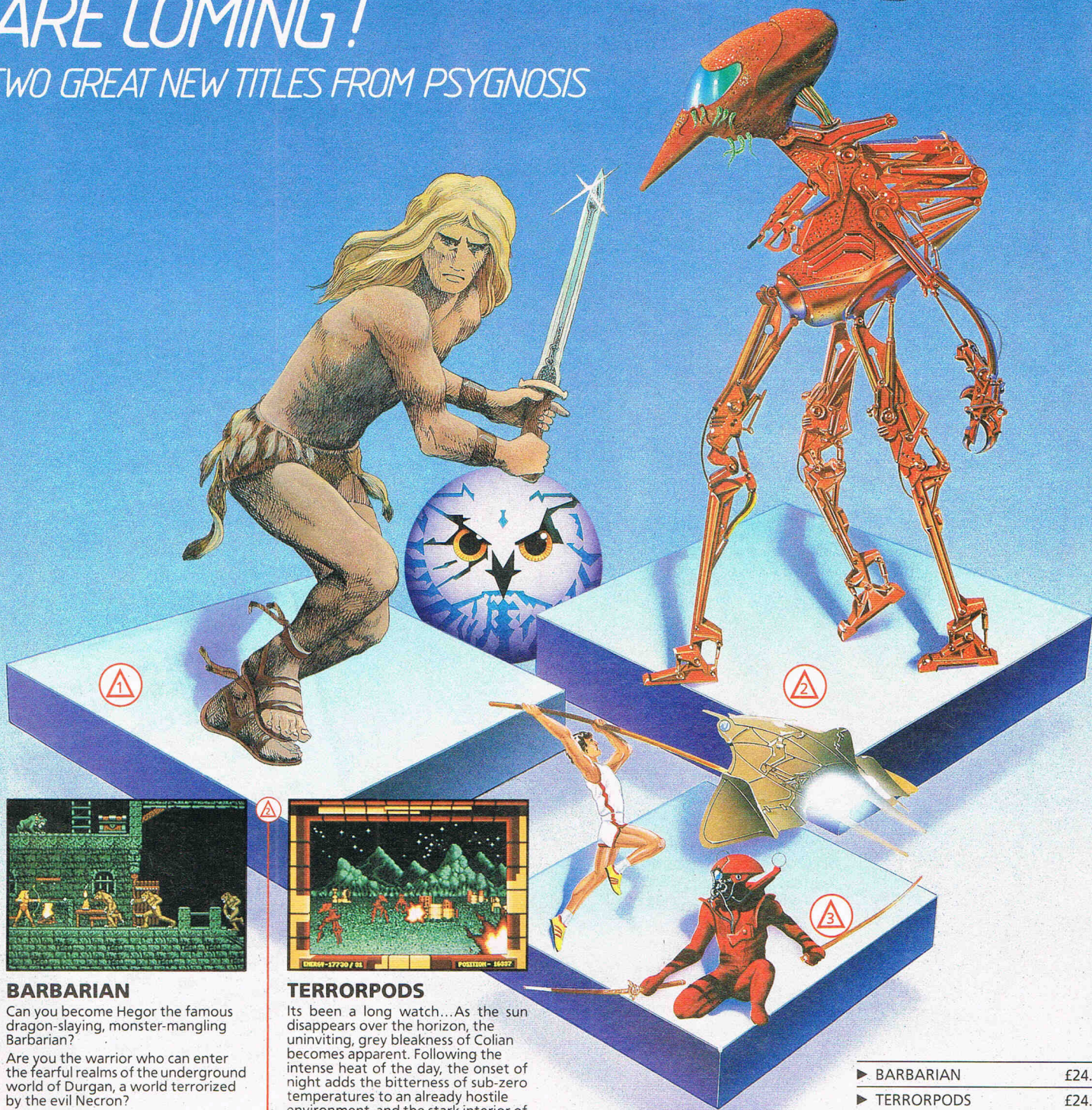
or really go to town and make your own course. If you do make a mess of the whole thing, and spoil the disk, do not despair. Accolade will supply you with a back up copy for \$10.

Golf, like snooker, has become really big business because of TV. The simplicity of the actions of the game — which of course requires terrific delicacy and talent to play well — is ideally suited to the small screen. Mean 18 is the closest I have seen to the real thing on TV with the tremendous advantage that you are not watching but playing it yourself. I don't see anybody getting tired of Mean 18. There will always be another variation you can make. That's if you can master even the more basic levels. I found Mean 18 was exactly the right mixture of ease of use and the encouragement of letting you get close to being good and that special magnetism that works when it's always just a bit harder than you think it is going to be to get down in the par for the hole. So you want to try the next hole and the next to get that much better. The graphics are no 'Defender of the Crown' and what can you do with sound on a golf course? But I think Mean 18 is going to be a classic and it must be the one game that every Amiga user will want to play — again and again and again. ZS



# THE BARBARIAN HAS ARRIVED! THE TERRORPODS ARE COMING!

TWO GREAT NEW TITLES FROM PSYGNOSIS



## BARBARIAN

Can you become Hegor the famous dragon-slaying, monster-mangling Barbarian?

Are you the warrior who can enter the fearful realms of the underground world of Durgan, a world terrorized by the evil Necron?

Can you handle the adventure, the frenzied attacks, the hidden traps, the gruesome death dealing monsters?...

Your quest; to destroy the lair of the accursed Necron. Your prize; the kingdom's crown.

Your task is awesome! You must live on your wits, conquer your innermost fears, use every skill and weapon available to you.

Hideous perils await. Can you survive?...

Are you Hegor the famous dragon-slaying, monster-mangling Barbarian?

512k colour versions available for Atari ST and Commodore Amiga - colour monitors only.



## TERRORPODS

It's been a long watch...As the sun disappears over the horizon, the uninviting, grey bleakness of Colian becomes apparent. Following the intense heat of the day, the onset of night adds the bitterness of sub-zero temperatures to an already hostile environment, and the stark interior of the D.S.V. appears almost homelike.

Deep melancholy is suddenly smashed by the shrill scream of a siren. The status panel has gone crazy, an extraordinary array of lights flash uncontrollably. Good grief...what's happening?

Frantically, you turn to look at the command scanner, hunting through the mass of information before you, in a desperate attempt to decipher what has happened.

Your whole being freezes...! It can't be! The Terrorpods...

512k colour versions available for Atari ST and Commodore Amiga - colour monitors only.



## ARENA

The classic sports simulation.

## BRATACCAS

Become Kyne the earth scientist accused of genetic fraud.

## DEEP SPACE

The ultimate interstellar war game.

512k colour versions available for Atari ST and Commodore Amiga - colour monitors only.

▶ BARBARIAN	£24.95
▶ TERRORPODS	£24.95
▶ DEEP SPACE	£34.95
▶ BRATACCAS	£34.95
▶ ARENA	£29.95
▶ ARENA BRATACCAS	£34.95

**Psygnosis**  
FREEPOST  
Liverpool L3 3AB  
United Kingdom  
Tel. Nos.  
051 647 8118 (Daytime)  
051 227 4800 (After hours)



S E E I N G I S B E L I E V I N G

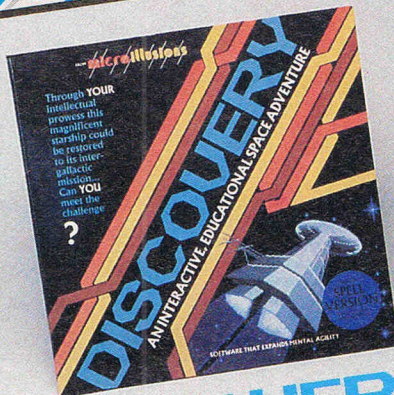
# LAND OF LEGENDS



Mystery and excitement awaits your every move as you sojourn through one adventure after another in Land of Legends. Truly the most thrilling of all Dungeon & Dragon type adventures. Watch for this new release!



**The FAERYTALE™** Adventure  
Participate in the adventures of three brothers as they travel through a faery land full of vicious monsters, enchanted princesses, fearsome dragons and even a kindly wood cutter or two. Faery Tale Adventure will provide you with weeks of challenging exploration to conquer, so pick up your copy and begin today!



## DISCOVERY

Learning becomes an exciting fun filled space adventure with Discovery! This entertaining learning experience is now available in Math, Spelling and the all new Trivia game version. So good, you will want to try all three!

### OTHER PRODUCTS FROM MICROILLUSIONS

- **DYNAMIC CAD 2.3™**  
Now available
  - **DYNAMIC WORD™**  
Watch for in May
  - **MUSIC X™**  
Watch for in June
  - **THE PLANETARIUM™**  
Watch for in June
  - **MICRO MIDI™**  
Watch for in Fall
  - **DYNAMIC PUBLISHER™**  
Watch for in the Fall
- All of these products are now being developed for the Amiga, and will soon be available in other formats (C-64/128, IBM/PC, Apple, Atari ST).

**microillusions™**

17408 Chatsworth St., Granada Hills, CA 91344, inside CA 818/360-3715 • outside CA 800/522-2041 • FAX 818/360-1464  
EUROPEAN DISTRIBUTOR

**Haba**  
Systems Limited

Pier Road, North Feltham Trading Estate, Feltham, Middlesex TW14 0TT  
Tel 01 751 6451, Telex 024680 HABA G

## ADD A MEGABYTE OF RAM TO YOUR AMIGA!

- ★ Fast RAM — No Wait States.
- ★ Fully Auto Configuring with the 1.2 Operating System.
- ★ Self-contained — needs no extra cables or disks.
- ★ Bus Passthrough to allow further expansion.

**£399.00 inc. VAT**

## DIGIVIEW, THE SPECTACULAR VIDEO DIGITISER UNIT

- ★ Captures images from a Mono or Colour Camera (not supplied).
- ★ Resolves over 2 million colours using a unique filtering system.
- ★ Display and Save your pictures using any Amiga screen mode, including the famous 4096 Colour HAM mode.
- ★ Once captured, pictures can be enhanced or altered with other Paint programs.

**£199.00 inc. VAT**

## SS1, THE STEREO SOUND DIGITISER

- ★ True Stereo sound sampling and editing.
- ★ Variable sample rates to allow high quality sound and speech.
- ★ Friendly software displays the sound as graphics to allow easy editing.
- ★ The best value digitiser available.

**£99.00 inc. VAT**

**COMING SOON - DIGIPAINT - HAM PAINT PROGRAM  
DEALER ENQUIRIES WELCOME**

**Software Houses - phone for our special developer deals.**



**ARGONAUT  
Software Ltd.**

**01-208 0072**

TLX 896728 LONOC P G

Fax: 01-208 2509

150 COLES GREEN ROAD, LONDON NW2 7HQ

**SOFTWARE  
EXPRESS**  
COMPUTER SYSTEMS LTD

**EVERYTHING FOR THE AMIGA**

**THE ONE STOP AMIGA SHOP**

**A500, A1000, A2000**

**WE ARE THE SPECIALISTS!**

**SOFTWARE - HARDWARE - PRINTERS - MONITORS - CABLES - DISKS - BOOKS - ACCESSORIES - ETC.**

**AMIGA MAIL ORDER - WE ARE THE FASTEST - PHONE (021-328 3585)**

**AMIGA SHOWROOMS - WE HAVE THE LARGEST - 9.30 to 5.30 - 6 DAYS A WEEK**

**AMIGA SOFTWARE - WE HAVE THE BEST!! - UK AND USA - IMPORTED**

**514-516 ALUM ROCK ROAD,  
ALUM ROCK, BIRMINGHAM  
B8 3HX  
PHONE: 021-328 3585**

**PLEASE SEND ME YOUR LATEST PRICE LIST**

NAME .....

ADDRESS .....

.....  
I OWN AN A500/A1000/A2000/NONE

# THE AMIGA —

## A to Z

As many new readers and AMIGA users start finding the magazine they often come across AMIGA terms they do not understand. We have put together this A-Z of the likely words and expressions they might find useful. We intend — space permitting — to update it sporadically.

### depth-arrangement gadget

A gadget in the top right-hand corner of a window which moves the window in front or behind another window.

### destination file

The file that is being written to.

### device name

A unique name given by AmigaDOS to a hardware device e.g. DF1: is floppy disk drive number 1.

### digital-to-analogue convertor

A device that converts a binary quantity to an analogue level.

### direct memory access

An arrangement where intelligent devices can read or write to memory without any involvement of the processor.

### directory

A collection of files on a disk.

### disable

To make something unavailable for use.

### display

To produce a graphic object on the monitor screen.

### display field

A complete movement of the video beam from the top to the bottom of the monitor screen.

### display memory

The area of RAM that contains the data for translation into a screen image.

### display mode

One of the basic types of display such as low resolution, high resolution, interlace, non-interlace and dual or single playfield.

### display time

The amount of time to produce one display field, approximately 1/60th of a second.

### DMA

Direct Memory Access.

### double-click

To twice quickly press and release a mouse button.

### double-menu requestor

A requestor that can be opened by a double-click of the mouse button.

### drag

A method of moving a screen image by selecting it and maintaining the pressure on a mouse button whilst moving the mouse the image follows.

### drag gadget

The area of a screen or window that is used for selecting and moving the image.

### dual playfield mode

A display mode that gives two separately controlled displays simultaneously.

### editing commands

Commands that are input from the keyboard and control an editing session.

### edit menu

A menu used for text processing containing editing functions.

### enable

To make something available for use.

### EXEC

Low level primitives that support the AmigaDOS operating system.

### extended mode

Commands that appear on the AmigaDOS command line and are not executed until the user has finished with the command line.

### extended selection

A method of selecting more than one item from a menu.

### file

A collection of related data.

### filename

A name given to file for identification.

### fill

Putting a colour or pattern into an enclosed area.

### flag

The action of detecting a change of state of an object. Usually a binary bit.

### font

A design common to a set of letter characters or numbers.

### Fortran

FORmula TRANslator. An old, but well established high level language used mainly by the scientific and engineering communities. A huge range of programs has been written in this language. Now available for the AMIGA.

### frequency

The number of times per second a waveform repeats.

### frequency modulation

A means of changing sound quality by using one audio channel to affect the period of the waveform produced by another channel. Frequency modulation increases or decreases the pitch of the sound.

### gadget

An image of a control device within a screen, window or requestor which is used to communicate between the user and the machine.

### Genlock

A hardware device that allows the capture or release of video tape frames for graphic reworking in the AMIGA itself.

### ghost

An image which is made slightly indistinct by overlaying it with a pattern to indicate it is not enabled or active.

### ghost shape

The outline of window that shows briefly when the user is resizing or dragging the window.

### Gimmezerozero window

A window with a separate bit-map for the window border.

### header file

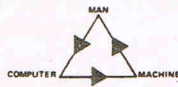
A file used at the beginning of a C language compilation sequence which includes the definitions and constants, etc.

### high resolution

A display mode which has 640 pixels per horizontal line when this line is a full screen width.

# THE MDR HOME CONTROL SYSTEM

**MDR** INTERFACES LTD



**HOME CONTROL SYSTEM v2.0**

Security and Control of Home or Office, Hardware and Software from £375.00 + VAT

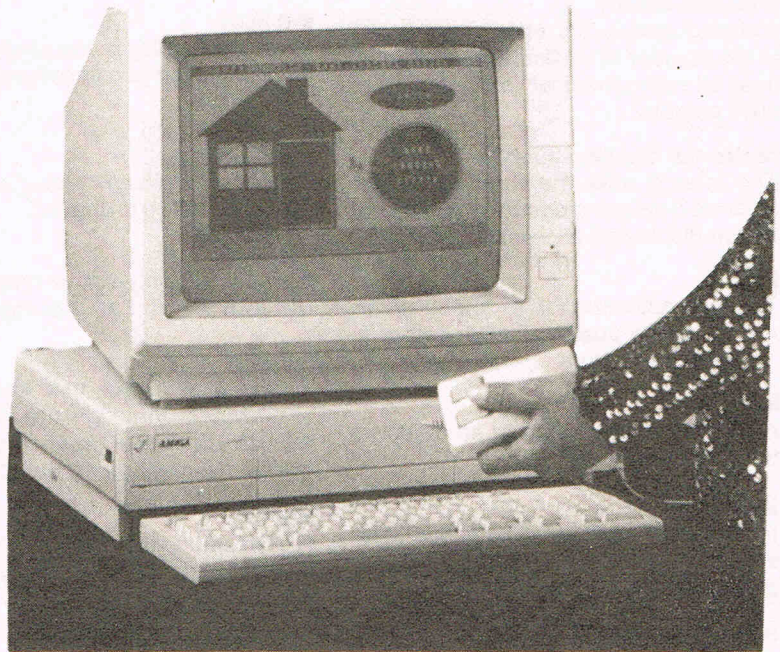
**NETWORK INTERCHANGE UNIT**

Provides 2 series Ports and 'GENLOCK' control from AMIGA serial Port £275 + VAT

**HOME CONTROL SYSTEM REMOTE CONTROL OPTION**

Intelligent modem for worldwide control of premises £450 + VAT

LITTLE BRIDGE HOUSE, DANEHILL, SUSSEX RH17 7JD  
TEL. (0825) 790294



**MDR** INTERFACES LTD

## AMIGA VIDEO

- ★ A8600 pal Video controller (genlock) **£430 + VAT**
- ★ Pro-Video CG1 pal titling software **£149 + VAT**
- ★ VD3 realtime pal Video digitizer **£699 + VAT**
- ★ SCSI hard disk interface unit for the A1000 **£299 + VAT**
- ★ Complete 20 megabyte SCSI hard disk system for the A1000 **£799 + VAT**
- ★ Official European Technical Journal 'Kickstart' for the AMIGA **£25.00 + VAT**  
set of six issues
- ★ Software developers kit for the AMIGA **£599 + VAT**

ARIADNE SOFTWARE LTD



**Computer Software Consultants**

273 Kensal Road  
London W10  
**01-960 0203**

IN THE NORTH WEST

GRANTHAMS specialize in commercial graphic applications for AMIGA including available software, plotters, & image input devices for the designer printer and draftsman

**GRANTHAMS**

*Design & Reprographic Equipment*

172 Corporation St Preston  
Tel: 0772 50207

**hit select**

A technique of gadget selection where the gadget becomes deselected on release of the mouse button.

**hold-and-modify**

A display mode which effects an increase in the number of vertical screen display lines allowing the user to display up to 4096 colours.

**horizontal blanking interval**

The interval after the video beam has finished displaying one line and has not begun displaying another line.

**hue**

The characteristic of a colour determined by the position of the colour in visible spectrum.

**icon**

A visual representation of an object in the Workbench.

**IDCMP**

Intuition Direct Communications Message Port. The main pathway of user communication with Intuition.

**immediate mode**

AmigaDos commands that execute immediately.

**initiallise**

To set up an Intuition component with default parameters.

**input event**

The message created by the input device whenever is detected at one of the AMIGA's input ports.

**interlace**

A vertical display mode where there are 400 vertical screen lines from the top to the bottom.

**IntuitMessage**

The input message created by Intuition for applications programs.

**Intuition**

A visual and interactive meeting point between the user and the machine.

**joystick**

A controller device that freely rotates and swings from right to left, pivoting from the bottom of the shaft and used to position something on the screen.

**keymap**

A translation table used by the Console Device to change keycodes into normal ASCII character codes.

**keyword**

Arguments to AmigaDOS commands that must be stated explicitly.

**knob**

Part of a proportional gadget which the user sets to a value.

**library**

A collection of pre-defined routines or functions that can be called and used by any program.

**light pen**

A controller device consisting of a stylus and used for drawing an image on the screen.

**line windows**

Parts of a line for AmigaDOS EDIT to execute subsequent commands on.

**linked list**

A collection of like objects linked by having a pointer variable in one containing the address of the next object, the final object in the chain will carry a null pointer.

**LISP**

LIST Processing. A symbolic programming language used for expert systems and artificial intelligence research. Now available for the AMIGA.

**long word**

68000 assembly language syntax for a 32-bit value.

**low resolution**

A display mode which has 320 pixels per horizontal line when this line is a full screen width.

# Programming the AMIGA?

THE LANGUAGES AND TOOLS YOU NEED ARE HERE - FROM METACOMCO, THE AUTHORS OF AMIGADOS

## NEW MACRO ASSEMBLER

Professional macro assembler, this is THE assembler package for the Amiga Standard 68000 mnemonics, macro expansions over 160 explicit error messages, fully formatted listings, large range of directives, absolute, position independent or relocatable code and conditional assembly.

£69.95

## NEW VERSION LATTICE C v.3.10

Enhanced C compiler, assembler and linker, now with more library functions and includes text management utilities.

£189.95

A feature packed Developer's version is also available which includes the above compiler, Make utility, screen editor and symbolic debugger.

£299.95

## AMIGA SHELL

An enhanced command line interpreter to ease and speed up your development cycle. Contains Unix like features such as Command Line History, Command Line Editor, Aliases, Variables and Push and Pop directories. Also full documentation of Amiga CLI commands is provided.

£49.95

"If you do any programming you must buy Shell"  
.EXE - Jan 1987

## MCC PASCAL

A fast and efficient ISO validated Pascal compiler generating native code, comprehensive error handling, 32 bit IEEE format floating point and full 32 bit integers.

£89.95

"The definitive Pascal compiler for the Amiga"  
Amiga User - Dec. 1986

## CAMBRIDGE LISP

An integrated LISP interpreter and compiler providing a complete Artificial Intelligence development environment with rational arithmetic, trig functions, floating point arithmetic, vectors, integers of any size and much more.

£149.95

"One of the most advanced LISP systems I have ever seen"  
Amiga World - Feb. 1986

## AMIGA TOOLKIT

An invaluable suite of program development utilities. Includes Disassembler, Pipes, Librarian, Pack and Unpack, Browse and AUX CLI. A package designed by the authors of AmigaDOS to extend the power of the operating system.

£39.95

"Likely to become one of the most used programming aids for the machine"

Your Commodore - Feb 1987

# METACOMCO

26 Portland Square, Bristol BS2 8RZ, UK.  
Telex: 444874 METACO G Fax: (0272) 428618

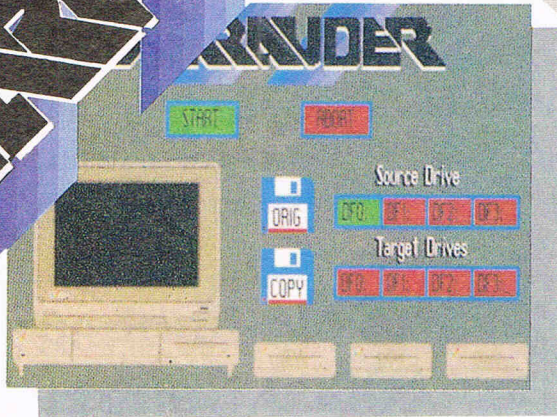
© METACOMCO 1987

MAIL ORDER HOTLINE (0272) 428781





# MARAUDER



Marauder II is the most powerful copier ever produced for Amiga. It will automatically copy ALL\* software released to date, and it requires no hardware modification of any kind. It produces completely unprotected copies of most Amiga software faster and better than any other copier.

No other copier can copy as much software as Marauder II.

Marauder II also has the most advanced user interface your money can buy. If you have an Amiga you already know how to use Marauder II. You never have to reboot your machine to use Marauder II, it is completely compatible with

**DATEL BRINGS YOU THE MOST POWERFUL, MOST FRIENDLY, AND MOST UP TO THE MINUTE DISK COPIER AVAILABLE...**



**THE Marauder II® TOTAL BACKUP SYSTEM IS HERE...**

the Amiga's multitasking operating system.

Marauder II has been designed with your future needs in mind. As protection schemes change you can update the program yourself with our unique "Strategy Files." The Strategy Files are developed as new software is released so that you can get them quickly and easily when you need them.

Compare the features of Marauder II to our competition and you'll see that Marauder II is quite simply the best copier you can get, at any price! And for only **£29.99** you can rest assured that your software investment is safely protected against damage, loss or theft. Don't wait, order now!

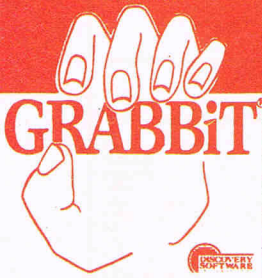
### COMPARE THESE FEATURES

- Superfast - Typically 80 Seconds
- Unbeatable with Periodic "Stately Files"
- Mouse driven throughout - most friendly to use.
- Runs from workbench or C.L.I.
- Makes multiple copies from one original - upto 4 simultaneously
- Even decrypts most encoded programs including D. Print/Video/Paint/II etc., etc.
- Supports 1 to 5 drives.

**AVAILABLE NOW!**

\*In our most recent tests we could not find any software that Marauder II could not back up.

PRINT - SAVE ANY SCREEN FROM ANY PROGRAM ANYTIME!



With GRABBIT you can capture exactly what you see on your screen in an instant, regardless of what programs you're running. GRABBIT works with all video modes, including "Hold and Modify." What's more, GRABBIT runs completely in the background, transparent to your other software. GRABBIT is always ready for you to use, even when you're in the middle of another program. As if that is not enough, GRABBIT requires only about 10K RAM to operate, and it supports dozens of printers. GRABBIT is truly a productivity power tool for your AMIGA!

GRABBIT is far superior to other screen-printing "programs" because of its small size and quick performance. No complicated setup is required, just install and go! Also, GRABBIT doesn't require the screen to remain visible during printing or saving, and stopping the print operation is as easy as starting it. GRABBIT supports all standard Amiga printer drivers. GRABBIT also supports full color printing.

In addition to GRABBIT's printing capabilities, the package also includes a powerful utility program "ANYTIME." The ANYTIME bonus

program is a "Preferences" style palette requester that allows you to change any colors of any screen, anytime! With ANYTIME, you are NOW capable of customizing all colors to match your printer's hardcopy to the screen's colors.

Once you start using GRABBIT and the bonus program ANYTIME you will want it on every disk. You get all the power of this sizzling new software for an unbelievably low **£21.99 POST FREE**

## Now a Midi Interface for your AMIGA... at a realistic price

THE DATEL **MIDI-MASTER™ ONLY £34.99**

- Full Midi Specification
- Mid In, Midi Thru, 3 Midi Out
- Fully opto isolated

Compatible with all leading Midi packages.

**AVAILABLE NOW!**



**DATEL ELECTRONICS**

USUALLY SAME DAY DESPATCH ON ALL ORDERS  
SEND CHEQUES/P.O.'s TO:  
UNITS 8/9  
FENTON INDUSTRIAL ESTATE,  
DEWSBURY ROAD, FENTON,  
STOKE-ON-TRENT TEL: 0782 273815  
FAX: (0782) 264510

24 HR CREDIT SEE US ON CARD LINE  
PRESTEL PAGE No. 25888000A  
12 Page Catalogue + Order Page

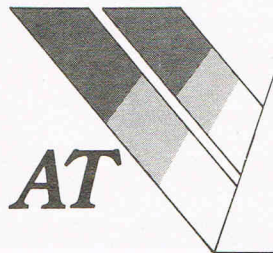
FOREIGN ORDERS ADD 12% POSTAGE

# AMIGA

**NEW**

Software Systems available for:

- ADVERTISING AGENCIES  
(Deluxe print, paint & video)
- ARCHITECTS  
(Aegis draw, Dynamic CAD)
- DESIGN STUDIOS  
(Deluxe print, paint & video)
- DRAWING OFFICE  
(Aegis draw, Dynamic CAD)
- ELECTRONIC ENGINEERS  
(Dynamic CAD)
- INTERIOR DESIGNERS  
(Aegis Draw)
- PRINTERS & PUBLISHERS  
(Desk top publishing)
- TV & VIDEO STUDIOS  
(Deluxe video)



**Stop  
Press  
Mitsubishi  
G500 Now  
Available**

**ACCESSORIES  
DIGITISER  
DRAWING TABLET  
INKJET PRINTER  
LASER PRINTER  
PLOTTER**

**GS**  
Gladhill Stationers

BRADFORD 724136  
MANCHESTER 061 228 1543  
NEWCASTLE 091 2617488

**GG**  
Gladhill Graphics

Dear Sir,  
I think this advertisement  
breaks some rules

Advertisements are expected to conform to rules and standards laid down by the Advertising Standards Authority. Most do. The few that don't we'd like you to write in about.

And if you'd like a copy of these rules for press, poster and cinema advertisements, please send for our booklet. It's free.

**The Advertising Standards Authority.**

**We're here to put it right.**

ASA Ltd., Dept. Y, Brook House, Torrington Place, London WC1E 7HN.

## The Nottingham 68000 Centre

For a complete range of software, hardware & peripherals for the Amiga, ST & QL go to the  
Nottingham 68000 Centre

**Products include:**

*CAD, Graphics & Animation, Games,  
General Business Graphics & Sound  
Digitizers, Modems, Music etc.*

**The Nottingham 68000 Centre,  
40 Bridge Rd, West Bridgford,  
Nottm. Tel: 0602 455114**

# M P C SOFTWARE

AMIGA SOFTWARE

Adventures	
Borrowed Time	£23
Deadline	£27
Deja Vu	£27
Enchanter	£27
Fairy Tale Adventure	£45
Guid of Thieves	£23
Hitchhikers Guide	£27
Hollywood HiJinx	£26
Jewels of Darkness	£18
Knight Orc	PHONE
Leather Goddesses of Phobos	£27
Mind Forever Voyaging	£27
Mindshadow	£23
Portal	£27
Silicon Dreams	£18
Starcross	£27
Suspect	£27
Suspended	£27
Tass Times in Tonetown	£23
The Pawn	£23
Trinity	£31
Wishbringer	£27
Witness	£27
Zork I	£27
Zork II	£27
<b>Graphics</b>	
Aegis Animator + Images	£110
Aegis Images	£64
Aegis Sonix	£75
Deluxe Paint	£85
Deluxe Paint II	£135
Deluxe Print	£83
Deluxe Video	£99
Deluxe Music	£85
Graphicraft	£50
Instant Music	£27
Music Studio	£31
Soundscape Pro Midi Studio	£150
TV*Text	£85
<b>Leisure Software</b>	
Archon	£27
Archon II	£27
Balance of Power	£38
Championship Golf	£18
Chessmaster 2000	£40
Chessmate	£30
Defenders of the Crown	£40
Dr. Xes	£40
Flight Simulator II	£45
Hacker	£23
Halley Project	£40
Leaderboard	£23
Little Computer People	£30
Racter	£35
SDI	£40
Seven Cities of Gold	£23
Shanghai	£23
Silent Service	£22
Sinbad	£43
Strip Poker	£19
Temple of Apshai Trilogy	£21

<b>Languages &amp; Utilities</b>	
AC Basic	£265
AC Fortran	£200
Amiga APL	£32
CLimate	£70
K-SEKA	£155
Lattice C	£65
Metacmco Macro Assembler	£46
Metacmco Make	£33
Metacmco Pascal	£45
Metacmco Shell	£37
Metacmco Toolkit	£90
Modula 2 (Standard)	£135
Modula 2 (Developers)	£45
Quick Nibble	£40
The Mirror	£45
Marauder II (disc copier)	£45
Mirror Hacker Package	£140
True BASIC	

**SPECIAL OFFER**  
Buy 3 or more programs and get a mouse mat,  
or Quickshot IX Joyball (Fully Microswitched  
and Autofire Absolutely FREE

<b>Business</b>	
Aegis Draw	£125
Aegis Impact	£160
Analyse V2.0	£135
DB-Man (DBase 3 clone)	£125
Dynamic CAD	£425
Financial Cookbook	£45
Gizmoz	£45
Logistix	£155
MI Amiga file 2	£90
MI Amiga Ledger	£90
MI Amiga Word	PHONE
Nancy (Spell Checker)	£47
Omega File	£95
Page Setter	£125
PCL.O	£500
PHASAR (Home Accounts)	£90
Scribble	£90
Superbase Personal	£135
Talker	£65
Text Craft	£40
VIP Professional	£180
Zing	PHONE
<b>Arcade Games</b>	
American Football	£25
Arctic Fox	£27
Arena & Brataccus	£32
Baseball	PHONE
Deep Space	£31
Grand Slam (Tennis)	£45
Grid Iron	£65
Marble Madness	£27
Mind Walker	£35
Monkey Business (Kong)	£24
One on One basketball	£27
Skyfox	£27
Starglider	£22
Winter Games	£35
World Games	£23

**A500  
Available Now!**

<b>Hardware</b>	
Digiview	£200
Technical Reference Manuals	PHONE
Other Books	PHONE
10 3.5in Branded discettes	£25
40 x 3.5in lockable discette storage box	£13
80 x 3.5in lockable discette storage box	£18
Mouse Mat	£6
Elite Joystick	£13
Professional Standard Joystick	£15
Quickshot IX Joyball	£10
Citizen 120D Printer & Lead	£220
Quadram Quadjet colour printer & Lead	£400
Commodore MPS1000 Printer	£280
Xerox 4020 Printer	£1400
Amiga 1000 & 2000	PHONE
Genlock	£450
256K-512K memory upgrade	£90
Sidcar	£700
Printer Lead	£20
Comspec 2MB memory upgrade	£600
2MB Memory upgrade	£450
Add on 3.5in disc drive	£260
Add on 5.25in disc drive	PHONE
Hard Disc Interface	£330
20MB Hard Disc	£900
40MB Hard Disc	PHONE
Easy! Graphics Tablet	£440
Triangle Graphics Tablet	£350
Midi Interface	£55
Soundscape Digitiser	£95

**NEW PRODUCTS**  
**Barbarian**      **Tripods**  
**PHASAR**      **TV\*Text**

**MPC Software,  
72 Julian Rd.,  
West Bridgford,  
Nottm. NG2 5AN  
Tel: 0602 820106**

All prices include postage & VAT  
All prices correct at time of going  
to press E&OE.

# THE AMIGA DIMENSION

This is the beginning of our special CCI Amiga section which contains some extracts from the full "Commodore Business and Amiga User" Magazine. That magazine, for those interested in the complete over sixty page publication, is available on subscription, price £1.50 or by order from a newsagent.

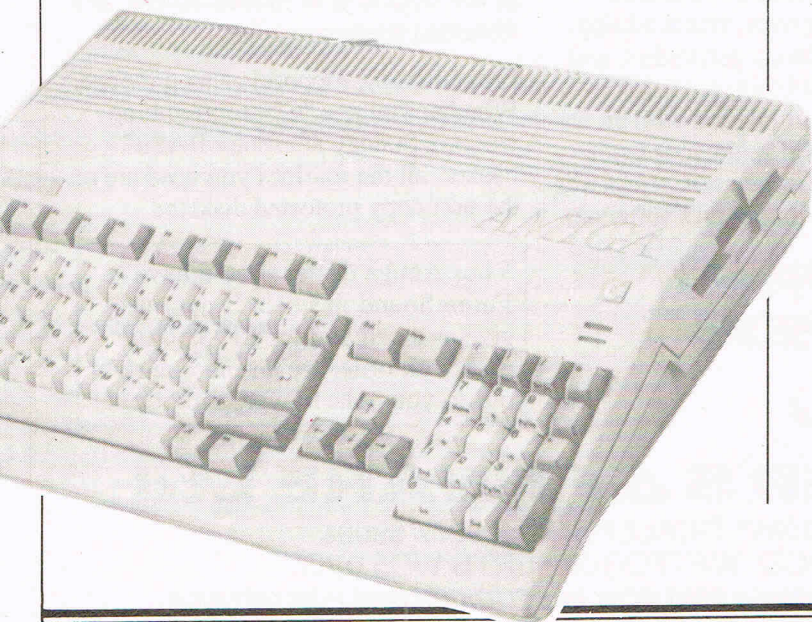
If you wish to order "Commodore Business and Amiga User" fill in the form below and take it to your newsagent.

I should like to order a copy of "Commodore Business and Amiga User" Price £1.50 per issue.

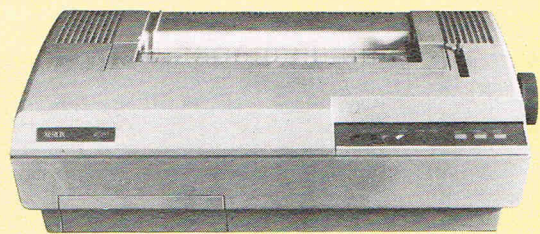
Name .....

Address .....

Telephone Number .....



with the

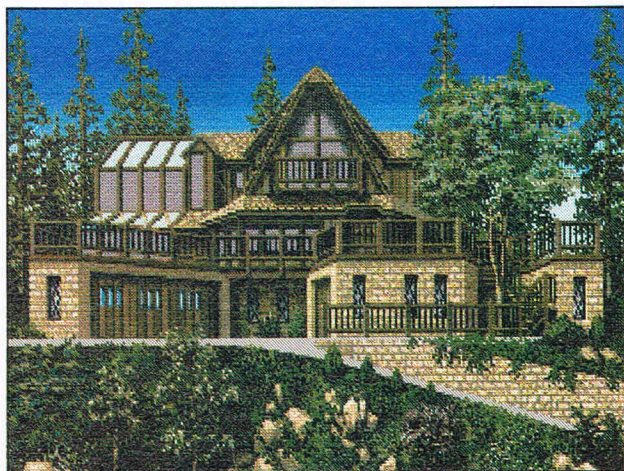


## **Xerox 4020** *Colour Ink Jet Printer*

what  
you  
see



is what you get



### **With NLQ too!**

The Xerox 4020 colour ink-jet printer makes the most of your Amiga colour pictures, printing clear, bright images silently in 7 distinct colours and over 4,000 shades at 240 dots per inch resolution.

The Xerox 4020 handles all your correspondence and desk-top publishing needs too. Choose from 5 resident fonts in various sizes and achieve near letter quality results at a healthy 40 cps.

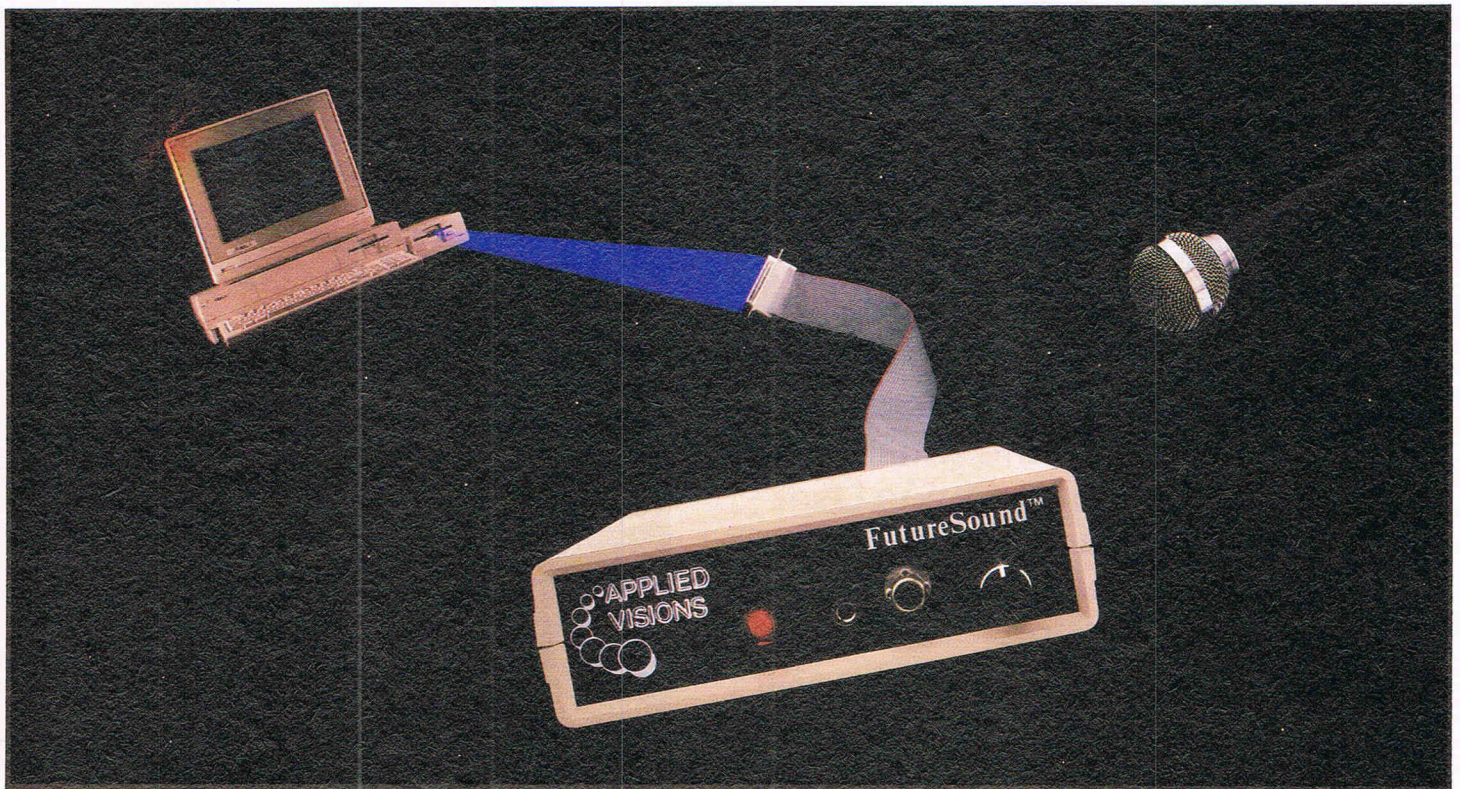
*Xerox 4020: the ideal Amiga printer!*



Available from your local dealer or directly from  
Precision Software Ltd. 6 Park Terrace,  
Worcester Park, Surrey KT4 7JZ  
Telex 8955021 Precis G

**01-330 7166**

# FutureSound™



“Open the pod bay doors, HAL...”

## Programmers cast their vote!

Right now, leading software developers are hard at work on the next generation of Amiga® products. To add the spectacular sound effects we've all come to expect from Amiga software, they are overwhelmingly choosing one sound recording package... FutureSound. As one developer put it, "FutureSound should be standard equipment for the Amiga."

## FutureSound the clear winner...

Why has FutureSound become the clear choice for digital sound sampling on the Amiga? The reason is obvious: a hardware design that has left nothing out. FutureSound includes two input sources, each with its own amplifier, one for a microphone and one for direct recording; input volume control; high speed 8-bit parallel interface, complete with an additional printer port; extra filters that take care of everything from background hiss to interference from

DISTRIBUTED IN THE UK BY:

the monitor; and of course, a microphone so that you can begin recording immediately.

## What about software?

FutureSound transforms your Amiga into a powerful, multi-track recording studio. Of course, this innovative software package provides you with all the basic recording features you expect. But with FutureSound, this is just the beginning. A forty-page manual will guide you through such features as variable sampling rates, visual editing, mixing, special effects generation, and more. A major software publisher is soon to release a simulation with an engine roar that will rattle your teeth. This incredible reverberation effect was designed with FutureSound's software.

**Question: What can a 300 pound space creature do with these sounds?**

**Answer: Anything he wants.**

Since FutureSound is IFF compatible (actually three separate formats are supported) your sounds can be used by most Amiga sound applications. With FutureSound and Deluxe Video Construction Set from Electronic Arts, your video creations can use the voice of Mr. Spock, your mother-in-law, or a disturbed super computer.

Programming support is also provided. Whether you're a "C" programming wiz or a Sunday afternoon BASIC hacker, all the routines you need are on the non-copy protected diskette.



Your Amiga dealer should have FutureSound in stock. If not, just give us a call and for £195.50 in cash with order we'll send one right out to you. Ahead warp factor one!



**TRICOMPUTER SOFTWARE Ltd**

OFFICIAL COMMODORE AMIGA® DEALERS Tel: 09277 69081  
31 OAK GREEN, TANNERS WOOD, WATFORD, HERTS WD5 0PG.

**STOP PRESS... LIMITED QUANTITY, AMIGA A500 + AMIGA 2000 NOW IN STOCK PHONE FOR DETAILS.**

Applied Visions, Inc., Suite 2200, One Kendall Square  
Cambridge, MA 02139 (617) 494-5417

# The 64 Software Centre

1 PRINCETON STREET LONDON WC1R 4AL TEL 01 430 0954

**The specialist centre for Commodore 64, 128 and Amiga**

Selected items from stock

## Amiga Software

### BUSINESS

Grafox	Logistix	£170.00
Haba	MiAmiga File Database	£90.00
	MiAmiga Ledger	£90.00
Maxisoft	Maxidesk	£69.00
	Maxiplan Spreadsheet	£139.00
	Maxicom	£54.00
Myrosystems	Scribble Wordprocessor v.2	£90.00
	Analyse Spreadsheet	£100.00
Precision	Superbase	£140.00
Gold	Pagesetter Desk Top Publishing	£130.00
New Horizons	Flow Idea Processor	£99.00
Sedona	Money Mentor Personal Finance	£96.00
Meridian	Zing	£75.00
Commodore	Textcraft	£89.00
VIP	VIP Professional	£190.00

### HOUSEHOLD

EA	Financial Cookbook	£39.00
----	--------------------	--------

### UTILITIES

Applied Visions	Futuresound Digital Sound Record	£165.00
Activision	Music Studio	£34.00
Aegis	Images	£65.00
	Images Artpak	£46.00
	Animator	£120.00
	Draw	£150.00
	Draw-plus	£250.00
Commodore	Amiga Term	£49.00
	Amiga C	£149.00
	Amiga Enhancer	£14.00
	Amiga Assembler	£79.00
EA	De Luxe Paint II	£129.00
	De Luxe Print	£85.00
	De Luxe Print Data Disk 2	£30.00
	De Luxe Video Constr. Set	£90.00
	Instant Music	£39.00
	Music Construction Set	£90.00
Kuma	K-Seka 68000 Assembler	£75.00
Lattice	C Compiler v.3.1 (Developers)	£225.00
Manx	Aztec C Compiler (Developers)	£290.00
Metacomco	MCC Pascal	£75.00
	Amiga Toolkit	£39.00
	Macro Assembler	£90.00
Mindscape	Keyboard Cadet Typing Tutor	£39.00
Modula 2	Modula 2 Developers System	£149.00
True Basic	Developers Toolkit	£49.00
Unison	Printmaster Plus	£49.00
	Printmaster Art Gallery (1 or 2), each	£29.00
Zuma	Fonts 1, 2, 3, / each	£29.00
	TV Text	£90.00
Access	Alegra 512K Memory Expansion	£350.00
Easy!	Drawing Tablet	£500.00

### EDUCATIONAL

FB	Math Talk	£44.00
	First Shapes	£39.00
Microillusion	Discover Spell	£39.00
	Discover Math	£39.00
Sierra	Winnie the Pooh	£24.00
Unicom	Fraction Action	£49.00
	Decimal Dungeon	£49.00
	Kinderama	£49.00

### SIMULATIONS

Sublogic	Flight Simulator	£45.00
Access	Leaderboard Golf	£29.00
Accolade	Mean 18 Golf	£39.00
	Mean 18 Data disk	£20.00
Activision	Shanghai (Mahjong)	£24.00
Alert	Balance of Power	£39.00
Artworx	Bridge 4	£29.00
Bethesda	Gridiron Football	£59.00
Gamestar	Championship Basketball	£44.00
	Championship Golf	£34.00
SSI	Baseball	£39.00
EA	Chessmaster 2000	£45.00
Infinite	Grand Slam Tennis	£49.00

### GAMES

EA	Archon	£39.00
	Bards Tale	£49.00
	Golden Oldies	£29.00
	Skyfox	£29.00
	Marble Madness	£39.00
	Arctic Fox	£29.00
	Adventure Construction set	£29.00
	Superhuey	£34.00
	Starfleet	£44.00
	Rogue	£39.00
	World Games	£39.00
	Winter Games	£39.00
	Halley Project	£39.00
	Racter	£44.00
	Brataccus	£34.00
	Defender of the Crown	£44.00
	Sinbad	£44.00
	SDI	£44.00
	Deja Vu	£49.00
	The Uninvited	£49.00
Activision	Borrowed Time	£24.00
	Hacker II	£29.00
	Mindshadow	£24.00
	Little Computer People	£49.00
	Tass Times	£24.00
	Portal	£34.00
	Hex	£34.00
Classic Image	Unicom	£24.00
	Rainbird	£24.00
	Pawn	£24.00
	Jewels of Darkness	£19.95
Insight	Financial Time Machine	£34.00
Other Valley	Monkey Business	£24.00
	Delta Patrol	£24.00
Polarvision	Crimson Crown	£29.00
	Transylvania	£29.00
Origin	Ultima III	£49.00
	The Ogre	£39.00
Sierra	Space Quest	£49.00
	Kings Quest	£44.00
	Kings Quest III	£44.00
Infocom	Leather Goddesses of Phobos	£29.00
	Hitchhikers Guide to the Galaxy	£29.00
	Moonmist	£29.00
	Hollywood Hi-Jinks	£29.00

**All prices include VAT —**

**Add £2.00 for P&P (UK and Europe). Add 20% for other countries.**

**Software is not sold on a trial basis. Software sold by mail order in the UK may be returned within 7 days of receipt, provided that it is not damaged, marked or soiled, in which event the purchaser may claim a refund.**

**Andy Moss' famed expertise in solving mind stretching adventure games is legendary. He regularly comments in C.C.I. on all the many and increasingly popular aspects of adventure.**

## Comment

Welcome again to Middle Earth, and another Mind Forever Venturing section packed with all the best there is in Adventure.

First of all I am going to indulge in a spot of name dropping and showing off, as your fearless hero tête à tête it with a couple of heavyweight legends from the world of adventure this last month. Not only did we make small talk over a few cocktails and canapes but also had lunch together! Impressive stuff eh? But enough of this banter, who were these Names I hear you ask, well they were none other than Infocom's Dave Lebling (he wrote all three Zorks, Enchanter, Starcross and Suspect) sitting on my left. The Anita (The Pawn) Sinclair from Magnetic Scrolls on my right. The occasion was a luncheon at The Limelight club (very trendy, don't you think?) hosted by Activision to announce to the Press their plans for '87.

During our conversation, Dave spoke about the new adventure he is working on and how he had just worked out the solution to a fiendish puzzle he had dreamt up involving a multi-ended chain that would be found in more than one room and needing to be picked up in one go! The mind boggles but all will be revealed in the fullness of time, remember, you heard it here first. Anita and Dave were both being very polite about each others' parsers. Well, why not? And Dave was very interested about a certain software house gaining quite a name at Infocom by the name of

Level 9. Guild of Thieves is nearly finished and Anita has promised me a sneak look at it, so as I write this I am waiting for confirmation — hopefully in time for this month's section. So much for the gossip, Dave left saying something about Grues chasing him and then he was off, which just left Anita to tell us more about The Pawn than we ever thought possible.

What about Activision though, what are their plans for '87? Well, sadly they are to concentrate on more "commercial" product and licensing tie ups, than the Portal/Alter Ego type software, which is a great shame as they were certainly becoming known for innovative programs of the highest quality. Let's hope that they can do a bit of both and keep us all happy.



## Infogrames Help Spot

David Croweller at Infogrames has asked me to point out to anyone purchasing The Sydney Affair (see review further on) that the instruction in the package have a few mistakes. The listing of objects found, is updated automatically this time, so no typing list is necessary at the start, and watch out when hitting RETURN on the murder scene, as you don't get a second chance to go back to it. It just loads in part 2!

## Adventure News

### New Release from Microprose

Following their almighty success with Gunship, Microprose tell me that their next BIGGIE, will be a simulation on dodgy seafarers who are quick to plunder the odd ship or two, and go under the name of PIRATES. You will take the part of a Pirate, in a graphical simulation of life on the high seas. Sounds good YO HO.

## Adventure News

### Gothic Horror from CRL

CRL has announced the release of Frankenstein, following the success of Dracula. It is based on the classic novel, and you play the part of Prof Frankenstein, the mad scientist who creates the Monster. Written by Rod (Dracula) Pike, it will be a three parter, with animated digitised graphics, horrific sound effects, and some pretty gruesome descriptive text. If you remember, Dracula was the first piece of software to be given a 15 certificate because of the "terrifying" graphics and text, so is this one going to be just as terrible — we wait with bated breath.

### Doc the Destroyer

Doc the Destroyer is the first in an advanced race of superheroes, say Melbourne House. His powers of reason and physical strength, and his ability to survive are determined by you at the start of each game.

The world of Doc, is Earth, now however reduced to just raw rock, and mankind is shielded from the poisoned environment, by an energy dome. Our hero is cast out from this protection and branded, a heretic after he warns everyone of impending disaster, and he is left to fight his way back in past the City's defences, surviving the gladiatorial arena, to finally confront the temple Priests, who seem to be mixed up in all this.

The adventure also has arcade type combat sequences depicted in massive sprite, which Jane Denning Melbourne's Marketing Manager

## All Time Top Ten

Just to add a little spice here's something for you to ponder. My all time top ten adventures. How about you, what are yours?

- 1) Colossal Cave
- 2) ZORK 1, 2, 3
- 3) The Hobbit
- 4) Dungeon Adventure
- 5) Adventure Quest
- 6) The Pawn
- 7) Snowball
- 8) Deadline
- 9) The Knight's Quest
- 10) Return to Eden

says is a "fantasy role playing text and graphic arcade adventure combat game!". Phew, sound too good to be true, we shall see, won't we?

## SSI Launch Blitz

During this month, SSI are set to release a whole stack of strategy games, which should sell and truly temper your lust for battle. They are BroadSides, Gettysburg, Mech Brigade, Carrier Force, Panzer Grenadier, Wargame Construction Set, Baltic 1985, Colonial Conquest, Fighter Command, Computer Ambush and Battlegroup. That should keep all you wargamers busy for a year or two.

## Lord Of The Rings Game 2

From the team that brought us Lord Of The Rings, comes new of the sequel, "Shadows Of Mordor" which is based on Tolkien's The Two Towers. Melbourne House promise me that this adventure has certain refinements to the system used in LOR Part 1, including more complex problems, a quicker response time, and an 800 word vocabulary. As the saying goes, let's wait and see.

## Electronic Arts and the Ring Quest

There is a huge adventure about to engulf us from America thanks to Electronic Arts, called Ring Quest, which has been written by the Ultima team. It is the story of an enchantress named Lisa who has come under the spell of the Ring of Chaos. You are a ringbearer of The Ring Of Order, and it is your objective to free Lisa and unite the two rings before life as we know it... ends.

It is a roleplaying, interactive, graphic, arcade fantasy adventure game (in that order) with over 100 locations and 80 colour illustrations. Guess who will be having a look at it?

## Letters

*Dear Andy*

I have had my 64 for quite some time now, but never bothered to buy adventures. But a few weeks ago someone gave me a copy of "Mindshadow" by Activision. Now I am addicted and could you please tell me how to finish the bit on the pirate ship. It's driving me mad as I can't seem to do anything. Please help me.

Nick Gentleman  
Enfield, Middx.

*How could you have been so foolish Nick, to not bother to buy adventures? I think as a punishment I should let you stew on the pirate ship forever, so there. But as you have seen the errors of your ways here is the answer. When you arrive on the ship, go down to the crews quarters and fight the pirate. This will allow you access to the galley, where you will find a meat cleaver, get it, and go up on deck. Look out to sea, and you will see a Navy ship chasing, cut the anchor with the cleaver, stopping the ship and board Navy boat by walking the plank!*

Dear Andy,

Please, please, please could you help me. I have got Savage Island Part 1 and boy is it hard. It's practically impossible! Please could you tell me how to get to the atoll, kill the bear and shelter from the hurricane?

From a CCI fan, Steven Clark  
East Sussex

*Hmmmm Steven, losing your rag over a simple adventure like Savage Island? I'm surprised at you. It's really a piece of cake for a mega hero like me, but for you mere mortals here are a few tips. At the beach dig with hands and get the rum go volcano and drop watch and bottle at the entrance to the cave at the lake. Hold breath, enter*

*lake, get block and knife. The basin in the cave should be filled with the rum, and the empty bottle filled with salty water. The bear can be passed by pouring water onto the cliff and waiting while the bear licks the salt. The hurricane is random, so save the game at regular intervals.*

Hello Andy,

I have been playing The Pawn, and achieved 300 points! But now I am stuck, I hope you can help. How can the safe in the tree hut be opened? and how can the door in the ice tower be opened? Looking through CCI I have discovered that you have an Adventure section so now I will buy CCI each month for sure. I hope you can answer my questions and wish you many long frustrating moments with adventures like all game reviewers.

Time Wissink  
Holland

*Thanks a lot Tim, and the same to you! It's really nice to know that all over the world we adventurers all get stuck in the same places, and if I can help an overseas soul I will, so here goes. First of all, to open the Ice Door and the safe, you need the BLUE key. However, you can only insert it in one door as it disappears after use! I suggest opening the safe as the Ice Door only leads to the Princess. This will give you another 40 points.*

Dear Andy,

I hate to point out but in your March 87 issue you have made a mistake.

(1) You do not become an Avatar, just by being enlightened in the eight virtues, you only become a partial and will not automatically solve the quest. (2) You do not go through the City of Cove to find the Abyss. (3) The Abyss is on the same island as the Shrine of Humility.

It took me some 4 months to finish Ultima IV and I am now into the Bards Tale.

Yours Falcon Atarglobe  
Falgon, Level 9, The Abyss  
Ultima IV

*Adventure!*

OFFICIAL COMMODORE/AMIGA DEALER

COMPUTERS

AMIGA 2000 1Mb + 1081 Colour Mon .....	1604.25
AMIGA 1000 512K + 1081 Colour Mon .....	1033.85
AMIGA 1000 512K + 1081 Colour Mon + Drive .....	1229.95
SIDEKAR 1000 for Amiga 1000 .....	688.55
Commodore 128D with Built-in 1571 Disk Drive + Box Disks .....	504.85
Commodore 128D with Green Screen Monitor + Box Disks .....	562.35
Commodore 128 .....	238.05
Commodore 64C + 1550 Cassette + NEOS Mouse + Games .....	228.85

PRINTERS

Citizen 120D Dot Matrix 120cps & NLQ Frict/Trac .....	209.00
Commodore MPS1000 Dot Matrix 100cps & NLQ Frict/Trac .....	251.85
Star NL10 with CB4/128 Interface 120cps & NLQ I/I .....	253.00

MONITORS

Commodore 1901 14in Colour Monitor for C64/128 .....	302.45
Philips 8533 14in Med Res Colour Mon for C128 incl lead .....	291.75
Philips BM7502 Green Monitor for C64/128 incl lead .....	82.80

MISCELLANEOUS

Commodore 1541C Disk Drive .....	182.85
Commodore 1571 Disk Drive .....	239.00
Cent Interface for C64/128 .....	29.95
Cent Interface for C64/128 with Bk buf & graphics .....	59.00
IEEE Interface for C64/128 .....	80.44
RS232 Interface for C64/128 with disk software .....	57.44
Commodore 64 Power Supply .....	26.45
Surge Protector 13 Amp Plug (Adapter £14.95) .....	11.95
The Final Cartridge II .....	26.00
NEOS Mouse Cheese with cassette for C64 .....	19.00
Horasoft 80/40 Column Switch for C128 .....	12.95
Amiga DOS Reference Manual (p&p £2) .....	24.95
C64 Official Programmer's Ref Guide (p&p £2) .....	7.95
C128 Official Programmer's Ref Guide (p&p £2) .....	21.95
The Anatomy of a Commodore 64 .....	5.95
Machine Language Book for the C64 .....	5.95

SOFTWARE

AMIGA Software 15% Discount .....	PHONE
GEOS for C64/128 - desk Top geoPaint geoWrite etc. ....	49.00
GEOS Disk to upgrade to V1.3 .....	3.99
GEOS Fontpack 1 with 20 Fonts .....	21.99
GEOS Deskpack .....	23.99
GEOS Writer's Workshop .....	34.99
GEOCALC Spreadsheet .....	34.99
GEOFILE Filing System .....	34.99
Superbase 128 Programmable Database .....	59.80
Superscript 128 Word Processor .....	73.60
Taskword 64 40/80 Column Word Processor - Tap/Disk .....	17.95/19.95
VizalWrite 64 Word Processor on Cartridge .....	69.00
VizalWrite Classic 128 Word Processor with Spell Check .....	79.35
VizalStar 128 Spreadsheet & Database .....	99.95
VizalStar XL8 Spreadsheet & Database for C64 .....	79.35

DISKS (Examples)

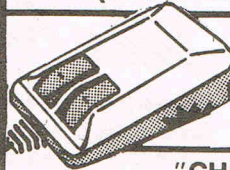
5.25in SS/DD Precision (10) .....	8.90
5.25in DS/DD Precision (10) .....	9.99
3.5in DS/DD Branded (10) .....	24.00

All prices include VAT  
CARRIAGE £8, EXPRESS DELIVERY £12, Software & Small Items FREE.

*Delta Pi Software Ltd*

8 Ruswarp Lane, WHITBY, N. Yorks. YO2 1ND.  
Tel: 0947 600065 (9am-7pm)

NEOS MOUSE + SOFTWARE  
★ (THE COMMODORE MOUSE) ★



NEOS MOUSE WITH "CHEESE"  
CASSETTE AND "CHEESE" ON  
DISC = £34.90

Wigmore disk version includes  
genuine save & load to disk.

"CHEESE" on disc - £8.50  
(including save and load of pictures with fast and  
slow load.)



ARTIST 64  
MOUSE or JOYSTICK

This is the most sophisticated,  
powerful and advanced art or  
graphics package available on a  
CBM 64 or 128.

"Artist 64 is an excellent graphics  
package and we were extremely  
impressed with its range of capabilities. It is in fact probably the most  
versatile graphics program that we have seen".

Your Commodore takes over where cheese leaves off. Although friendly  
and fun - can be used professionally with over 250,000 combinations of  
commands.

★GIVE YOUR 64/128 - AMIGA TYPE GRAPHICS★

Full colour working. Full screen working. Zoom and Pan. Create any brush  
fill, pattern or icon. Variable Text. Commodore and Epson printdumps. Add  
other print routines. Innovative colour commands "Over and Under" -  
(colours weave over and under each other) "Colour Cycling" "Duplicate  
objects without certain colours."

P.C.W. "Artist 64 is a compulsory purchase" Tape or Disc = £29.90

DESK TOP! Mouse or Joystick or K Board

Fascinating Range of utilities handy facilities. 100 year calendar.  
Diary. Clock. Calculator. Disc Utilities. Name/Addr. Directory.

ONLY £18.50

Cassette  
and Disc



WIGMORE  
HOUSE LIMITED

ACCESS  
CHEQUES

P.O. CASH  
ORDERS

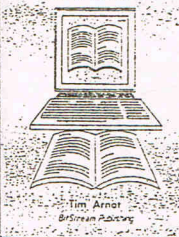
P & P = UK £1.50  
Overseas £3.00

Dealer, Export and Educational Enquiries  
32 Saville Row London W1X 1AG 01-734 8826  
Welcome

Let there be light...

BitStream

COMMODORE 128  
COMPANION



C-128 COMPANION  
by Tim Amot  
£9.95 p&p free\*

- This book tells you far more about BASIC 7.0 works than many books at nearly twice the price.
- Machine Code entry points for all BASIC routines.
- Kernal, BASIC and Editor jump tables explained in depth.
- Detailed hardware descriptions.
- 340 pages.

Available from all good computer/  
bookshops or send cheque/P.O. to:

**BitStream Publishing**  
(Dept C)  
**26-28 Osborne Road**  
**Southsea, Hants. PO5 3LT**

\* Add £1.00 for overseas orders

DIGITAL  
SHADES

AMIGA HARDWARE  
& SOFTWARE  
SPECIALISTS

Special Deals on AMIGA  
1000 & 500 units and full  
after sales support

Opening next month  
For details watch this space



## MIND FOREVER VENTURING...

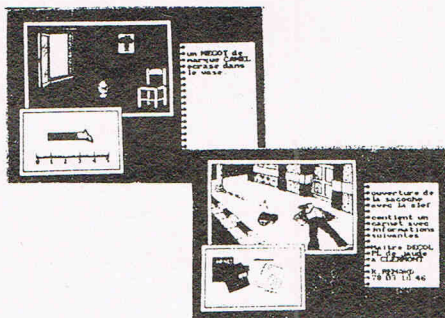
CONTINUED

*I'm impressed at your prowess, kind sir! However, if you had taken the time to read the section properly, you would have seen that I did say that I was not going to give the whole game away, as that would have spoilt a lot of people's hard work. What I did do was point them in the right direction, and untangle the many complicated stages so lesser mortals than your good self could carry on. I beg your continuing presence each month on progress in your latest exploits, and I'll overlook this little matter. Me, make a mistake? Whatever next?*

## Reviews

### The Sydney Affair — Infogrames £8.95

If you remember, back in the January issue, I reviewed Vera Cruz, the first in Infogrames detective series, and spoke in glowing terms about the game. It really hooked me, and I must say, I felt very much like a real detective, as the clues



came inching their way out of the game bit by bit. I had the murderer's name but couldn't prove it until many hours of play, and even then it was touch and go.

The Sydney Affair is effectively Vera Cruz 2, with you as the now famous French detective given the case of James Sydney, who has been shot dead in the street by a sniper's long range rifle, from an upstairs flat window.

The same scenario then applies, where you move a box cursor around the scene of the crime looking for evidence and the odd clue, and then move to your office computer network system to try by contacting different police services via the computer, to crack the case. There are a few changes to the original, for instance this time there

are two places to search for evidence, the street (next to the body) and the flat from which the shots were fired. Once you have got your bits and pieces, you no longer have to type in the various objects as you did in Vera, the computer keeps them in memory, and automatically compares this evidence with the suspects' alibis. And finally using the Network has been made easier from a typing point of view. So much for the good news. The bad news is there is STILL no save game function, an absolute must in a program of this nature; the crime is if anything, easier to solve than Vera Cruz (its apparent right from the start why he was killed) and the instructions leave a lot to be desired (see Infogrames help spot in the news section).

I feel that Sydney Affair has been rushed released in the wake of Vera Cruz success, and that not enough thought has gone into it. It's a shame because I love the idea, and thought Vera Cruz was fabulous. It's just that this one lacks the atmosphere and the tension and its just a bit of a let down.

Personal rating ..... 6

### Murder Off Miami — CRL £8.95

This is a 3 part detective story, penned by the infamous Fergus Mcneil and Jason Somerville of

Delta 4 fame, and casts you as Detective Officer Kettering assigned to investigate the apparent suicide of wealthy financier Bolitho Blane. It is based on the Dennis Wheatley novel of the same name, and is set around the early 1900's on a cruiser off the coast of Miami. It is a fairly serious venture for the two authors, who have up to now been content to take the mickey out of just about anything that moves. And as such I will look at it in just that, a fairly serious manner.

As a detective adventure. It doesn't work very well, because of the limited vocabulary. As usual they are using Gilsoff's Quill to implement, and this game is pushing the system a bit too far. These days, we are getting used to very sophisticated parsers that let you type in full English sentences and multi-task commands. Murder Off Miami is a game that cries out for a detailed enough parser that lets you interrogate suspects in a free and easy manner, instead of being shackled by software limitations, one drawback of the Quill system. I found myself getting very frustrated trying to hold a conversation with an, in the end sleeping person! You can visit the characters' cabins and explore them whilst they are asleep in their beds, and worst of all just as I was getting down to having a good look

## PREVIEW

### Stiffip and Co — Palace Software

A very classy adventure is about to be with us, written by Binary Vision, (who did some marvellous work in The Fourth Protocol) and chronicles the efforts of four unlikely spies, who have to track down the evil Count Chameleon, a man who is the sworn enemy of the English Establishment. He has developed the rubbertronic ray, which will neutralise starchy wing collars, and worst of all drastically alter the bounce and line of a cricket ball!

It had a sneak look at the game, at Palace's HQ in London and can report that it is a very clever production. The action revolves around the four strange spies, Viscount Stiffip, Colonel R.G. Bargie, Professor Braindeath and Miss Palmyra Primbottom, who are flown to a country named Banaria to seek out Chameleon and destroy the Ray. All the action is icon controlled, and as you can see from

the screen shot, the design and layout is very pretty indeed. You have to move each character around the country, exploring different locations which are graphically represented in a series of black and white 'stills' which scroll upwards as each new area is entered. Objects can be found and used to get past a while nest of problems, and I must point out that although there is a fight sequence, this is not an arcade adventure, just a purely graphical one which does require a lot of strategy work to overcome the puzzles. You can talk to characters in the game via speech bubbles and there is a fair amount of action as Chameleons henchmen pop up every now and then and have to be dealt with.

I am reliably told by Palace, that there are over 60 locations in the game using two loads, and each location is graphically different. It looks like a cross between Shadowfire and Kwah, but the test is, is it as good? — We shall see . . .

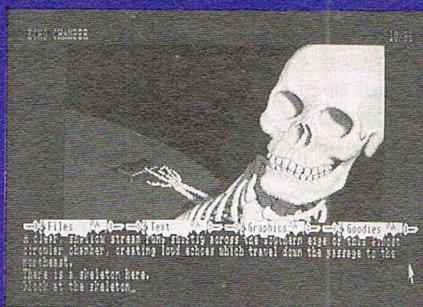
## PREVIEW

**Is Guild of Thieves a worthy successor to The Pawn? Andy Moss pays a visit to Magnetic Scrolls and plays it first hand to find out the answer and to give you a pre production review.**

A trip to the offices of Magnetic Scrolls is something of an adventure in itself, with it being tucked away in a tiny corner of early South London, not a stones throw from London Bridge — and me in a car trying to negotiate the small courtyard entrance in which I knew they lived.

I was greeted with some warm "Hellos" from the programming team, given a cup of coffee almost instantly (this I am reliably informed is a ritual, you will never see them without one) and plonked in front of a monitor and keyboard with the words "so you have come to programmers play Thieves have you?" They all sniggered and gave each other "he doesn't know what he is letting himself in for" type looks. Taking no notice of this idle banter your fearless adventurer peered at the screen and prepared to do battle with the vaunted 'Guild of Thieves'.

The adventure is set once again in Kerovnia (the location of The Pawn) and is all about your attempts to become a better thief and be able to join the famous Guild of Thieves. The game opens

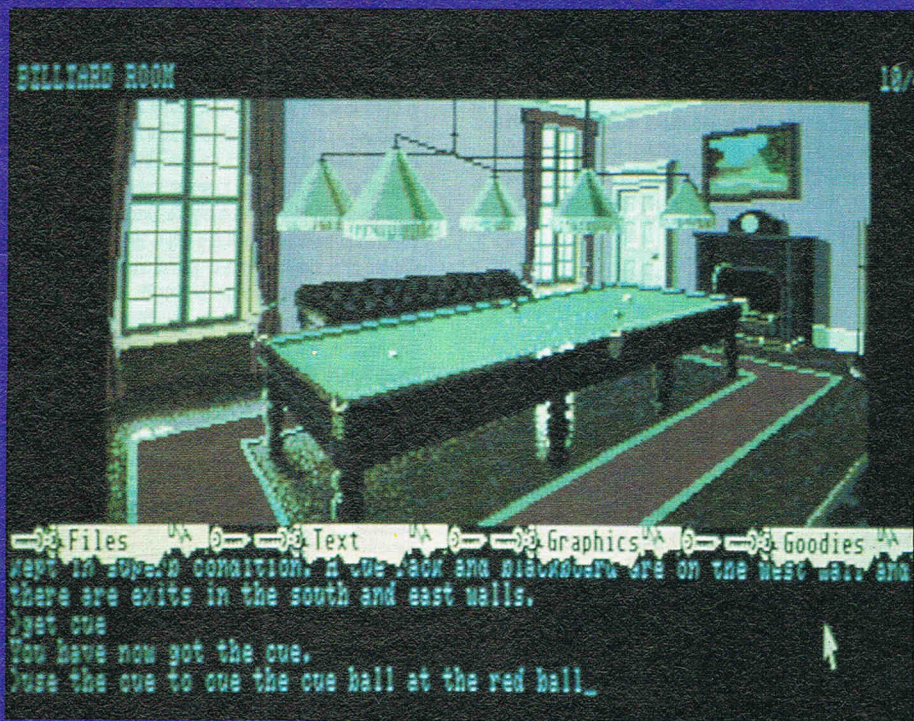


with you and The Master Thief in a small boat adjacent to an old jetty. He gives you instructions, which are to ransack a nearby castle of its treasures and return to him in the boat. According to how many treasures you recover you will be rated as to your worthiness in thievemanship, and, as the Master Thief also knows exactly how many treasures there are to be found you

can't cheat you way into their club. You start with just a swag bag to your name and a lot of hope. The pictures in Thieves, and there are around 30, are I would say even better than The Pawn, and I had the opportunity to view three different machines at the same time, (Amiga, 64 and ST) and I can tell you there is not a great deal of difference between them, which is remarkable especially for the 64 version.

The room descriptions are good and meaty, and you have to pay very close attention to a lot of it as there are a few clues hidden in the text that can easily be overlooked. By now I was having a little problem with some cellar rats, and all Anita kept doing was walking over every so often and nodding wisely, as if to say, you are not going to get any help from me!

The humour that ran through The Pawn (remember the Porter in Hell)



The initial locations are some scrubland, a wheatfield, a windmill and a wood, and it is good to get a feel for the game by wandering around these areas for a while. As I was exploring these first few places, Anita Sinclair, Magnetic Scrolls' MD arrived fresh from yet another meeting, took one look at where I was and gave (what was quickly becoming a frequent event) yet another knowing smile. "Have fun" she said, and went off to concentrate on her own keyboard and monitor. Back to the game, and eventually, you'll see the castle, complete with moat, and it's in there that a good deal of the game takes place. There was talk of Thieves being easier than The Pawn. Well, put all notions of that out of your mind, as I can tell you that some of the puzzles are mean to say the least. I would say that it is more user friendly however. There is a nice GO TO command that lets you revisit a location automatically, in fact you can even type "go to sword" if you can't remember where you left it!

is very apparent here, and there is a lovely sequence in the Library that involves over 25 different book titles and their contents — watch out for that.

After 4 hours, and uncountable cups of coffee, I called it a day, having found a few treasures visited some fancy places and got myself killed a few times, but richer for the experience. The sniggering from the programmers had stopped as they got down to some serious work debugging and generally putting the finishing touches to the game, Anita was on the phone discussing some finer points of the packaging, it was 11 pm and it seemed the day was just beginning at Magnetic Scrolls. So, with a quick "hope you liked it, see you again soon", and wave from them I was on my way home, safe in the knowledge that another masterpiece was nearing completion. Personally it can't be soon enough. And to think, that there are at least another five adventures planned over the next two years to look forward to... oh bliss!



# LAN



## COMPUTER SYSTEMS

### Bringing the World of Technology to your fingertips

#### AMIGA A500

With free box of  
3½in diskettes  
worth £19.95 inc. VAT

**£434**

#### AMIGA SOFTWARE

Imported direct  
from the USA  
and subject to  
availability

Donald Duck  
Winnie the Pooh  
Space Quest  
Kings Quest Vol II  
Black Cauldron

**£19.95**  
**£19.95**  
**£34.95**  
**£34.95**  
**£34.95**

#### STAR NL10 PRINTER

Draft paper 2000 sheets  
worth £14.95 inc VAT

**£219**

#### THE FINAL CARTRIDGE II 5¼" DISKETTES (Box of ten)

In plastic library case

**£34.00**

**£8.65**

#### CBM64C

Including mouse  
and cheese  
C2N cassette player  
+ software titles

With free game  
of your choice  
worth up to  
£9.95 inc VAT

**£174.00**

#### 3½" DISKETTES (Box of ten)

In plastic library case. Double sided 135 T.P.I.

**£17.35**

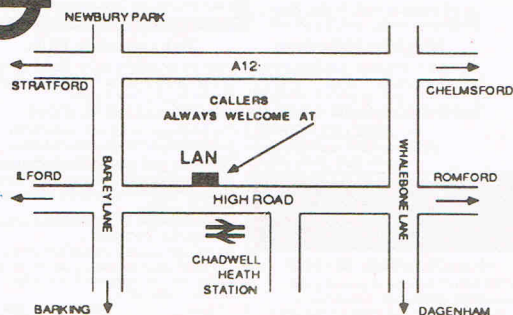
#### WE ALSO ACCEPT

VIC 20, C16, +4, C64 and C128 Part Exchange on the new  
Commodore Amiga A500. Phone for details.

### LARGE RANGE OF GAMES AND SOFTWARE IN STOCK



#### COME IN AND SEE US



1063 HIGH ROAD  
CHADWELL HEATH  
ROMFORD, ESSEX  
Tel: 01-597 8851

We are open  
9-6.00pm  
Monday to  
Saturday



#### HOW TO ORDER

Enclose letter with cheque, postal order or credit card  
number for total amount including VAT and delivery  
charge.

Credit card holders may order by telephone.  
Dispatch normally in 24 hrs. Contact Sales Desk

**Official Orders** from Educational Establishments,  
Local Authorities and Government departments welcome. Contact  
Educ. Dept. **EXPORT HOT LINE: 01-597 8854. TELEX: 9955**

**Dealer and Export Enquiries:** Contact Trade Dept.

**Delivery Charges:** Below £10.00 add £1.50  
Below £50.00 add £2.50  
Below £100.00 add £3.50  
Above £100.00 add £8.00

*Prices exclusive of V.A.T. and Correct at time of going to press.*

Education callers ask for  
**Tony Judge or Mike Brown**



# HOLLYWOOD POKER



"Hollywood Poker" is a high-class strip-poker with the help of digitized graphics. Play poker against beautiful girls, one of them a real Miss Germany! When your partner loses money she has to take off her clothes. Choose between four different girls. Try your luck!

Available from mid-April on these machines:  
Spectrum - £6.95  
C64 Tape - £7.95; Disk - £9.95  
Atari - £14.95  
Amiga - £19.95  
Plus 4 - £6.95

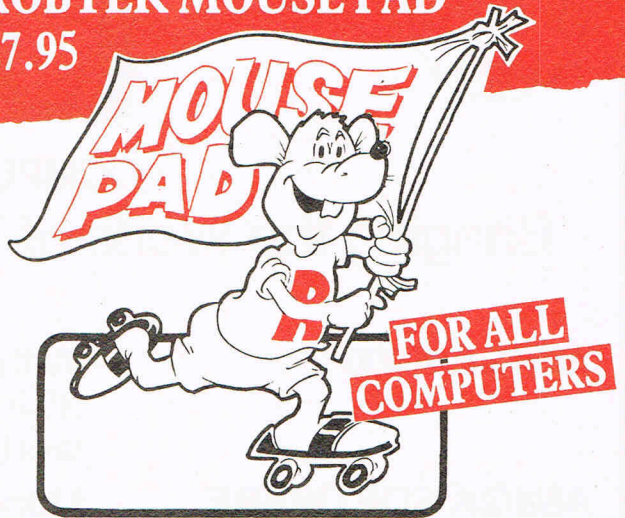
DIAMOND SOFTWARE ROBTEK LIMITED  
UNIT 4 ISLEWORTH BUSINESS CENTRE  
ST. JOHN'S ROAD  
ISLEWORTH  
MIDDLESEX  
TW7 6NL



TELEPHONE: 01-847 4457

## ROBTEK MOUSE PAD

£7.95



- 1) Right track for your mouse.
- 2) Rubber mouse pad saves a lot of mouse wear and tear every time you use it.
- 3) Surface feature helps to keep your mouse rollers clean and tracking smoothly.
- 4) Mouse pad also protects furniture finishes.

# Robtek

Unit 4, Isleworth Business Complex,  
St. John's Road, Isleworth,  
Middlesex, TW1 6NL.  
Telephone: 01-847 4457

## AMAZING NEW 'TOTAL BACKUP' CARTRIDGE FOR COMMODORE 64 AND 128 (IN 64 MODE)

# NEW ACTION REPLAY V.3 FROM DOSOFT UNSTOPPABLE 'TOTAL BACKUP' CARTRIDGE

OUR NEW INNOVATIVE HARDWARE AND SOFTWARE COMBINATION  
GIVES YOU MORE POWER, MORE FEATURES, MORE FUN!!

Action Replay V.3 is now **more** powerful, has **more** features and will back up **more** programs than any competing cartridge! It handles the latest protected games! Just plug it into the expansion port then press the Magic Button! Our new hardware design makes this absolutely unstoppable. Now you are in complete control. Tape to tape. Tape to disk. Disk to disk. Disk to tape. No special knowledge is required. It tells you exactly what to do. It's so friendly—and it's a lot of fun too!

Become invulnerable! Action Replay V.3 now has a SPRITE KILLER. Play weird games! The unique SPRITE MONITOR lets you save sprites from one game and load them in another! The mind boggles!

Nothing else offers all these features at this price!



THERE'S NO STOPPING ME NOW!

### DiskMate Cartridge V.2

This is the way Commodore should have their DOS. Single keystroke commands: e.g. LOAD and RUN straight from directory, and much, much more! Works with all drives: 1541, 1570 and 1571.

- 2 minute complete Backup
- Very fast disk functions
- Invisible Toolkit
- 10 second Format
- Powerful "Floating" Monitor
- SAVE "@:": bug cured
- Takes up NO memory
- Unstoppable reset

**£14.99** TERRIFIC VALUE

Buy DiskMate with Action Replay in ONE cartridge ONLY £39.99

#### Graphics Slideshow

View pix from games, graphic packages or loading screens singly or in sequence. 16 pictures per disk. Turbo-load. Disk only.

**LOOKING GOOD AT \$4.95**

**SPECIAL OFFER!**

Enhancement and Slideshow on one disk ONLY \$11.95

### 100% SUCCESS? WE ASK: WHO'S KIDDING WHO?

Action Replay V.3 will back-up ANY program which ANY other cartridge can—and much more! It also has unmatched features. For instance, "Freeze Frame" uses more disk space, saves SLOWER, has a SLOWER tape loader and has NO built-in disk fastloader, NO picture, NO Sprite, NO restart-features, yet costs £10 more!!! So, come on, who's kidding who? If Action Replay V.3 doesn't live up to our claims, return it within 7 days of receipt and you can have your money back!

#### Enhancement Disk

Get even more from Action Replay with this Bonus Disk to back up the new non-standard multi-stage loaders.

**GREAT VALUE AT £7.95**

Our cartridges carry a twelve month guarantee against mechanical failure.

**How to get your DoSoftware**

Please send cash/cheque/P.O. with order for fast despatch (SAE Only for full details).

Send off now to:

DoSoft (Dept Y), 2 Oakmoor Ave,

Blackpool, FY2 0EE

UK Postage included. Europe add £0.75, or

£2 if order includes Blank Disks. Overseas

add £1.50 for Airmail, or £3.50 if order

includes Blank Disks.

# DoSoft

You'll Do it Better with DoSoft

## SUPER SOFTWARE SALE

Buy NOW and SAVE! SAVE! SAVE!

#### The DoSoft Collection

UNBEATABLE OFFER! The latest versions of MegaTransfer, MegaUtility, MegaTape and ProSprite ALL on One Disk

**HALF PRICE £12.50 WOW!**

#### DoSoft Super Disk Kit

AS ABOVE but with 12 Xidex Precision Boxed Disks. A great start to get your programs on disk at a giveaway price!

**SAVE! SAVE! SAVE! £19.99**

#### Mega MegaTape Savings

OUR FAMOUS Tape-to-Tape utility for one Datasette at an unbeatable price.

**BUY NOW \$5 BRILLIANT!**

#### Xidex Precision Disks

From the WORLD'S LEADING SUPPLIER—12 Double Sided, Double Density 5 1/4 Disks complete with sleeves, labels, tabs and FREE high impact plastic storage box

**TWELVE FOR ONLY £8.50!**

**£29.99** GET MORE FOR LESS!

Buy Action Replay with DiskMate in ONE cartridge ONLY £39.99

Action Replay and DiskMate are also available from Datel Electronics

DISK TO DISK • DISK TO TAPE • TAPE TO TAPE • TAPE TO DISK

HARDWARE TRANSFERS MULTIPARTS • DUMPS HI-RES SCREENS

FAST DISK UTILITIES • LOADERS • 2-MIN DISK COPY • FAST DISK FILE COPY • FAST FORMAT



**ICPUG is a highly influential organisation and brings many benefits to its members across the whole range of Commodore activity. CCI considered that a regular column from ICPUG would be of interest to many readers. The views expressed by ICPUG may not be those of CCI**

A chance of stardom sometimes strikes quickly. In the ICPUG Column in April's CCI, I was mentioned as Chief Librarian of ICPUG and now, I find myself writing the column.

Friday afternoon, 5 o'clock is drawing

near. Sam, my boss, is trying to clear his desk as he's on leave next week. He's clearing it onto mine! The phone rings and my weekend plans go into disarray.

I often get asked what the National Committee of ICPUG actually DO. One answer is we help each other out. John Bickerstaff (Vice Chairman) has rung with a problem — Tim Arnot is on holiday and CCI hasn't got his copy. Most of the rest of the committee are away (the Chairman's on honeymoon). All that is needed is a short article. "Doesn't sound too bad", I say, "When's it needed by?" "First post WHICH Monday!" Great, all I need to do is think of something, write it tonight, get it in the post tomorrow morning and it will be there on time. Pity about all the other jobs though.

On the way home I start thinking of possible topics. Over tea the family add a few more. First prize goes to my brother who suggests "The problems of a wildlife photographer"; April to June is the time I tend to sit up trees (no kidding) to photograph deer, foxes and badgers. Tonight instead I sit at my PET, wordprocessing. Luckily today's post didn't contain any copying requirements, just the minutes of the last Committee meeting, two letters requesting information on the PET library and a plea for help on the 8096 (my own

machine). The plea for help will take a bit of time but the other two can be answered by a standard reply sheet. So, now down to business.

As a librarian I get quite a lot of general enquiries. These range from the very general ("Where can I get my 1541 fixed?") to the occasional 6 pages of great detail and problems. The latter are always fun and a great challenge. Indeed it is often one of these problems which prompts me to write that little utility that I've never quite got round to.

One of my specialist topics is disks. Do you know that it takes time but is fully possible to recover the files from a disk which has had its directory (header) track corrupted or which has been reformatted (using the short form of the command). I know because I've done it twice now for members. I did point out to both that it would have been a lot quicker to make backup copies of their disks. During these sessions there is one pair of books which serve as my 'bible'. I do, of course, mean Rae West's excellent pair 'Programming the PET/CBM' and 'Programming the Commodore 64'. If you haven't got a copy, get one — you'll never regret it and if you haven't joined ICPUG, come on in — we're a friendly, helpful bunch (ask my paperboy, Kevin; he's just joined!)

Joe Griffin



since 1970

**ALL DISCS TESTED INDIVIDUALLY  
100% GUARANTEED**

5 1/4"	S/S DD	10'S	£8.00
	D/S DD 96TPI	10'S	£8.50
3 1/2"	S/S DD	10'S	£14.95
	D/S DD	10'S	£18.95

FREE LIBRARY BOX WITH 10'S - V.A.T. AND POST/PACK INCLUDED

**BULK PURCHASE DISCS**

5 1/4"	S/S DD	50	100	250
	D/S DD (96)	£27.50	£50.00	£120.00
3"	CF2	10'S	5'S	
	CF2			£27.00
				£14.00

All discs of major European manufacture, complete with Hub Rings, Labels etc

**STORAGE BOXES**

Lockable, anti-static storage box, holds 50 x 5 1/4" discs complete with dividers, keys, etc

**SPECIAL OFFER £7.99**  
or only £2.50 when purchased with 50 discs.

**NEVIS RECORDS LTD.**  
76 MUSWELL HILL ROAD  
LONDON N10. 01-883 7656



See us on Prestel, page 258880082



the Independent  
Commodore Products Users Group  
is the largest and most friendly  
computer club in the country

- Many local groups with regular meetings
- Superb FREE Newsletter - 80 plus pages of reviews, news and information every two months
- We support all Commodore Machines old and new: PET, VIC20, 64, 16, +4, PC, 128 and AMIGA...
- Free Software Library of public domain programs for all the above machines available to members on supply of blank disk or tape and payment of p&p
- Help and Advice
- Discount scheme
- Subscription only £10 per year (UK) plus £1 joining fee

If you are seriously interested in using or programming any Commodore computer, then joining ICPUG is a must! For full details, send a stamped, addressed envelope to:



ICPUG Membership Secretary, Jack B. Cohen,  
30, Brancaster Road, Newbury Park,  
Ilford, Essex, IG2 7EP

## MIND FOREVER VENTURING...

CONTINUED

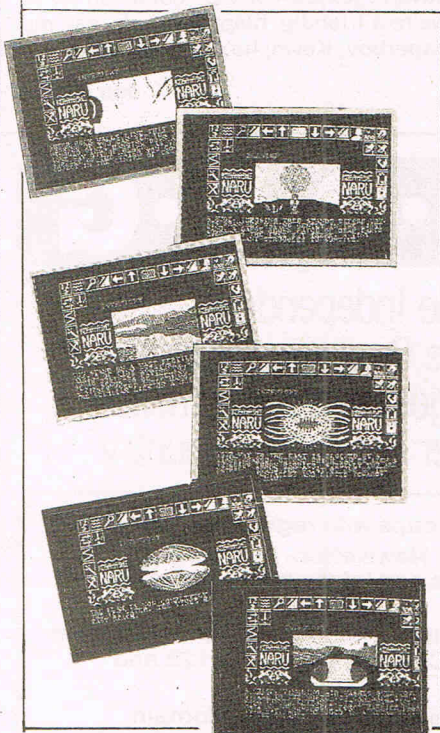
around I was told that the first day had ended, save on tape, and load in day two. What happened next was an I/O error and the chance to only start all over again. No way to retrieve my last position. This is just plain bad manners, and CRL should not release a tape until full error trapping has been carried out.

There are some good points though, like a dossier of the suspects, and a plan of the ship, some witty text, and a good plot. The graphics apart from the loading screen are pretty dire, and pretty worthless apart from the odd clue the memory space should have gone to more words instead.

Personal rating ..... 4

## Kobyashi — Mastertronic £1.99

Kobyashi Naru is everything a full price adventure should be but at a fraction of the cost. It is a game completely driven by icon control,



that lets you examine, get, drop, use, analyse, throw, etc. without typing a word. On top of that there are some pretty clever puzzles thrown in, in fact I am totally baffled by one as we speak! The storyline is all about your trials to become accepted in the Order of Immortals. You start in a closed chamber on the world of Ygor, and ahead of you are three closed doors. Each door leads to a

quest adventure, which must be solved and the required objects brought back to the chamber. It doesn't matter in which order you attempt the doors but you cannot return to the chamber until you have found the quest object of that section. The problem is you don't know what it is! The screen layout has all the icons surrounding the top half of the picture, with the rest of the screen used for location graphics and text. With descriptions like "You stand on a vast fertile plain. A myriad of tiny creatures scurry about their business paying you no heed. The place seems to be teeming with life and a sickly smell hangs in the air." You can see that it is pretty atmospheric.

A wonderful buy by any standards. Go and get it tomorrow!  
Personal Rating ..... 9

## The Ket Trilogy — Incentive £7.95

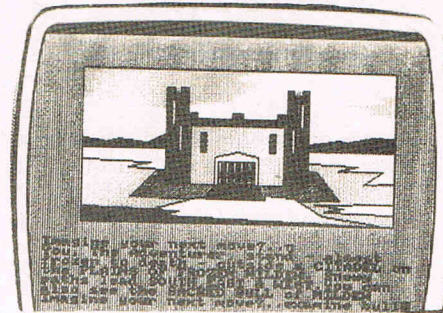
In 1984, when this trilogy first appeared as three separate adventures, there was a prize of a video recorder to the first person to complete the coded message that appeared at the end of each part. I toiled away for weeks, truly, because not only did I want the recorder, but I actually enjoyed the games immensely. Unfortunately, it came to pass that someone beat me to it, I came to grief at the Guardians riddles, so it was not to be. But Incentive have bundled them together on one tape at a very useful price, and even three years on, the adventures play well. The plot concerns you as a convicted murderer (falsely accused) given the chance to go free if you find and destroy the evil King Vran who has devastated the land of Ket. Your task is to travel across the mountains, (Part 1) then underground via the Temple (Part 2) and on to the Final Mission in Vrans inner sanctum. Incentive have added a nice touch to the proceedings by inserting a small map routine which uncovers as you explore, giving you a chance to see right away whereabouts you are, and doing away with mapping on paper. An adventure that stands the test of time and is great fun to play.  
Personal Rating ..... 7

## Imagination — Firebird — £1.99

There you were, browsing through your local computer shop, when you notice a dusty disk with no label just lying there. The shopkeeper hasn't got a clue where it came

from, and lets you take it home to find out what is on it. So what happens, you get home, power up the Commodore and insert the disc. After a lot of whirring and clanking you are faced with a menu of 4 titles one of which is THE LORDS OF HALF PAST NINE which leaves you in no doubt as to the flavour of this escapade. Selecting the first game makes something strange happen — you actually get pulled into that very adventure!

This is a very witty yarn from the pen of Peter Torrence, who wrote SubsunK and is in fact four adventures in one, linked together by this vision of you sitting at your keyboard trying to work out what this game disk is all about. The drawback is that the parser is a little limited, and refuses to allow you much in the way of helping you if you are a little off course, you know, you know what you want to do but the parser won't let you until



you do something else first. You can get items from one adventure and use them in another, and can come and go quite freely from one to other simply by typing PINCH YOUR ARM!

And the reason for all this excitement? Well the quest is dead simple really, just to find the exact number of stars in the Universe! This done, you can quite happily go back to counting sheep before going to sleep at night.  
Personal Rating ..... 8

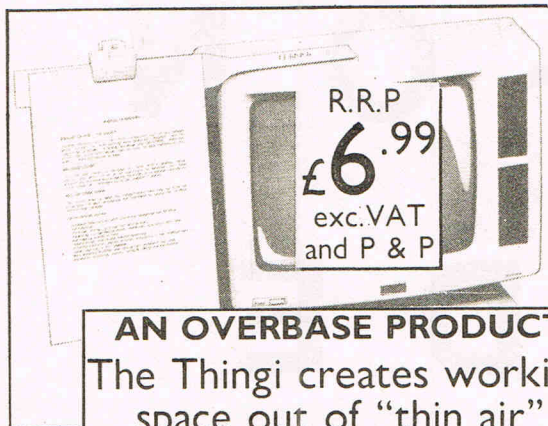
Next month I have a treat for all you role players out there, as I will be running a role playing special, with an in depth look at four new adventures, RINGS OF ZILFRIN, SHARDS OF SPRING, THE WIZARDS CROWN AND MOEBIUS. All these releases are dedicated D&D games from America soon to be seen over here.

Also if you've any adventures that you have written yourself, send them in to me and I'll tell the rest of the World about them. Farewell from Middle Earth.

Write to ANDY MOSS, CCI 40 Bowling Green Lane, London EC1.

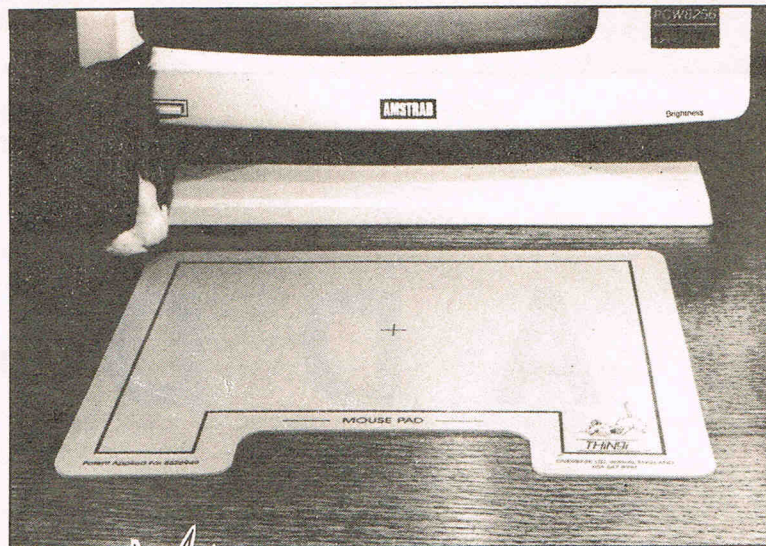
# THINGi

computer copy holder



R.R.P  
**£6.99**  
exc.VAT  
and P & P

**AN OVERBASE PRODUCT**  
The Thingi creates working space out of "thin air"

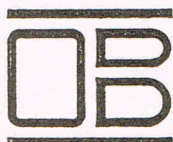


**THE MOUSE PAD - PROTECTION FROM HOSTILE ELEMENTS**

**OVERBASE**

Mouse pad. Low bounce anti static, anti magnetic, protection from hostile elements

**R.R.P.£5.99 ex VAT + P&P**



Award winning Innovation

**Overbase Limited**

Your nearest stockists:  
**OVERBASE LTD.**  
1st Floor Trace Building,  
176 Conway Street,  
Birkenhead, Wirral L41 3JB  
England  
Tel: (051) 647 8981 (6 lines)  
Telex: 265871 MONREF G Ref 72: Mag 20290

## NEOS MOUSE & CHEESE

- Commodore 64 & 128 Compatible
- Cassette Based
- 12 Months Warranty

**ONLY!**

**£24.95**

(Postage & Packing —  
UK £1.00  
Overseas £2.50)



## CBM 64 COMPATIBLE POWER SUPPLIES

**ONLY!**

**£24.95**

(Postage & Packing —  
UK £3.00  
Overseas £4.50)



**NOVACARE** Tel: 0543-251275

7 The Shires Ind Estate,  
Birmingham Rd, Litchfield, Staffordshire WS14 9AZ

All major credit cards accepted

# ADD-ON GUIDE

Here is our up-dated Add On Guide, covering all that's available to considerably enhance your computer's potential and give value for money. The Guide covers monitors, interfaces, modems and other hardware products which can prove to be a very worthwhile investment.

## MUSIC ADD-ONS

Product	Features	Machine	Price	Company
<b>Music Maker</b>	Starter program. Turns 64 into keyboard.	64,128	£29.95	Music Sales 01-636 7777
<b>Playalong Albums</b>	3 available: Pop, Classics, Beatles. 12 songs. Auto playback or will teach to play melody.	64,128	£9.95	Music Sales
<b>Sound Studio</b>	2 programs in 1. (1) Turns computer into synthesizer. On screen controls. 60 sounds in memory. (2) Sound recording studio (3 channels). Real step time.	64,128	£14.95	Music Sales
<b>Sound Sampler</b>	Hardware & software package with audio lead and mike. Samples and digitizes sound. Editing facilities. Pitch sampler. Drum & echo facilities.	64,128	£69.95	Music Sales
<b>Sound Expander</b>	Hardware & Software package. Gives 64 extra sounds. Turns computer into generator using F.M. technology. Enables 11 voices to be used at one time. Easy play features built in.	64,128	£99.99	Music Sales

CONTINUED ON PAGE 123



# SHIFNAL SATELLITE COMMUNICATIONS

## COMMODORE 64 Power Pack Problems Need a new Power Pack?

*Need a new Power Pack?  
or do you!*

The **SRM** Module from Shifnal Satellite Communications gets those faulty power packs working again. Don't spend £30 to £35 on a new power pack when all you need is an **SRM**.

Works with **FAULTY POWER PACKS**, if your power light won't come on or comes on, then goes out, then the **SRM** is for you.

### PLUGS IN LINE WITH YOUR POWER PACK

Prolongs the life of a good power pack

**AS REVIEWED IN ZAPP 64 JUNE 1986**

**PATENT PENDING**

1 year parts and labour guarantee

The **SRM** is only available from:

**SHIFNAL SATELLITE COMMUNICATIONS**

**45 DANESFORD, HOLLINSWOOD,**

**TELFORD, SHROPSHIRE TF3 2DZ.**

**PRICE £17.95 + POSTAGE. WE SEND WORLD WIDE**

**POSTAGE: UK & BFPO £1.50 (Recorded Delivery)**

**OUTSIDE UK £5.00**

**PAYMENT BY CHEQUE, P.O., INTERNATIONAL MONEY ORDER,**

**ACCESS, VISA**

**PLEASE ALLOW 28 DAYS FOR DELIVERY**

**AS DEMAND WILL BE HIGH**



# Culton

## 64 DRAWING BOARD

for the CBM64 and CBM128

A precision graphics utility for

Designers  
Architects  
Hobbyists

- ★ Create, manipulate, combine, compare, fill, patterns and multiple sheet drawings
- ★ Fast and secure archival and retrieval of drawings
- ★ Mostly single keystroke commands

For use with disk-drive and dot-addressable printer

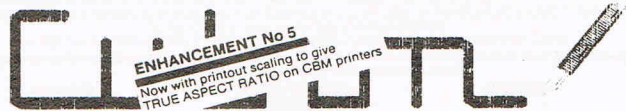
£29 plus VAT

Culton Sales and Services Limited

34 Mount Street

Dorking, Surrey RH4 3HX

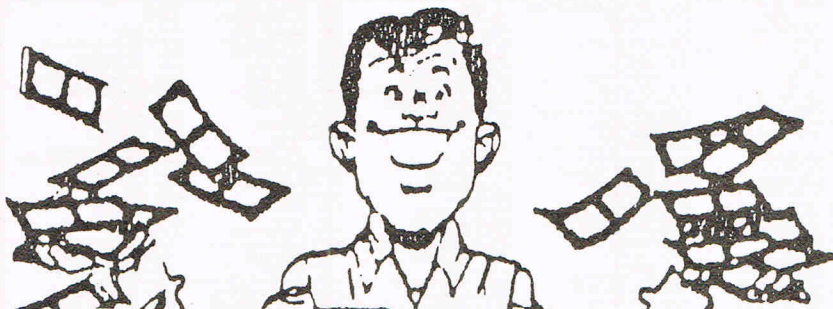
Tel: (0306) 885138



## 64 DRAWING BOARD

for the CBM64 and CBM128

# HOW DOES AN EXTRA £2000-£5000 (AND UPWARDS) - EACH AND EVERY MONTH - SOUND LIKE TO YOU?



ACROSS THE UK, MEN AND WOMEN JUST LIKE YOU, ARE EARNING UPWARDS OF £40,000 PER YEAR FROM UNIQUE, EXCITING SPARE-TIME BUSINESSES OPERATED FROM THE COMFORT, CONVENIENCE AND PRIVACY OF THEIR OWN HOME BY... COMPUTER!

AND NOW FOR THE FIRST TIME, YOU TOO HAVE A CHANCE TO JOIN THIS GROUP OF WEALTH-BUILDERS!

ITC constantly scans the globe for unique, highly lucrative computer-operated business ventures. We seek out, research and develop fresh opportunities that can be implemented on a strictly a part-time basis, with little or no investment, at home, by means of a computer.

Then, full in-depth studies are written in crisp, concise form. From how to begin and what you need, marketing techniques, who and where your prospective customers are, to running your thriving business. Everything you need to know is handed out to you, ready to start! So what are YOU waiting for? You can subscribe now and start profiting — or wait until a later day and WISH you'd subscribed today!



Yes, I like the idea of having unique, exciting computer business opportunities pouring into my home every month! So enter my one year subscription (12 full issues) to **Computin' Wealth-Builders Monthly, THE MOST SIGNIFICANT NEWSLETTER FOR SERIOUS, COMPUTIN' MONEY-MAKERS THE WORLD OVER!** Enclosed is £45.00.

Name .....

Address .....

..... Country.....

Cash

Credit card orders welcome:

..... Visa/Barclay, Mastercard/Access/Eurocard,

American Express & Diners Club

Charge my credit card No. ....

Signature ..... Expiration date.....

**ITC Financial Publications**

Franklinstraat 5

P.O. Box 414

1221 HA Hilversum

1200 AK Hilversum

ISSN 0921-0407

Netherlands

Netherlands

Bonus offer to CCI Readers: "Valuable start-up business facts" booklet free £10.00 of regular subscription price (£55).

# POOLSWINNER

**THE ULTIMATE POOLS PREDICTION PROGRAM**

- **MASSIVE DATABASE** Poolswinner is a sophisticated Pools prediction aid. It comes complete with the largest database available - 2000 matches over 10 years. The database updates automatically as results come in.
- **PREDICTS** Not just SCOREDRAWS, but ALWAYS, HOMES and NO SCORES.
- **SUCCESSFUL SELEC** guarantee that Poolswinner performs significantly better than chance.
- **ADAPTABLE** Probabilities are given on every fixture - choose as many selections as you need for your bet. The precise prediction formula can be set by the user - you can develop and test your own unique method.
- **SIMPLE DATA ENTRY** All team names are in the program. Simply type in the reference numbers from the screen. Or use FIXGEN to produce fixture list automatically (see below).
- **DISC/MICRODRIVE COMPATIBLE** Tapes supplied with conversion instructions.
- **PRINTER SUPPORT** Full hard copy printout of data if you have a printer.



Based, with detailed instruction booklet

**PRICE £15.00 (all inclusive)**

**NOW AVAILABLE**

## FIXGEN 86/7

**AT LAST!** No more struggling for hours to get the fixture list into the computer. FIXGEN has been programmed with all English and Scottish fixtures for 1986/7. Simply type in the date, and the full fixture list is generated in seconds. Fully compatible with Poolswinner. Yearly updates available. **POOLSWINNER with FIXGEN £16.50 (for both)**

## COURSEWINNER v3

**THE PUNTERS COMPUTER PROGRAM**

You can develop and test your own unique winning system by adjusting the analysis formula, or use the program in simple mode. Coursewinner V3 uses statistical analysis of major factors including past form, speed ratings, course statistics, prize money, weight, going, trainer and jockey form etc. It outputs most likely winners, good long odds bets, forecasts, tricast etc. The database includes vital course statistics for all British courses. You can update the database - never goes out of date.

**PRICE £15.00 (all inclusive)** includes Flat AND National Hunt versions.

**NOT JUST A TIPSTER PROGRAM.** Coursewinner V3 can be used by experts and occasional punters alike.

ALL PROGRAMS AVAILABLE FOR: AMSTRAD CPCs, AMSTRAD PCWs (ADD £3.00), ALL BBCs, ALL SPECTRUMS, COMMODORE 64/128, ATARI (48K+), SINGLAI QL. Supplied on tape (simple conversion to disc) - except PCW (on 3" disc) and QL (on microdrive)

Send Cheques/POs for return of post service to...

phone 24 hrs

SOFTWARE

phone 24 hrs

**37 COUNCILLOR LANE, CHEADLE, CHESHIRE. ☎ 061-428 7425**  
(Send for full list of our software)

# TROJAN CAD-MASTER

**NOW AVAILABLE PLUS 4, C16**

**THE ULTIMATE IN GRAPHICS TOOLS**

**SUPERB GRAPHICS SOFTWARE PLUS**

**A TOP QUALITY LIGHT PEN**

**Discover the exciting world of creating your own graphics on screen.**

- **FREEHAND DRAW** - 5 pen thicknesses inc. Quills
- **PAINT BRUSH** - for the artistic touch
- **FILL ANY SHAPE** - use 16 colours and 11 patterns.
- **GEOMETRIC SHAPES** - circles, boxes, triangles, lines & banding.
- **DYNAMIC RUBBER BANDING** on all geometric options.
- **PIN-POINT FUNCTION** - for pixel accuracy on all functions.
- **SCREEN TO PRINTER DUMP ROUTINE**

Plus many more too numerous to mention in this ad. All these features in the Program + a top quality Light Pen and an Instruction booklet in one reasonably priced package. Easy to use for creating colourful pictures or technical drawings. Ideal for use by all ages of micro users. Full back-up service from manufacturers. Available at good dealers or direct from Trojan Products.

**ONLY £19.95 per pack.**

## TROJAN

Micro Computer Software & Accessories

Send cheque/P.O. to

TROJAN PRODUCTS

166, Derlwyn, Duntun, Swansea SA2 7PF

Tel: (0792) 205491

TRADE ENQUIRIES WELCOMED

**VISA**

1.99 **C-64**

LLAMA CAMELS	PAXMAN WORLD CUP FOOTBALL	SFTPRU CRAZY BALLOONS
KSQFT LONELY BALLROOM	PAXMAN PYRAMID	BUGBYT ANTICS
KSQFT ZONAL PATROL	PAXMAN BEARY AND EGG SNATCHER	COMM HIDE AND SEEK
KSQFT SPY SCHOOL	MOSAC IN THE BEGINNING	ARKOLA HARD HAT MAC
KSQFT RIZZ	MOSAC UNORTHODOX ENGINEERS	COMM THE EXPRESS
KSQFT PRICY		ARKOLA COLLIN THE REAL YOU
RABBIT PAKOJUDA	IMAGIN B C BILL	PRISM GOLF
FRPICE SONA MAEKER	COMM KNOW YOUR IQ	PRISM TITANIC
SPIN ALF	BES HESWAR GHOST'S MANOR	PRISM PATSPAT
FRPICE SEA SPELLER	LLAMA MAMA LLAMA	PRISM HELLO
FRPICE DANCE FANTASY	PNGLIN GENIUS OF CHAOS	PRISM AIX CONDOIR
FRPICE NUMBER TUMBLER	LLAMA (STEAL OF MANTAN CAMELS)	ARTIC BEAR BOVVER
SPIN AEGEAN VOYAGE		OCEAN CHINESE JUGGLER
FRPICE LOGIC LEVELS	OCEAN ROLAND'S RAT RACE	LOTH JOHNNY REB II
LONGMAN GO MICRO	ALLIG CHAMBITRUSTER	ARKOLA SCHIZOPHRENIA
CRJ GLUE GLUG	SPARKS MADGETH	ARKOLA RUPERT
MCOLA ZETA	SPARKS MERLIN	
INCEPT DEFENDER 64	ELECT BUZZ OFF	2.50
INCEPT MISSILE COMMAND	LLAMA MATRIX	GSMSC SKULL
INCEPT WALLY GOES TO RHYMELAND	LLAMA SHEEP IN SPACE	ABRASC SAW'S JAM
INCEPT CRAZY KINGS	SPARKS OIC ATTACK	QUICK STING 64
INCEPT WHEELIN' WALLY	TASKET POSTER PASTER	BEYOND GOODNESS GRACIOUS
INCEPT CHINA MINER	INCEPT CRAZY KINGS	TERMIN STELLA DOGGER
INCEPT WALLY GOES TO RHYMELAND	INCEPT WALLY GOES TO RHYMELAND	SS MOBY DICK
INCEPT CRAZY KINGS	INCEPT WALLY GOES TO RHYMELAND	MICRO JINI GENIE
INCEPT WHEELIN' WALLY	INCEPT WALLY GOES TO RHYMELAND	HARE HARPERASER
INCEPT CHINA MINER	INCEPT WALLY GOES TO RHYMELAND	TERMIN SUPER GROCER
INCEPT WALLY GOES TO RHYMELAND	INCEPT WALLY GOES TO RHYMELAND	TYNSFT 0 LEVEL PHYSICS
INCEPT CRAZY KINGS	INCEPT WALLY GOES TO RHYMELAND	TYNSFT 0 LEVEL CHEMISTRY
INCEPT WHEELIN' WALLY	INCEPT WALLY GOES TO RHYMELAND	TYNSFT 0 LEVEL MATHS
INCEPT CHINA MINER	INCEPT WALLY GOES TO RHYMELAND	TYNSFT 0 LEVEL BIOLOGY
INCEPT WALLY GOES TO RHYMELAND	INCEPT WALLY GOES TO RHYMELAND	ARKOLA ONE ON ONE
INCEPT CRAZY KINGS	INCEPT WALLY GOES TO RHYMELAND	ARKOLA WILD WEST
INCEPT WHEELIN' WALLY	INCEPT WALLY GOES TO RHYMELAND	ARKOLA BATALIX
INCEPT CHINA MINER	INCEPT WALLY GOES TO RHYMELAND	ARKOLA D-RUG
INCEPT WALLY GOES TO RHYMELAND	INCEPT WALLY GOES TO RHYMELAND	OCEAN TROOPLOO LOW LEVEL
INCEPT CRAZY KINGS	INCEPT WALLY GOES TO RHYMELAND	COMM RADAR RAT RACE
INCEPT WHEELIN' WALLY	INCEPT WALLY GOES TO RHYMELAND	COMM GORP
INCEPT CHINA MINER	INCEPT WALLY GOES TO RHYMELAND	COMM STAR RANGER
INCEPT WALLY GOES TO RHYMELAND	INCEPT WALLY GOES TO RHYMELAND	COMM LAST OF VR
INCEPT CRAZY KINGS	INCEPT WALLY GOES TO RHYMELAND	COMM HARBOUR ATTACK
INCEPT WHEELIN' WALLY	INCEPT WALLY GOES TO RHYMELAND	COMM STAR POST
INCEPT CHINA MINER	INCEPT WALLY GOES TO RHYMELAND	
INCEPT WALLY GOES TO RHYMELAND	INCEPT WALLY GOES TO RHYMELAND	2.95
INCEPT CRAZY KINGS	INCEPT WALLY GOES TO RHYMELAND	QUICK BOOGABOQ
INCEPT WHEELIN' WALLY	INCEPT WALLY GOES TO RHYMELAND	QUICK ESCAPE
INCEPT CHINA MINER	INCEPT WALLY GOES TO RHYMELAND	QUICK SEE SAW
INCEPT WALLY GOES TO RHYMELAND	INCEPT WALLY GOES TO RHYMELAND	INCEPT SPINRAMBLE
INCEPT CRAZY KINGS	INCEPT WALLY GOES TO RHYMELAND	COMM OMEGA RACE
INCEPT WHEELIN' WALLY	INCEPT WALLY GOES TO RHYMELAND	COMM TOOTH INVADERS
INCEPT CHINA MINER	INCEPT WALLY GOES TO RHYMELAND	COMM MATCHMANAGER
INCEPT WALLY GOES TO RHYMELAND	INCEPT WALLY GOES TO RHYMELAND	R/N B MISSION 2
INCEPT CRAZY KINGS	INCEPT WALLY GOES TO RHYMELAND	DOMARK A VIEW TO A KILL
INCEPT WHEELIN' WALLY	INCEPT WALLY GOES TO RHYMELAND	DOMARK CODE NAME MATTHEW
INCEPT CHINA MINER	INCEPT WALLY GOES TO RHYMELAND	USSOLD GROSS RETTIGE
INCEPT WALLY GOES TO RHYMELAND	INCEPT WALLY GOES TO RHYMELAND	USSOLD DRELLS
INCEPT CRAZY KINGS	INCEPT WALLY GOES TO RHYMELAND	COMM TYRHOPOS (DISC)
INCEPT WHEELIN' WALLY	INCEPT WALLY GOES TO RHYMELAND	COMM SUPERBASIC 64
INCEPT CHINA MINER	INCEPT WALLY GOES TO RHYMELAND	COMM HENRY'S HOUSE VOL 1
INCEPT WALLY GOES TO RHYMELAND	INCEPT WALLY GOES TO RHYMELAND	COMM HENRY'S HOUSE VOL 2
INCEPT CRAZY KINGS	INCEPT WALLY GOES TO RHYMELAND	COMM MASTER OF THE LAMPS
INCEPT WHEELIN' WALLY	INCEPT WALLY GOES TO RHYMELAND	ARKOLA SPELLUNKER

# AGF DIRECT MAIL DISCOUNT

ADDOIT FOOTBALL MANAGER NEW	4.50	COMM DEADLINE (DISC)	7.90
OCEAN FRANKIE GOES TO HOLLYWOOD	COMM FANTASY FIVE (DISC)	USSOLD ZORRO	COMM WAY OF EXPLODING FIST
ULTIM STAFF OF KARNATH	COMM RAIL BOSS (DISC)	MELBHS WAY OF EXPLODING FIST	COMM EASY FILE (DISC)
OCEAN DALEY THOMPSON DEATH	COMM STAR CROSS (DISC)	COMM FUTURE FINANCE (DISC)	COMM SMOKS BASIC EXT (DISC)
ACTVSN BALLBLAZER	COMM SUSPENDED (DISC)	ARKOLA WIZARD (DISC)	ARKOLA KASER (DISC)
ACTVSN EX MACHINA	COMM ZORK 1 (DISC)	ARKOLA WIZARD (DISC)	ARKOLA SCARABEUS
ACTVSN LITTLE COMPUTER PEOPLE	COMM ZORK 2 (DISC)	ARKOLA STARSHIP ANDROMEDA	ARKOLA MURDER ON ZINDERNEUF DISC
DREAMS MERMAID MADNESS	COMM ZORK 3 (DISC)	ARKOLA WIZARD (DISC)	ARKOLA MURDER ON ZINDERNEUF DISC
OCEAN TRANSFORMERS	BEYOND ENHIGO FORCE	ARKOLA MALE (DISC)	COLLINS FORECASTER
DREAMS SPY'S DEMISE	ACTVSN HENRA	ARKOLA MALE (DISC)	COLLINS FORECASTER
NEWACTVSN BEARBRIDER	ACTVSN HENRA	ARKOLA MALE (DISC)	COLLINS FORECASTER
ACTVSN PITFALL	NEWACTVSN BEARBRIDER	ARKOLA MALE (DISC)	COLLINS FORECASTER
VRGIN NOW GAMES	VRGIN NOW GAMES	ARKOLA MALE (DISC)	COLLINS FORECASTER
CRJ BLADE RUNNER	CRJ BLADE RUNNER	ARKOLA MALE (DISC)	COLLINS FORECASTER
MELBHS STARTRON	MELBHS STARTRON	ARKOLA MALE (DISC)	COLLINS FORECASTER
MELBHS FIGHTING WARRIOR	MELBHS FIGHTING WARRIOR	ARKOLA MALE (DISC)	COLLINS FORECASTER
PARKER OBERT	PARKER OBERT	ARKOLA MALE (DISC)	COLLINS FORECASTER
ATARI DONKEY KONG	ATARI DONKEY KONG	ARKOLA MALE (DISC)	COLLINS FORECASTER
ATARI DE DOD	ATARI DE DOD	ARKOLA MALE (DISC)	COLLINS FORECASTER
ORPHES THE YOUNG ONES	ORPHES THE YOUNG ONES	ARKOLA MALE (DISC)	COLLINS FORECASTER
INCEPT MEGA COMPIATION	INCEPT MEGA COMPIATION	ARKOLA MALE (DISC)	COLLINS FORECASTER
USSOLD DONALD DUCK CENTRE	USSOLD DONALD DUCK CENTRE	ARKOLA MALE (DISC)	COLLINS FORECASTER
COMM JACK ATTACK (CARTRIDGE)	COMM JACK ATTACK (CARTRIDGE)	ARKOLA MALE (DISC)	COLLINS FORECASTER
USSOLD SUPER ZAXXON (DISC)	USSOLD SUPER ZAXXON (DISC)	ARKOLA MALE (DISC)	COLLINS FORECASTER
COMM MONEY MANAGER (DISC)	COMM MONEY MANAGER (DISC)	ARKOLA MALE (DISC)	COLLINS FORECASTER
COMM LOCKMOTION	COMM LOCKMOTION	ARKOLA MALE (DISC)	COLLINS FORECASTER
MELBHS SHERLOCK HOLMES	MELBHS SHERLOCK HOLMES	ARKOLA MALE (DISC)	COLLINS FORECASTER
ARKOLA HI FLVER (DISC)	ARKOLA HI FLVER (DISC)	ARKOLA MALE (DISC)	COLLINS FORECASTER
ACTVSN TOUR DE FRANCE	ACTVSN TOUR DE FRANCE	ARKOLA MALE (DISC)	COLLINS FORECASTER
LEGEN KENNINGTON	LEGEN KENNINGTON	ARKOLA MALE (DISC)	COLLINS FORECASTER
COMM SPIRIT OF STONES (DISC)	COMM SPIRIT OF STONES (DISC)	ARKOLA MALE (DISC)	COLLINS FORECASTER
ARKOLA TOWNDOWN FOOTBALL	ARKOLA TOWNDOWN FOOTBALL	ARKOLA MALE (DISC)	COLLINS FORECASTER
VRGIN NOW GAMES II	VRGIN NOW GAMES II	ARKOLA MALE (DISC)	COLLINS FORECASTER
PROGRAMMERS UTILITIES (DISC)	PROGRAMMERS UTILITIES (DISC)	ARKOLA MALE (DISC)	COLLINS FORECASTER
FRUGGER (DISC)	FRUGGER (DISC)	ARKOLA MALE (DISC)	COLLINS FORECASTER
ARKOLA LAPIS PHILOSOPHORUM(DISC)	ARKOLA LAPIS PHILOSOPHORUM(DISC)	ARKOLA MALE (DISC)	COLLINS FORECASTER
ATARI ROBOTRON MANDRAGORE	ATARI ROBOTRON MANDRAGORE	ARKOLA MALE (DISC)	COLLINS FORECASTER
INFOR MANDRAGORE	INFOR MANDRAGORE	ARKOLA MALE (DISC)	COLLINS FORECASTER
6.95	6.95	ARKOLA MALE (DISC)	COLLINS FORECASTER
USSOLD TIME TUNNEL	USSOLD TIME TUNNEL	ARKOLA MALE (DISC)	COLLINS FORECASTER
BEYOND SPY VS SPY	BEYOND SPY VS SPY	ARKOLA MALE (DISC)	COLLINS FORECASTER
ARKOLA WILD WEST (DISC)	ARKOLA WILD WEST (DISC)	ARKOLA MALE (DISC)	COLLINS FORECASTER
ARKOLA BUG BLITZ (DISC)	ARKOLA BUG BLITZ (DISC)	ARKOLA MALE (DISC)	COLLINS FORECASTER
NEWARKOLA SAUKER ATTACK (DISC)	NEWARKOLA SAUKER ATTACK (DISC)	ARKOLA MALE (DISC)	COLLINS FORECASTER
NEWARKOLA DEACTIVATORS (DISC)	NEWARKOLA DEACTIVATORS (DISC)	ARKOLA MALE (DISC)	COLLINS FORECASTER
NEWARKOLA ONE ON ONE (DISC)	NEWARKOLA ONE ON ONE (DISC)	ARKOLA MALE (DISC)	COLLINS FORECASTER

To: AGF, Dept C1 + 26 Van Gogh Place, Bognor Regis, West Sussex

ITEM \_\_\_\_\_ PRICE \_\_\_\_\_

I enclose cheque/PO for £ \_\_\_\_\_ payable to AGF Direct Mail Discount  
Access/Visa/Diners  
My credit card number: \_\_\_\_\_

NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_

POSTCODE \_\_\_\_\_

SIGNATURE \_\_\_\_\_ DATE \_\_\_\_\_

COMPUTER: \_\_\_\_\_ Telephone (0243) 823337

**KONIX SPEEDING**

RRP £12.95

**OUR PRICE 9-95**

£1 for PIP

**OUR PRICE 34-95**

£1 for PIP

**OUR PRICE 9-95**

£1 for PIP

**£49.99**

POST FREE

**CITIZEN TWO-COLOUR DOT MATRIX PRINTER**

R.R.P. £45

VISIT OUR 7 DAYS A WEEK SHROUDON AT 24 CHAUNCEY LANE, BOGNOR REGIS. SOFTWARE ETC. FOR ALL MACHINES. MON-SAT. 11.00am to 5.30pm, SUNDAY 2.30pm to 6.00pm.

# ADD-ON GUIDE

<b>Microvox</b>	Package consists of sampling unit, system disk (with 'start-up' samples) and Library disk. The sampling unit has two programmable 24dB/octave filters and gives a S/N ratio of 59 dB.	64	£229.95	Supersoft 01-861 1166
-----------------	---	----	---------	--------------------------

## Disk/Wafer Drives

Product	Features	Commodore Machine	Price	Company
<b>1541C</b>	Single disk drive unit, provides greater storage capacity (170 Kbytes) faster retrieval than a cassette unit	64/128	£199.99	CBM UK Commodore 0628 770088
<b>Enhancer Disk Drive</b>	High data transfer rate, sleek design, 1541 compatible, free software	C64/128	£115+VAT	Firstline Software
<b>Accelerator</b>	Ultra compatible, compact size very quiet, 1 year guarantee, 20% faster than 1541C	C64/128	£159.95	Evesham 0386 419989
<b>1571</b>	Double-sided, fast access times, quiet in operation, half height	128 64 — when used with 64 it is basic compatible	£249.00	Commodore

## Speech Recognition & Synthesis

Product	Features	Commodore Machine	Price	Company
<b>Sweet Talker</b>	Synthesiser — allophone system, 3" square, 1½" high, gives examples & demonstrations. Shape & colour as Commodore	64	£24.95	Cheetah 0222 777337
<b>Voicemaster</b>	Unique 3-in-one package, speech reproduction, speaks in own voice. Voice harp — just whistle or hum to produce music	64	£59.95	Anco 0322 92513

## SPEED LOADERS

Product	Features	Machine	Price	Company
<b>Epyx Fast Load Cartridge</b>	Has disk tools e.g. directory, return to basic function, copy (another menu). Can be disengaged without turning off machine. Can edit disks, has a file utility, For trans-programming you have S. Mon. which is a powerful monitor. Numbers may be entered in hex.	64,128	£24.95	Centresoft 021 359 8881
<b>Turbo Plus</b>	Add Turbo to basic or machine code filers for faster loading. Also scrolls listings up or down	C16, +4 (with cartridge)	£19.95	Anco 0322 92513

CONTINUED ON PAGE 124

# A D D - O N G U I D E

<b>Quickdisc</b>	Cartridge plugs into 64 and 1541 + 1570. Can be switched in and out from the keyboard. Fast format, fast backup, fast file copier. Reset switch. Improved DOS commands. Is compatible with printers and second drives. Cure for 'save @ bug'.	64	£19.95	Evesham 0386 49641
<b>Turbo 64</b>	A disk specially formatted with the fast load feature built in. Once the disk is made it will load on any unmodified Commodore 64 and 1541 disk drive without having to load anything first. Loading time is 5 times faster and programs can be selected and run from a menu by the press of a single key.	64	£19.99	Cockroach 0633 440434
<b>1541 Express</b>	Cartridge — two leads clip inside the computer. Works with most business software.	64	£34.95	Ram 0252 850031
<b>Final Cartridge II</b>	Disk and Tape Turbo — up to 10 Times speed Freeze Frame Keyboard extras Basic 4.0 commands	64/128	£39.00	H&P Computers 0376 511471
<b>Expert Cartridge</b>	Program Paralyser Sprite Extractor Hires Screen, Grabber, Programmable	64/128	£29.99	Trilogic 0274 684289

## Joysticks/Trackerballs

Product	Features	Commodore Machine	Price	Company
<b>Delta 3SC</b>	Black, or black with red stripes, 3 fire buttons, light fast action	64, VIC 20 128	£12.00	Voltmace 0462 894410
<b>Vulcan Gunshot I</b>	Cream & beige, 2 fire buttons suction pad underneath	64, VIC 20 128	£7.95	Vulcan 01-203 6366
<b>Vulcan Gunshot II</b>	Black, 2 buttons, autofire, suction pad underneath	64, VIC 20 128	£8.95	Vulcan
<b>Quickshot 1</b>	Black & red, 2 fire buttons	64, VIC 20	£7.95	Spectravideo
<b>Quickshot 2</b>	Black & red, 2 fire buttons, autofire	64, VIC 20	£9.95	Spectravideo
<b>Quickshot 2 Turbo</b>	Red, 2 fire buttons + auto. Micro switched	64, VIC 20	£14.95	Spectravideo 01-330 0101
<b>Hotshot (REVS)</b>	Analogue, designed for Firebird game. REVS, also switchable to normal, one fire-button	64/128	£12.95	Meedmore 051-521 2202
<b>Professional</b>	Accurate, dual fire buttons, auto fire select		£19.95	Euromax
<b>Quickshot II+</b>	Microswitches, large grip, dual stick fire buttons	64/128	£12.99	01-368 1276
<b>Fantastick F3</b>	Dual fire button for left handed people, sleek design		£6.99	Palan Vulcan 01-203 6366
<b>Microswitch</b>	Metal shaft, very durable, large fire button, accurate	64/128	£12.95	

# ADD-ON GUIDE

<b>Ballpoint</b>	Icon manipulation 16 colours (any 4 usable at once), sections of drawings may be picked up & moved, drawings compatible with light pen drawings, optical trackerball, trackerball or joystick.	64/128	£29.95	Meedmore 051-521 2202
<b>Mach 1</b>	Black with 4 red buttons. Moulded handgrip and an autofire switch	64, VIC 20	£8.95	Cheetah 0222 777337
<b>Speedking</b>	Hand-held, moulded case, one trigger-fire button	64/128 C16 +4 VIC 20	£12.99	Konix 049 5255913

## DIGITISERS

<b>Computereyes</b>	It will digitise from camera, video recorder, video disk and images can be stored on disk. Also enhancements to allow the use of computereyes with some of the popular graphic packages for the Commodore.	64	£129 + VAT	Stem 0382 65113 Mr. E Able
---------------------	--	----	------------	----------------------------------

## MISCELLANEOUS

<b>Datapad 16C</b>	Keypad is a strong metal case. It plugs in externally and comes complete with software to define the keypad to your choice of layout.	64	£34.95 incl.	Voltmace 0462 894410
<b>Centronics Cable</b>	Converts 64/20 to Centronics output		£11.17 + VAT	RAM 0252 850031
<b>D150</b>	Portable Printer, 150 characters per sec. For executives — letters memos & charts		£39.00	Norbain 0734 868855
<b>Datel Sampler</b>	Hardware incorporates full 8-bit D to A and ADC conversion. Software includes sample editing	64 + 128	£49.99	Datel 0782 273815
<b>MCS Plus</b>	Combines interface, MIDI link and comprehensive disk software	64 + 128	£225	Joreth Music 0386 831615
<b>The Linker</b>	System 7 for DX78TX7 Synth's	64	£219.66 (Software only £79.99)	Joreth Music
<b>AMS</b>	Editor, keyboard, linker synthesiser and MIDI modules	64/128	£39.95	Rainbird
<b>Comdrum</b>	Digital Drum Software. 20 voices, full sequencing and editing.	64/128	£9.95	Datel
<b>Lightpens</b>	<b>Features</b>	<b>Machine</b>	<b>Price</b>	<b>Company</b>
<b>Trojan Lightpens</b>	Black. Will draw freehand, can magnify or reduce, can fill in with either colour or 2 different patterns	64, VIC 20, +4 C16	£19.95	Trojan 0792 205491

# ADD-ON GUIDE

**Stack Light Pen** Unique torch contact switch. 64, VIC 20 £28.00 Meedmore  
Pixel accurate supplied complete with 051 521 2202  
paintbox draw software and 10 pen  
games. All standard features plus  
animation and C.A.D. support.  
Full colour

Mice	Features	Machine	Price	Company
<b>Datex Mouse</b>	Mouse, tape & disk software	64	£49.95	EEC 01-222 8122
<b>The Magic Mouse</b>	Mouse, tape & disk software	64	£59.95	SMC 01-441 1698
<b>MS 2000 V</b>	Optical encoding and a comprehensive cassette + disk-based software	64 12	£69	Wigmore House
<b>Neos Mouse</b>	Cassette only. Software program called cheese	64/128	£44.90	Wigmore House
<b>Desk Top</b>	Includes 100 year calendar calculator, diary, clock, communication facilities, disk utilities etc. And more. Use with mouse joystick or keyboard. Cassette & disk.	64/128	£18.50 incl. VAT	Wigmore House 01-734 8826

## MOTHERBOARDS

**Stack** 4 slot motherboard (adaptor). Has a unique switching system for each of the 4 cartridge slots which allows the user to turn on and off cartridges without removing them from the computer. 64, VIC 20 128/128D £28.00 Meedmore  
051 521 2202

## ATTENTION ALL PROGRAMMERS!!

You may be an experienced programmer – you may be a beginner. Either way, you may have come across some useful tips which could make life easier for other CCI readers.

Or maybe you have written a program, either in Basic or assembly language, that you feel is worthy of publication.

CCI always welcomes contributions from readers. We will publish any suitable listings or programming advice...and we'll pay you for it!

If you wish to contribute something for publication, we require programs on cassette or disk, together with any additional explanatory information and a CLEAR printout of any listings. (The better the original printout, the better the reproduction in the magazine.)

Please enclose a SAE if you wish to have your program returned to you. Please package disks or cassettes carefully!

The address to send contributions to is:

The Editor,  
Commodore Computing International,  
Finsbury Business Centre,  
40 Bowling Green Lane,  
London EC1R ONE

Don't forget...CCI welcomes programs for all Commodore computers – 64, Plus/4, C16, 128 plus the VIC and PET.

# Eureka!

## Accounting Software For Small Businesses

### ACCOUNTABILITY

is a powerful suite of programs which can provide a business with a helpful and informative method of financial control.

This superb system combines the accuracy, discipline and reliability of traditional accounting methods with a friendliness and flexibility that only an integrated system can provide.

### HARDWARE

Currently available for your **Commodore 128**, 128D or 8000 series computer.

*Imminent Release for Commodore 64 and P.C.*

# ACCOUNTABILITY<sup>®</sup>

FULLY INTEGRATED SALES PURCHASE & NOMINAL LEDGER ACCOUNTING

### MAJOR FEATURES

- COMPREHENSIVE HELP SCREENS
- QUICK CREATION OF ACCOUNTS
- ACCOUNT NUDGE FACILITY
- TEMPORARY ACCOUNT FACILITY
- MULTIPLE VAT RATE CAPABILITY
- MULTIPLE BANK ACCOUNTS
- FULL AUDIT TRAIL
- UP TO 64 LEVELS OF USER SECURITY
- CASH SALE FACILITY
- AUTOMATIC TRANSACTION AGEING
- AUTOMATIC DISCOUNTS
- TRANSACTION MESSAGES
- OPEN ITEM OR B/F ON ANY ACCOUNT
- DAYBOOK, STATEMENTS, REMITTANCE/CHEQUES
- 24 REPORTS
- SCREEN DUMP FACILITY
- UP TO 53 PERIODS PER YEAR
- SUPPORTS UP TO FOUR COMMODORE DISK UNITS
- SUPPORTS UP TO FOUR PRINTERS INCLUDING CENTRONICS.

For further information or details of your local stockist contact:

**£99.<sup>99</sup>**  
INC VAT

**MICROHEX COMPUTERS UNION STREET TROWBRIDGE WILTSHIRE BA14 8RY TEL: (02214) 63828**

# MICROSHIPS

LTD  
37 Seaview Road  
Wallasey, Merseyside  
L45 4QN  
051-691 2008

Telephone: 051-630 3013

NEW  
HOTLINE

C64C Connoisseur Pack	£234.95	Citizen 120D Printer inc Commodore Interface	£299.95
C129D inc DS 1571 Drive	£499.95	MPS801 Ribbon	£6.99
C128D inc 1900M Monitor	£625.00	MPS803 Ribbon	£3.99
1571 Drive for 128	£269.95	120D Ribbons	£3.99
1541C Drive 64/128	£199.95	1000 Sheets Fanfold	£8.99
1901C Hi-Res Col-Monitor	£339.95	2000 Sheets Fanfold	£15.99
1900M Mono Monitor (128)	£149.95	5 1/4" Lockable Disc Box (Holds 100)	£10.95
Thomson/C64 Colour Monitor	£239.95	Disk Nibbler	£4.99
Music Expansion System	£139.95	C64/128 Printer Lead	£3.99
Sound Sampler C64/128	£29.95	Centronics Lead + Software	£19.95
C64/128 Motherboard	£19.95	1701/1901 Dust Cover	£8.95
Action Replay	£24.95	C64/VIC Dust Cover	£5.99
Freeze Frame III B	£39.95	C128 Dust Cover	£7.99
Expert Cartridge	£31.50	Dolphin DOS (Specify 68 or 128)	£68.50
Citizen 2 colour C64/128 Printer	£44.50		
Silver Reed Daisywheel inc C64/128 Connexion	£139.95		

Wide range of leads, cables, software and accessories.

SEND FOR FULL LIST QUOTING

CCI

If it's released — we stock it — please phone us  
**OPEN SIX DAYS**



Send SAE for full lists

MAIL ORDER  
Cheques/P.O. payable to:  
MICROSHIPS LTD

Add 5p in £ Postage. Add 10p in £ Europe at cost — other countries



IF YOU THINK THE 64 IS ONLY A GAMES MACHINE. THINK AGAIN!

# Polynomial

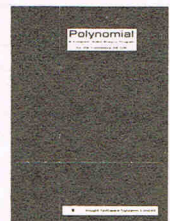
A NEW AND EXCITING METHOD OF STUDY FOR THE COMMODORE 64/128

Polynomial is the first program of its kind which offers a DYNAMIC way of learning and studying. However it is not one of those boring question and answer types of Educational Software. Polynomial allows you to put the questions and helps you find the answers. Students of all levels from all subjects could find Polynomial an INVALUABLE AID to their studies.

WHAT DOES POLYNOMIAL OFFER YOU?

Polynomial combines 3 powerful number crunching routines with an EXCITING GRAPHICS facility to form one of the most powerful educational software packages available for the Commodore 64/128.

- **ROOTS** — Solves linear and non-linear equations and can find both real and imaginary roots. Results can be verified using the powerful GRAPHICS module.
- **CURVE FITTING** — Calculates polynomials to fit a set of data points. Helps you interpret your data and solve the awkward experiments QUICKLY and EFFORTLESSLY. Plot both the data points and the resultant polynomial on the same screen.
- **SIMULTANEOUS EQUATIONS** — Can solve up to 34 simultaneous equations easily and efficiently. Equations clearly formatted on the screen. Solutions are calculated in seconds. Enormous potential as a problem solver.
- **GRAPH PLOTTING** — This extremely POWERFUL module has INCREDIBLE potential for learning. Plot results of all your experiments draw graphs of your polynomial equations and their DIFFERENTIALS, as many as you like all on the same screen. These are plotted on a high accuracy, high-res screen, choose double or single axis graphs.



THIS EXCELLENT PACKAGE IS IDEAL FOR CSE, 'O' LEVEL, 'A' LEVEL AND DEGREE STUDIES AND CAN BE YOURS FOR AS LITTLE AS £14.95 — UNBELIEVABLE VALUE!

Price INCLUDES detailed manual in an attractive protective case. Postage and Packaging FREE.

SEND FOR YOUR COPY NOW!

Write FREEPOST to:

Insight Software Systems Limited

INSIGHT SOFTWARE, FREEPOST PO Box 27, Basingstoke, Hampshire RG22 4BR

Please send me ..... copy(ies) of Polynomial

Tick as appropriate  Cassette £14.95  Disc £19.95  
 Cheque  P.O.

Name \_\_\_\_\_ CCI

Address \_\_\_\_\_

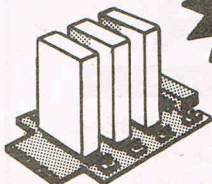
Signature \_\_\_\_\_ Date \_\_\_\_\_

Please allow up to 28 days for delivery.

# STACK COMPUTER PRODUCTS

C64 / C128 / C128D

SWITCHABLE  
4-SLOT  
MOTHERBOARD



**£28**

SPECIFY  
MODEM  
OR  
NORMAL  
VERSION

- USE COMPATIBLE CARTRIDGES TOGETHER
- SAVES UNPLUGGING & WEAR

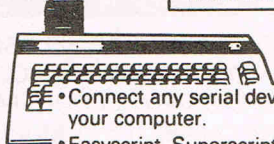
C64 128 +4 VIC 20 C128D

PROFESSIONAL  
RS232 SERIAL  
INTERFACE



**£33**

- TYPEWRITER
- PRINTER
- MODEM
- OTHER COMPUTER



- Connect any serial device to your computer.
- Easyscript, Superscript, Scrip 128 etc. compatible.
- Send and receive

C64 128 +4 C16 VIC 20 128D



**£59.95**

- TYPEWRITER
- PRINTER
- PLOTTER

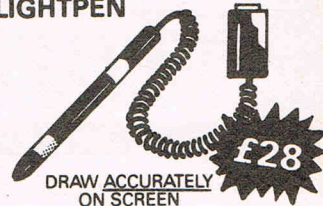
UNIVERSAL  
CENTRONICS  
INTERFACE



- Fully CBM compatible.
- Full Graphics on Dot Matrix Printers.
- Use 341 on Plus 4.
- Chainable with Disk

C64 128 128D or VIC 20

LIGHTPEN

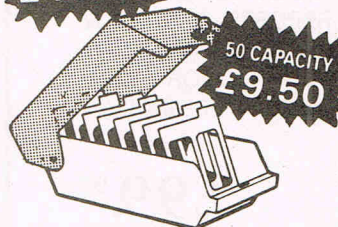


**£28**

DRAW ACCURATELY  
ON SCREEN

- Superb precise drawing package COMPLETE.
- Save, Load & Print Pictures.
- Really useable.
- 10 Games included.

100 CAPACITY  
**£10.00**



50 CAPACITY  
**£9.50**

5 1/4" LOCKABLE DISK  
STORAGE BOXES WITH RIGID  
INDEX SEPARATORS.

1540 / 1541 / 1550 / 1570 / 1571 / 128D



**£10.50**  
A

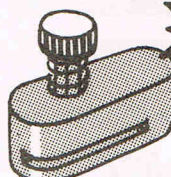
**£7.50**  
B

5 1/4" FLOPPY DISKS  
INC. LABELS, SLEEVES,  
WRITE TABS

- A 10 Super Quality Doubled Sided in Library Case.
- B 10 Standard quality in polythene bag.

1540 / 1541 / 1550 / 1570

NOTCHER

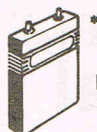


**£5**

HALVE DISK COSTS

- Use both sides on single sided drives.
- Tested on all our Disks.

C64 / C128 / 128D

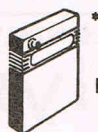


FINAL  
CART  
II

**£39**

- DISK & TAPE TURBO
- CENTRONICS I/F
- TOOL KIT
- GAMES KILLER
- RESET SWITCH
- FREEZER

C64 / C128 / 128D

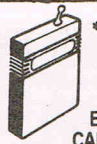


FREEZE  
FRAME  
MKIV

**£28.95**

- DISK TO TAPE/TAPE TO TAPE.
- TAPE TO DISK/DISK TO DISK.
- MULTIPART PROGS HANDLED.
- SIMPLE OPERATION.

C64 / C128 / 128D



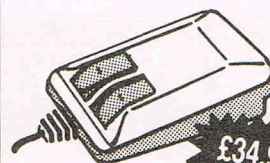
EXPERT  
CARTRIDGE

**£37.50**

NEEDS DISK  
DRIVE

- NOW WITH ESM
- FREEZER WITH ONE FILE & COMPACTING.
- TURBOS & UPGRADABLE.
- MONITOR & GAMES KILLER.
- DISK TO TAPE ETC.

C64 / C128 / 128D



**£34.90**

NEOS MOUSE  
& CHEESE CASSETTE

- COMPLETE MOUSE GRAPHICS PACKAGE.
- JOYSTICK MODE INCLUDED.

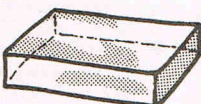


HIGH  
QUALITY  
RIBBONS

- MPS801 3.54
- MPS802 3.93
- MPS803 3.92
- 1525 3.35
- 1526 3.93
- DPS1101 3.52
- MX/FX80 3.78

ALL OTHERS AVAILABLE

BS3120  
SAFETY  
DUSTCOVERS



FROSTED -BLACK TRIMMED  
ANTI-STATIC FIRE RETARDANT

- 64/20/16 2.75
- Plus 4 2.75
- 128 3.50
- 128D 4.50
- C2N/1530/1531 2.00
- 1541/1570 3.00
- 1571 3.00
- MPS801 3.00
- 1701 6.00

C64 128 / 128D

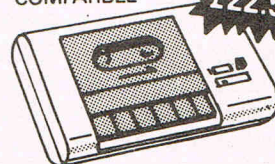


**£14.95**

SLOMO

- Slow or stop any Program.
- Slow or Pause Listings.
- Stop Action or Instructions while you think.
- Cheat 'Time Limit' Games.

• CBM  
COMPATIBLE



**£22.50**

DATA RECORDER

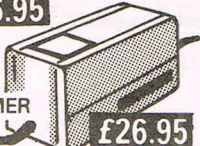
- PIANO KEYS.
- RECORD (SAVE) LIGHT.
- COUNTER.
- C16/+4 ADAPTOR £2 EXTRA

VIC  
MODULATOR



**£16.95**

64  
TRANSFORMER



**£26.95**

ALL CBM SPARES  
SUPPLIED

VIC 20

• 4 SLOT  
MOTHERBOARD  
SWITCHABLE

**£6.95**

- 3/16K RAM PACK **£34.95**
- 3/16/32K RAM PACK **£49.95**

C16

• 16K RAM PACK

**£29.95**

FREE 40 PAGE  
CATALOGUE ON  
REQUEST OR WITH  
ORDER

PRICES INCLUDE VAT  
P&P £1.90  
(FREE OVER £20)

MEEDMORE  
(Distribution) LIMITED

28 Farriers Way  
Netherton, Merseyside,  
L30 4XL

Tel: 051-521 2202





# COMMODORE

**MAGENTA PAGES**

## COMMODORE REPAIRS

Commodore Repairs By Commodore Approved Engineers

CBM Power Supplies C64/+4/128/Vic 20 .....	£15.00
Vic 20 Modulators .....	£8.05
CBM 64/CBM+4/CBM 16 from .....	£20.00
CBM Disc Drives from .....	£20.00
128/128D from .....	£35.00

Atari repairs also

For more details write with SAE or telephone:

**G.C. BUNCE & SON**

36 Burlington Road, Burnham, Bucks SL1 7BQ.

Tel: (06286) 61696

Mon-Fri 9am.-6pm.

## CROYDON COMPUTER CENTRE

29 Brigstock Road, Thornton Heath, Surrey, CR4 7JJ Tel: 01 683 2646

### COMPUTER SERVICING

(Est'd since 1979)

We repair — on the premises — quick turnaround

- \* Commodore & Spectrum
- \* BBC & Electron (Approved Service Centre)
- \* Amstrad & Torch (Approved Service Centre)
- \* Disc Drives, Printers, Monitors

Mail Orders by phone Access & Visa accepted

## COMPUTER REPAIRS

SPECTRUM, COMMODORE, AMSTRAD, ACORN, BBC etc.

Fixed charge repairs on all makes

Please ring for details:

### MCE SERVICES

33 Albert Street,  
Mansfield, Notts NG18 1EA  
Tel: 0623 653512

## MICRO WORKSHOP

### COMMODORE REPAIR SPECIALISTS

Also repair Sinclair, Amstrad and BBC.

3 month warranty

12 Station Approach,  
Epsom, Surrey.

Telephone: 03727 21533

## BUDGET YOUR HOUSEHOLD EXPENSES.

Fast program gives complete control. Lists all

bills, B.O.s., etc. with automatic transfer.

Complete record of every transaction. ALL

Amstrad, Sinclair & Commodore models.

£8.45.

Full details

LONGAE, P.O. Box 6, Amlwch, LL68 9NW.

## BETPRO II

The Punter's Ultimate Horse Race Rating Program.

BETPRO II incorporates the following outstanding features:

\* The option to develop and test your own unique rating formula, and the save and load it when required.

\* The tried and trusted BETPRO race rating formula is easily accessible for Punters who do not wish to develop their own rating formula.

\* Simple data entry and user friendliness are standard features of the BETPRO II Program and instruction booklet.

\* BETPRO II is ideal for regular and occasional Punters alike.

BETPRO II is available for the CBM 64, 128 (64 Mode), Plus/4 and Commodore 16. Tape Version £9.95. Disc version £11.95.

## TORNADO 64

For fast-loading and auto-run independent back-ups of slow-loading Basic an/or Machine Code Programs, as well as existing TORNADOS.

TORNADO 64 is packaged with a detailed information sheet which includes details on how to display a loading screen picture and/or text, linking multi-part TORNADO loading programs, plus lots of other pokes to alter TORNADO's loading format to suit your requirements.

TORNADO 64 is available for the CBM 64 & 128 (64 Mode). Tape version only. Price £4.95.

RAMSOFT UTILITIES GIVE POWER WITHOUT THE PRICE

All prices include p&p. Allow 7 days for delivery

Send cheque, P.O. or Cash to:

RAMSOFT, Dept CCI 1, 24 Bankfield Lane, Norden, Rochdale, Lancs. OL11 5RJ

## FOOTBALL MANAGEMENT

Three Classic Football Management Strategy Games for all enthusiasts. Each of these QUALITY games is packed with GENUINE FEATURES to make them the most REALISTIC around.

### PREMIER LEAGUE

A COMPREHENSIVE LEAGUE GAME — Play all teams home & away. Full squad details all teams. Injuries, Team styles, In-match substitutes, Named & recorded goal scorers, Comprehensive transfer market, 5 Skill levels, Financial problems, Team Training, Continuing Seasons, Save game, Opposition Select Strongest Team and MUCH MUCH MORE! 64/128k Commodore £6.50

### WORLD CHAMPIONS

A COMPLETE WORLD CUP SIMULATION — From the first friendlies, qualifying stages, four matches and on to the FINALS — Select from squad of 25 players, 2 In-Match substitutes allowed, Discipline table, 7 Skill levels and MUCH MUCH MORE! Includes a full text match simulation with Injuries, Bookings, Sending off, Corners, Free kicks, Match timer, Injury time, Extra time, Goal times and MORE! 64/128k Commodore £7.95

### EUROPEAN II

CAPTURES THE FULL ATMOSPHERE OF EUROPEAN COMPETITION — Home & away legs, Away goals count double (if drawn), Full penalty shoot out (with SUDDEN DEATH), 7 Skill levels, 2 subs allowed, Pre-match team news, Discipline table, Full team & substitute selection, Disallowed Goals and MUCH MUCH MORE! Plus FULL TEXT MATCH SIMULATION. 64/128k Commodore £7.95

FANTASTIC VALUE — Buy any 2 games deduct £2.00; buy all 3 games deduct £3.00

All games are available for IMMEDIATE DESPATCH by 1st CLASS POST and include FULL INSTRUCTIONS (add £1.00 outside UK)

From E & J SOFTWARE, Room C.1, 37 Westmoor Road, ENFIELD, Middlesex, EN3 7LE

## COMPUTER REPAIRS (UK)

REPAIRS TO ALL MAKES OF MICROCOMPUTERS AND PERIPHERALS

SPECTRUM	£20.00
COMMODORE 64	£30.00
BBC	£30.00
ELECTRONS	£24.00

- ★ 48 HOUR TURN ROUND
- ★ ALL REPAIRS GUARANTEED
- ★ TRADE CONTRACTS WELCOME
- ★ DISCOUNTS FOR EDUCATIONAL ESTABLISHMENTS

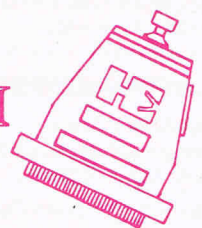
## COMPUTER REPAIRS LTD.

2 AUSTINS PLACE  
HEMEL HEMPSTEAD, HERTS HP2 5HN  
Tel: (0442) 217624



Hobbies Exchange

RESET SWITCH



Only £4.99 Post Free

Reset The Computer & Poke...

Mail Order

Callers Welcome

Visa & B/Card

- Just Plug In
- Use Pokes
- Break into Your Games

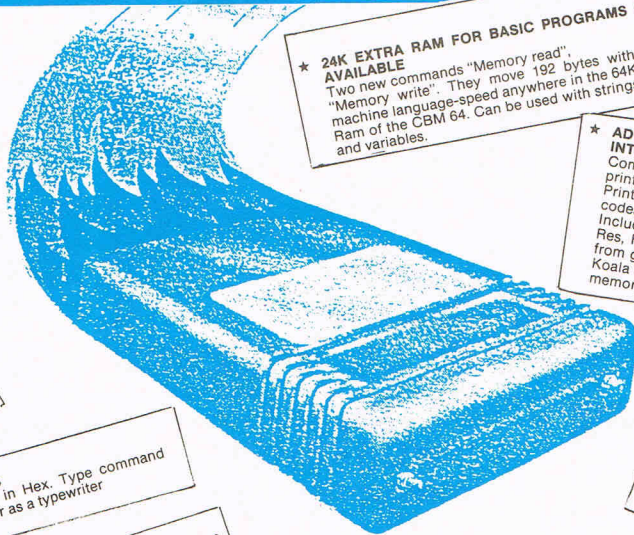
36 Westgate, Elland,  
West Yorkshire HX5 0BB.

Tel: (0422) 833801  
MBX JRC3 C/NET.

# THE FINAL CARTRIDGE II®

THE GREATEST UTILITY EVER FOR THE COMMODORE 64/1281

**SPECIAL CCI OFFER ONLY £30.00!**  
(OFFER EXPIRES MAY 31st)



**\* FREEZER**

**\* MENU DRIVEN**  
16 SUB MENUS  
Colour Changes  
4 resets  
Centronics/serial screendumping  
Print vector setting  
Tape to disk. Back up  
Disk to tape. Back up  
Disk to disk. Back up  
Back ups are packed files on tape or disk,  
including their own fast loader and starter

**\* GAME KILLER**

Kills sprite to sprite and or sprite to  
background collision

**\* COMFORT TABLE EXTENDED M.L.**

**MONITOR**  
INCLUDING:  
Relocated load. Scrolling up and down.  
Banks switching, printing  
**MONITOR DOES NOT RESIDE IN RAM!**  
INCLUDES DISK DRIVE MONITOR  
**\* FREEZER SWITCH**

**\* 24K EXTRA RAM FOR BASIC PROGRAMS AVAILABLE**

Two new commands "Memory read",  
"Memory write". They move 192 bytes with  
"machine language-speed anywhere in the 64K  
Ram of the CBM 64. Can be used with strings  
and variables.

**\* PREPROGRAMMED FUNCTION KEYS**

Run, Load, Save, Catalog, Disk commands.  
List (removes all list protections)

**\* ADVANCED CENTRONICS INTERFACE**

Compatible with all the well-known centronics  
Printers and Commodore printer programs.  
Prints all the Commodore graphics and control  
codes (important for listings).  
Including screen-dump facilities. Prints Low-  
Res, Hi-Res and Multicolour. Full page!  
Even from games and paint programs, like Doodle,  
Koala Pad etc. Searches automatically for the  
memory address of the picture.

**\* DISK TURBO**

6 times laser disk access — loading and saving  
**\* TAPE TURBO**  
10 times faster — compatible with standard  
turbos

**\* KEYBOARD EXTRAS**

Pokes and Syscalls in Hex. Type command  
operates your printer as a typewriter

**\* RESET SWITCH**

Resets all protected programs

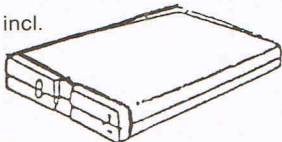
**\* BASIC 4.0 COMMANDS**

like Dload, Dsave, Dappend, Catalog, etc.  
**\* KEYBOARD EXTRAS**  
with Auto, Renum (incl. Golo and Gosub),  
Find, Hel, Old, etc.

**BLUE CHIP DISK DRIVE**

The Blue Chip BCD/5.25 is a 100% Commodore compatible Disk Drive. Works with Commodore C64, C128, SX64, Plus 4, and Vic 20. With its external power supply you will no longer lose your programs due to overheating. Smaller, quieter and more efficient. Runs 1,000's of programs written for Commodore Computers. Compatible with Final Cartridge II.

ONLY £177.00 incl.



**H & P MOUSE**

When is a mouse not a mouse? When it acts just like a joystick. The H & P Mouse can do everything a joystick can do only better and with more accuracy. Works with nearly all games and graphics programs that use a joystick. Once you have used the H & P Mouse you will not want to return to a joystick. Microprocessor controlled for greater accuracy.

ONLY £52.95 incl.

**CENTRONICS PRINTER CABLE**

Commodore 64/128 user port to centronics printer cable. The cable is fitted with a line feed switch for use on Epson type printer. No more taking the printer apart to change the line-feed. Recommended for use with the Final Cartridge. Compatible with Superscript and Superbase etc.

ONLY £15.00 incl.

**FLOPPY DISK BARGAINS**

Have we gone crazy??? Just look at these prices! Top quality 5.25 floppy disks with a 100% Guarantee. Complete with labels and write protect tabs.

JUST £6.00 per box of ten. OR £10.00 for twenty. Hurry while stocks last.

3.5 disks only £25.00 per box of ten. OR £48.00 for twenty.

**EPROM PROGRAMMER**

Now an Eprom programmer that's within the reach of most pockets. The Micro-Prommer V.1.0 fits neatly into the cartridge port of the C64/C128. It will program 2716 (2KB), 2732 (4KB), 2764 (8KB), and 27128 (16KB) Eproms. Complete with software and instruction.

ONLY £53.45 incl.

Eprom Eraser to go with the Micro-Prommer. Can erase up to 30 Eproms in 3-4 minutes.

ONLY £52.45 incl.

**SERIAL EXTENSION CABLE**

Extend your Disk Drive or Commodore Printer cable by up to 2 meters.

1 Meter Cable £6.00 incl.

2 Meter Cable £8.00 incl.

**DISK NIBBLER**

Use both sides of your disk. Save the cost of the nibbler with just one box of disks even at our prices.

£5.00 incl.

**EPROM CARDS**

Internal switchable 3 Eproms and 1 Kernal ROM card. £30.00.

External 2 Eprom Card. £20.00.

**MOTHER BOARDS**

5 slot Mother Board. Takes up to 5 Cartridges all switchable. With reset switch. £42.50.

2 Slot Mother Board. Takes 2 Cartridges (switchable) with reset switch. £19.95 incl.

**CITIZEN 120D PRINTER**

Fast 120 cps in draft mode and 24 cps in NLQ mode. Supports both Epson and IBM Graphic characters and modes. We recommend this printer for use with the Final Cartridge. We supply the 120D complete with Centronics interface and printer lead for Commodore C64/C128 computers. Up to 240 dots per inch in Bit Image Mode.

ONLY £230.00 OR Complete with Final Cartridge II £260.00. Please add £5.00 for carriage.

H&P COMPUTERS LTD  
9 Hornbeam Walk,  
Witham,  
Essex CM8 2SZ  
Tel: (0376) 511471

# LAST COMMANDS

## C. R. Whitaker

A utility, to emulate the 'retrieve last command' that is available on most professional computers.

On a large number of 'Professional' computers, a facility known as a "Last command recall" can be found. This facility enables the user to search for, and view the last command which he has entered. The benefit of this is, that should he forge the command/statement he used to carry out a certain operation, then at the touch of a key, he can lock back at what he had done previously. Obviously there must be a limit to how many commands/statements which can be 'remembered', otherwise you would end up having to search through a list as long as your arm, in which case it would most likely be quicker to have a re-think about the command, and then enter it manually.

The "Last Commands" utility shown here, will remember up to 20 commands/statements (which should be maximum of 37 characters in length). Once the

maximum limit has been reached, the next command/statement will be entered at position 1, erasing the first one entered. This 'wrap around' effect will occur each time the maximum limit has been reached. When first run, the default maximum is 20, however this can be changed by entering LIMIT followed by a number between 1 and 20. If you enter a lower limit ie. 10, then all commands/statements following that limit will be erased, ie. 11-20, and the next command entered will appear at position 1. If a higher limit is chosen ie. 15 from 10, then the next command entered will appear at the position following the last command entered, ie. 11.

To search through the list of commands, use F7 to search forwards or F5 to search backwards. Alternatively, you may display a complete list of the

commands used by keying F8 (shift/F7), this will give you the COMMAND HISTORY, and the current limit chosen.

Since this utility is 'interrupt driven', it is advisable to de-activate the utility before using either the datacorder or disk drive, since it may interfere with the process of saving or loading. This can be achieved by entering KILL before any tape or disk operation. Having KILLED the utility, you then have the option of either re-activating whilst preserving the previous stored information, ie. carrying on from where you left off, or re-activating and clearing all the previously stored information, in effect starting from scratch. In either case, the last limit chosen will still be in force. To re-activate and preserve the information, enter SYS 49980. To start from scratch, enter SYS 49152.

To speed up or slow down the scanning of remembered commands POKE 50102,X where 1 = very fast and 255 = slow.

```

1 REM *****
2 REM *
3 REM * LAST COMMAND BY CLIVE WHITAKER *
4 REM *
5 REM *****
10 L= 49152
20 FOR X=0 TO 68 :T=0:FOR Y=0 TO 14
30 READ A:IF A <0 OR A >255 THEN 60
40 POKE L,A:L=L+1:T=T+A:NEXT
50 READ A:T=T-(INT(T/256)*256)
60 IF T<>A THEN PRINT"DATA ERROR IN LINE"1000+(X*10)"CHECKSUM <>"A:STOP
70 PRINT 1000+(X*10)"OK":NEXT
80 PRINT"ACTIVATED":SYS 49152:NEW
1000 DATA 120,169,135,162,192,141,004,003,142,005,003,169,106,162,192,169
1010 DATA 141,008,003,142,009,003,169,071,162,192,141,020,003,142,021,203
1020 DATA 003,088,169,000,162,197,133,251,134,252,168,169,000,145,251,074
1030 DATA 200,208,249,230,252,165,252,201,208,208,241,169,000,162,197,126
1040 DATA 133,251,134,252,134,254,169,003,133,253,096,173,142,002,201,026
1050 DATA 001,240,013,165,197,201,003,240,016,201,006,240,015,076,049,127
1060 DATA 234,165,197,201,003,208,247,076,141,193,076,011,193,076,072,045
1070 DATA 193,032,115,000,240,012,201,076,240,011,201,075,240,010,201,055
1080 DATA 075,240,009,076,231,167,076,232,193,076,000,195,076,000,195,049
1090 DATA 160,000,185,000,002,201,048,144,007,201,058,176,003,076,124,105
1100 DATA 165,173,000,207,201,020,240,093,238,000,207,032,155,195,165,043
1110 DATA 020,145,251,200,165,021,201,000,240,005,145,251,076,184,192,048
1120 DATA 169,032,145,251,200,169,032,145,251,200,185,253,001,201,000,186
1130 DATA 240,006,145,251,192,037,208,242,169,032,192,037,240,006,145,094
1140 DATA 251,200,076,203,192,169,141,145,251,200,169,145,145,251,173,151
1150 DATA 007,207,205,155,192,240,013,238,007,207,165,251,166,252,141,142
1160 DATA 008,207,142,009,207,032,099,195,076,124,165,169,000,162,197,000
1170 DATA 133,251,134,252,169,000,141,000,207,076,158,192,173,007,207,052
1180 DATA 201,000,240,035,032,192,195,173,001,207,205,007,207,240,027,170
1190 DATA 160,000,177,253,200,032,210,255,192,037,208,246,238,001,207,112
1200 DATA 032,127,195,032,181,195,032,205,195,076,049,234,169,000,141,071
1210 DATA 001,207,169,003,133,253,169,197,133,254,076,029,193,173,007,205

```

## LAST COMMANDS ... CONTINUED

1220 DATA 207,201,000,240,034,032,192,195,032,141,195,173,001,207,201,003  
1230 DATA 000,240,024,160,000,177,253,200,032,210,255,192,037,208,246,186  
1240 DATA 206,001,207,032,181,195,032,205,195,076,049,234,173,007,207,208  
1250 DATA 141,001,207,173,008,207,133,253,230,253,230,253,230,253,173,185  
1260 DATA 009,207,133,254,076,092,193,032,192,195,165,251,166,252,141,054  
1270 DATA 002,207,142,003,207,169,219,160,195,032,030,171,160,000,132,037  
1280 DATA 251,169,197,133,252,177,251,201,000,240,028,169,032,032,210,038  
1290 DATA 255,169,032,032,210,255,177,251,200,032,210,255,192,038,208,212  
1300 DATA 246,032,099,195,160,000,076,169,193,169,243,160,195,032,030,207  
1310 DATA 171,173,002,207,174,003,207,133,251,134,252,032,181,195,032,099  
1320 DATA 205,195,076,049,234,076,231,167,032,115,000,201,073,208,246,060  
1330 DATA 032,115,000,201,077,208,239,032,115,000,201,073,208,232,032,229  
1340 DATA 115,000,201,084,208,225,032,115,000,201,032,240,249,234,234,122  
1350 DATA 234,201,049,144,211,201,058,176,207,141,004,207,141,013,196,135  
1360 DATA 032,115,000,201,000,240,017,201,048,144,190,201,058,176,186,017  
1370 DATA 141,014,196,141,005,207,076,060,194,141,005,207,169,032,141,193  
1380 DATA 014,196,169,207,133,035,169,004,133,034,169,002,032,181,183,125  
1390 DATA 032,247,183,165,021,201,000,208,003,076,088,194,076,247,194,143  
1400 DATA 165,020,201,021,176,247,173,013,196,141,007,196,173,014,196,147  
1410 DATA 141,008,196,165,020,141,155,192,205,007,207,176,086,173,007,087  
1420 DATA 207,141,006,207,165,020,141,007,207,173,006,207,056,237,007,251  
1430 DATA 207,170,173,008,207,133,251,173,009,207,133,252,032,099,195,201  
1440 DATA 234,032,113,195,202,208,250,165,251,166,252,160,000,133,253,054  
1450 DATA 134,254,169,000,145,253,200,208,249,230,254,165,254,201,202,102  
1460 DATA 208,241,173,007,207,141,000,207,032,113,195,165,251,166,252,054  
1470 DATA 141,008,207,142,009,207,076,221,194,173,007,207,141,000,207,148  
1480 DATA 173,008,207,174,009,207,133,251,134,252,032,099,195,169,003,254  
1490 DATA 162,197,133,253,134,254,169,000,141,001,207,173,005,207,201,189  
1500 DATA 000,240,003,076,228,167,076,231,167,032,072,178,076,234,194,182  
1510 DATA 076,231,167,032,115,000,201,073,208,246,032,115,000,201,076,237  
1520 DATA 208,239,032,115,000,201,076,240,003,076,231,167,120,169,124,209  
1530 DATA 162,165,141,004,003,142,005,003,169,228,162,167,141,008,003,223  
1540 DATA 142,009,003,169,049,162,234,141,020,003,142,021,003,088,076,238  
1550 DATA 228,167,234,234,234,234,234,234,234,120,169,135,162,192,141,136  
1560 DATA 004,003,142,005,003,169,106,162,192,141,008,003,142,009,003,068  
1570 DATA 169,071,162,192,141,020,003,142,021,003,088,096,165,251,024,012  
1580 DATA 105,040,133,251,165,252,105,000,133,252,096,165,251,056,233,189  
1590 DATA 040,133,251,165,252,233,000,133,252,096,165,253,024,105,040,094  
1600 DATA 133,253,165,254,105,000,133,254,096,165,253,056,233,040,133,225  
1610 DATA 253,165,254,233,000,133,254,096,172,000,207,169,000,032,145,065  
1620 DATA 179,032,221,189,173,001,001,133,020,173,002,001,133,021,160,159  
1630 DATA 000,096,234,234,160,255,162,255,202,208,253,136,208,248,096,187  
1640 DATA 120,169,049,162,234,141,020,003,142,021,003,088,096,120,169,001  
1650 DATA 071,162,192,141,020,003,142,021,003,088,096,000,141,032,032,120  
1660 DATA 018,032,067,079,077,077,065,078,068,032,072,073,083,084,079,216  
1670 DATA 082,089,032,141,017,000,141,032,032,076,073,077,073,084,032,213  
1680 DATA 083,069,084,032,084,079,046,046,046,018,032,050,048,032,141,122

# The 64 Software Centre

1 PRINCETON STREET LONDON WC1R 4AL TEL 01 430 0954

**The specialist centre for Commodore 64, 128 and Amiga**

Selected items from stock

**Software for CBM64/128** d=disk r-cartridge t-tape

## ACCOUNTS

Anagram	Sales Ledger (64 or 128)	d £35.00
	Purchase/Nominal Ledger with journal	d £35.00
	Cashbook	d £35.00
Fieldmaster	Sales Ledger	d £35.00
	Purchase Ledger	d £35.00
Sage	Popular Accounts (128)	d £30.00
	Payroll (128)	d £69.00
	Invoicing (128)	d £69.00
	Supercombo (Account, Invoicing, Payroll)	d £190.00
Studio	Payroll 64	d £44.00
	Payroll 128	d £44.00
Dell	Invoice Generator	d £20.00
Fieldmaster	Home Accounts	d £10.00
Timeworks	Money Manager	d £15.00
	Sideways (64 and 128)	d £35.00

## STOCK CONTROL SYSTEMS

Anagram	Stock Control (64 or 128)	d £35.00
Practicorp	Inventory	d £12.00

## DATABASE FILING SYSTEMS

Cardco	Mail Now	d £30.00
	File Now	d £39.00
Digital	Pocket filer 64	d £36.00
Fieldmaster	Record Card	d £10.00
Precision	Superbase (64)	d £40.00
	Superbase (128)	d £60.00
	Superbase Starter	d £20.00
Timeworks	Data Manager 2 (128)	d £50.00
PSI	Fleet Filer 64/128	d £39.00

## WORD PROCESSORS

Broderbund	Bank Street Writer	d £49.00
Cardco	Spell Now	d £29.00
	Write Now	r £49.00
Digital	Pocket Writer 64	d £36.00
	Pocket Writer 128	d £44.00
	Pocket Writer 64/128 v.2	d £49.00
Precision	Superscript (64)	d £49.00
	Superscript (128)	d £60.00
PSI	Fleet System 4 (WP, Database)	d £75.00
Supersoft	Word Perfect	t £10.00
Tasman	Tasword 64	d £19.00
	Tasword 64	t £17.00
Xetec	Fontmaster II (64 or 128)	d £60.00

## SPREADSHEETS

Cardco	Calc Now	d £30.00
Digital	Pocket Planner 64	d £36.00
	Pocket Planner 128	d £44.00
	Superpack (Filer, Writer, Planner for 64)	d £75.00
Fieldmaster	Worksheet	d £10.00
F.P.	Powerplan	d £40.00
Practicorp	Practical II	d £30.00
	PS Spreadsheet	d £15.00
Spinnaker	Better Spreadsheet	d £30.00

## AIDS & UTILITIES

Access	Mach 5 Fastload	r £20.00
Abacus	Chartpak 64	d £24.00
	Chartpak 128	d £39.00
	Cadpak 128	d £49.00

	Cobol 64 or 128	d £49.00
	SuperC 128	d £49.00
	Basic 64 Compiler	d £39.00
	Basic 128 Compiler	d £49.00
	Super Pascal 64	d £49.00
Berkeley	Geos	d £45.00
	Fontpack 1	d £24.00
	Deskpack	d £27.00
	Writers Workshop	d £38.00
	Geodex	d £29.00
Broderbund	The Printshop	d £33.00
	Graphics Library (1, 2 or 3)	d £18.00
	Holiday Graphics	d £18.00
	The Printshop Companion	d £33.00
	S'More (22K extra Ram, Toolkit)	r £49.00
Cardco	1541 Disk Drive Alignment Program	d £44.00
CSM	Zeus Assembler	d £14.00
Crystal	Zeus Assembler	t £10.00
	DolphinDos	r £69.00
Evesham	Freeze Frame IIIB	r £39.00
	Pascal 64	d £15.00
F.P.	Forth	r £49.00
Hesware	Graphic Adventure Creator	t or d £20.00
Incentive	Laser Basic	d £19.00
Oasis	Laser Basic	t £15.00
	Laser Compiler	d £25.00
	Laser Compiler	t £19.00
	Laser Genius	d £20.00
OCS	Oxford Pascal 64	d £34.00
	Oxford Pascal 128	d £49.00
	Cad 64	d £20.00
Orpheus	64 Doctor	d £12.00
Practicorp	Supertype	d £15.00
Precision	Supertype	t £15.00
RW	Merlin 64 Assembler	d £49.00
	Merlin 128 Assembler	d £69.00
Springboard	The Newsroom	d £49.00
	Clip Art 1	d £25.00
	Clip Art 2	d £27.00
	Clip Art 3	d £27.00
Skyles	Victree	r £30.00
Supersoft	Zoom monitor	d £12.00

## MUSIC SYNTHESIZERS

Access	Master Composer	d £39.00
Broderbund	Music Shop	d £49.00
EA	Music Construction Set	d £15.00
Firebird	Music System	d £17.00
	Music System	t £15.00
	Advanced Music System	d £39.00
Supersoft	Music Master	d £10.00

## CHESS

CDS	Colossus 4	d £14.00
	Colossus 4	t £10.00
SC	Chessmaster 2000	d £33.00

## BRIDGE

Artworx	Compubridge	d £29.00
	Bridge 4	d £29.00
Bridgemaster	Bridge tutor	t £17.00
GGP	Bridge Baron	d £35.00

## EDUCATIONAL

Dell	Essential Italian	d/t £14.00
Broderbund	The Toyshop (20 working models)	d £60.00

## INTERFACES

Xetec	Supergraphics Senior	r + cable £80.00
	Supergraphics Junior	r + cable £50.00

**WAR, SPORTS AND BUSINESS SIMULATIONS — FLIGHT SIMULATIONS  
ADVENTURES (PHANTASY, GRAPHIC, TEXT) — ARCADE GAMES**  
*a wide range stocked.*

**United Kingdom - Prices include VAT, Add £2.00 for P&P**  
**Europe - Prices as above. Price exclude VAT but no charge for P&P**  
**Other countries - Prices exclude VAT but add 20% to above prices (air)**  
**Software is not sold in a trial basis**

# GIANT

I am sure that there must be many programmers who, like me, have been drawn to their keyboards to crack a particular problem, and having done so, never get around to arranging the program into a form that may be used by others, nor, moreover, by themselves when they come back to it some months later.

The situation usually arises because the tedium of titling, and setting out instructions, soon comes second best to the next project forming in our minds.

It was whilst pondering the question of titles that I remembered a program I had copied from a magazine for my ZX81. The program interrogated the computer's character ROM to check how the pattern of 64 pixels, on an 8 x 8 matrix, which form each screen character, is made up. It then produced a similar pattern made up this time, not of tiny pixels, but of blocks, reversed spaces in fact, so as to form characters with areas 64 times that of the standard. On the C-64, I figured, its 25 x 40 character screen could produce 3 rows of 5 giant characters. It offered an easy way to make titles but there were a few minor snags to sort out in order to make it more versatile, and one major one; the Basic program took about 30 seconds to produce a screen full of the giant characters. The obvious answer was to produce the same effect by a machine-code routine and the program described here, called "GIANT", is the result.

GIANT is loaded by means of a Basic loader into the area 50000 to 50411 and is called the SY5 50000. It may, however, be moved to wheresoever you wish, by

changing line 10 of the loader accordingly.

The syntax for GIANT is as follows:

SYS 50000 "A", B, C, D where:—

"A" is a string up to 5 characters long and represents the giant characters which are to be printed, GIANT will automatically centre the characters, but as spaces are counted, these may be used to force any offset needed. Spaces are actually printed and so will effectively erase any characters already on the screen. If you do not wish to erase, you must use the control character for cursor right, which is represented on the screen by a reversed, square, closed bracket, which is called a "skip" character for the purposes of this program.

B must be a number from 1 to 3, and is used to indicate on which of the possible 3 rows you wish to print.

C specifies the minor character from which the giant ones are built. If C is not specified, the default is a reversed space, which appears as a wholly filled block. A figure 1 used in position B tells the computer to make the minor character the same as that being printed in giant form; thus if the word GO were being printed the giant G and O would be built from little Gs and Os respectively. Placing a valid character code in position C will make the minor characters print as per that code.

D is a multi-function parameter which primarily defines the colour by use of the standard codes 0 to 15. If unspecified the default is 0 (black). Adding

the number 32 to the value of D will cause the giant character to be a lower case version of that specified by "A". Adding 64 will cause the minor character to appear in reverse, whilst adding 128 will do the same for the giant character.

GIANT also contains a short program to allow the use, from Basic, of the C-64's in-built PLOT routine. This allows the placement of the cursor at any print position on the screen without the need for rows of "cursor down" characters and at the same time makes the TAB command unnecessary.

Call PLOT with:

SYS T + 396,C,R where

T is the start address for "Giant" and equals 50000 as the program is written here.

C and R are the column and row, respectively, that the cursor is to move to.

Do remember that the columns run from 0 to 39 and the rows from 0 to 24, as in order to keep the program as short as possible, no safety nets are incorporated. Illegal numbers may cause some strange effects.

The programme TEST provides some illustrations of the use of GIANT the symbol for dark blue.

Besides being used as a titling utility, GIANT may also be used for other purposes such as advertising or as an aid to producing graphics for games, (a giant asterix looks remarkably like a space invader)! No doubt readers will find other uses too.

```

1 REM *****
2 REM *
3 REM *      GIANT BY RICK ASTLEY      *
4 REM *
5 REM *****
10 L=50000
20 FOR X=0 TO 27:T=0:FOR Y=0 TO 14
30 READ A:IF A <0 OR A >255 THEN 60
40 POKE L,A:L=L+1:T=T+A:NEXT
50 READ A:T=T-(INT(T/256)*256)
60 IF T<>A THEN PRINT"DATA ERROR IN LINE"1000+(X*10)"CHECKSUM <>"A:STOP
70 PRINT1000+(X*10)"OK":NEXT
1000 DATA 173,024,208,041,014,010,010,141,168,002,201,016,208,005,169, 110
1010 DATA 208,141,168,002,032,212,225,162,000,134,184,142,173,002,134, 127
1020 DATA 199,032,121,000,240,008,032,241,183,134,184,142,001,199,165, 089
1030 DATA 186,240,004,201,004,144,003,076,008,175,164,183,240,249,192, 021
1040 DATA 006,144,005,162,023,108,000,003,173,134,002,072,165,184,141, 042
1050 DATA 134,002,162,001,042,144,003,142,173,002,042,144,002,134,199, 046

```



# Once Bytten

59 SWANLEY ROAD  
WELLING, KENT DA16 1LL  
Tel: 01-304 2631

(Callers by appointment only)  
Cheques and P.O.s to AMTEN LIMITED please

PLEASE NOTE OUR NEW ADDRESS AND PHONE NUMBER!!!

## ONCE BYTTEN DISCS (by top manufacturers) ALL WITH LIFETIME WARRANTY

With labels and hub ringed (5 1/4" with sleeves)

	10 Boxed in library case	25 Loose	50 Loose	100 Loose
5 1/4" SSDD 96tpi	£6.95	£12.95	£23.50	£44.00
5 1/4" DSDD 96tpi	£7.95	£13.95	£25.95	£45.95
3 1/2" SSDD 135tpi	£14.50	£33.95	£62.95	£117.50
3 1/2" DSDD 135tpi	£16.95	£37.50	£72.50	£139.95

### FACTORY FRESH - BRANDED DISCS (Price per 10)

	SONY	MAXELL
5 1/4" SSDD 48tpi	£10.85	£10.85
5 1/4" DSDD 48tpi	£11.54	£11.54
5 1/4" DSDD 96tpi	£16.37	£17.06
3 1/2" SSDD 135tpi	£18.44	£19.82
3 1/2" DSDD 135tpi	£22.58	£24.65

(All branded discs are boxed in tens, manufacturers' original packing)  
NOTHING MORE TO ADD!!! ALL PRICES INCLUDE VAT AND P&P

### GEOS 1.3 Our Price £42.50 Inc. VAT & Carriage (U.K.)

All add-ons for Geos at discount prices, please ask.

Special: Geos compatible printer cable (Allows use of most Centronics i/f printers) £19.95 Inc. VAT & Carriage (U.K.)

SEE YOU AT THE COMMODORE SHOW STAND 39

### WANTED!!

We want to buy your computer, your printer, your disc drive, your modem, your monitor, your software, your spilling chocker, FOR CASH!!!  
WE WILL GIVE EVEN MORE IN PART EXCHANGE... Against the latest micros from AMSTRAD, ATARI, COMMODORE et al.  
FOR A QUICK QUOTE (or a slow lingering one) ring:

KEITH McGOVERN on 01-407 8447 Mon-Fri 9am-6pm  
or 01-304 2631 Mon-Sat 8pm-10pm



ORDER LINE 01-304 2631 9am to 10pm



# TELETEXT

A world of information at your fingertips

The Microtext adaptor turns your C64 or 128 into a sophisticated Teletext Receiver. Giving you a full colour display of any of the free pages from Ceefax or Oracle. Teletext is constantly updated to give you the latest information available. As well as news and sports results, there's road, rail and air travel information, what's on TV and weather reports. You can get an update on share prices or bargain holidays, at the touch of a button. And not only does Teletext cater for special interests, like computing, motoring, or gardening, but you'll also find things to do and places to go in your area, prize competitions and even your daily horoscope, plus much much more. It's all free, easy to use and it's all at your fingertips.

With the Microtext Adaptor a page like a recipe or a software review may be saved to disc or cassette for later reloading, or you can print a page like the TV programme times on any printer which uses the serial bus. All the functions like Hold, Back one page, or Print are simply selected by pressing one key, it's very easy to use but powerful too!

The manual has examples and shows how to access and use Teletext from your own programs, the ability to tap the massive database available on Teletext and select and use information like football results, exchange rates or weather conditions, provides possibilities limited only by your imagination.

The Adaptor is cased and fits neatly on the User port, it comes with software on cassette with instructions for copying to disc. A lead which could be extended to another room, connects to the seldom used 'VIDEO OUT' socket on your video recorder so using your video as the Tuner for the system. This ingenious concept means an extra aerial is not required, your family can still use the Main TV as before and channel selection for Teletext is done on the video which reduces the complexity of the adaptor so saving you money!

As well as the UK the system works in Australia, Austria, Belgium, Denmark, Eire, Finland, West Germany, Holland, New Zealand, Norway, Portugal, Spain, Sweden and Switzerland and also with cable or satellite TV.

Just £69.95 inc. P&P (Overseas add £2.00) only from:

## MICROTEXT

Dept CI, 7 Birdlip Close, Horndean, Hants. PO8 9PW  
Telephone: 0705 595694

SPECTRUM — AMSTRAD — COMMODORE

# NOBLES COMPUTER REPAIRS

- \* Repairs carried out by our own engineers on site.
- \* All repairs carry a 4 MONTH GUARANTEE

For estimates phone or send your computer to Derek at NOBLES.

Commodore 64..... £18.95 inc parts  
post and pack

TV repairs ..... from £22.50 plus parts

Also repair specialists for Amstrad, Commodore 64/Vic 20, BBC and MSX computers

**NO HIDDEN CHARGES**

## ★ SPECIAL OFFER ★ 2 FREE GAMES WORTH £12

with each Commodore repair Trade/School and Club discounts arranged.

\* For free, no obligation estimates phone or send your computer to NOBLES for the fastest, cheapest repairs in ESSEX and Nationwide!

FULL RANGE OF SPECTRUM GAMES eg Z games £1.99  
PLEASE PHONE FOR ORDER DETAILS

### NOBLES

Main repairers for Amstrad in the UK



14-17 Eastern Esplanade  
Southend-on-Sea  
Essex



0702 63377/8

63336/7/8/9

7 days a week, 24-hour Answering Service

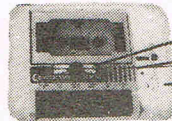
SPECTRUM — AMSTRAD — COMMODORE

### "LOAD-IT"

## ATTENTION DATA-RECORDER OWNERS

THE DISEASE - Tape Loading Problems

THE CURE - Our Exclusive Data-recorder Modification Package



- PERMANENT HEAD ALIGNMENT ADJUSTING KNOB
- CALIBRATED SCALE
- INTERNAL SPEAKER FITTED

CBM RECORDER

- \* Programs fail to load if the head does not read the tape correctly.
- \* By simply adjusting the head slightly all programs will load!
- \* Loading problems are caused by variations in alignment of data on tape.

"LOAD-IT" GIVES YOU:

- \* Audible loading through internally fitted speaker.
- \* Head alignment easily adjusted to clearest data signal.
- \* Calibrated scale for keeping a record of loading positions.
- \* Achieves 100% success even on poorly recorded programs.
- \* Guaranteed for life of data-recorder.
- \* Approved by data-recorder manufacturers.
- \* Recommended by leading software houses.
- \* Does not affect any guarantees on computer.
- \* 3-day service from receipt of order.

£19.95  
includes  
return  
postage

- \* Due to popular demand a D.I.Y. kit is available.
- \* All you need is a soldering iron (required for CBM only).
- \* A small file and common sense.
- \* Easy to follow instructions are supplied.
- \* CBM data-recorder kit, only £9.95 inc. post and package.
- \* SPECTRUM 48K/128+2 D.I.Y. kit, only £7.75 inc. post and package (no speaker required).

D.I.Y. KITS  
from  
£7.75  
includes P.&P.

"LOAD-IT" is a registered trade name. Copyright ©1986. Patent Pending 8629660. Trade enquiries welcome. Franchise scheme available in selected areas. Britain and overseas.

SEND YOUR DATA-RECORDER SECURELY PACKED TO: Tel: 021-745 4970.  
"LOAD-IT", 35 Stretton Road, Shirley, Solihull, West Midlands B90 2RX.

- I enclose my CBM data-recorder and cheque for £19.95 inc.
- D.I.Y. kit, CBM £9.95.
- D.I.Y. kit for any data-recorder £7.75.

✓ Tick as appropriate.

Name .....  
Address .....

Postal code .....

My Computer is: CBM 16/CBM +4/CBM 64/CBM 64C/CBM 128/SPECTRUM 48K/128+2.

# Program

```

1060 DATA 165,185,141,176,002,208,011,169,001,133,199,169,032,133,185, 117
1070 DATA 141,176,002,169,020,166,183,056,233,004,202,208,250,141,174, 077
1080 DATA 002,169,248,166,186,024,105,008,202,208,250,141,175,002,160, 254
1090 DATA 000,132,252,165,184,041,032,074,074,074,074,074,133,254,177, 204
1100 DATA 187,141,167,002,201,255,208,004,169,094,208,052,042,144,020, 102
1110 DATA 042,144,006,177,187,041,127,208,040,042,144,031,177,187,009, 026
1120 DATA 064,041,127,208,029,042,144,015,042,176,006,177,187,041,191, 210
1130 DATA 144,017,177,187,041,223,208,011,042,177,187,176,006,169,029, 002
1140 DATA 145,187,208,051,133,253,174,173,002,240,002,009,128,133,253, 043
1150 DATA 208,002,208,165,165,253,024,006,253,038,254,006,253,038,254, 079
1160 DATA 006,253,038,254,165,253,024,165,254,109,168,002,133,254,208, 238
1170 DATA 035,056,173,175,002,233,007,141,175,002,024,173,174,002,105, 197
1180 DATA 008,141,174,002,230,252,164,252,196,183,208,201,160,000,132, 255
1190 DATA 199,104,141,134,002,096,165,185,201,032,144,008,201,160,176, 156
1200 DATA 010,201,128,144,006,173,167,002,141,176,002,132,252,172,174, 088
1210 DATA 002,174,175,002,024,032,240,255,160,000,162,008,165,199,133, 195
1220 DATA 251,120,165,001,041,251,133,001,177,253,042,072,165,001,009, 146
1230 DATA 004,133,001,088,176,008,169,000,133,199,169,032,208,003,173, 216
1240 DATA 176,002,032,210,255,165,251,133,199,104,202,208,223,200,192, 248
1250 DATA 008,240,134,238,175,002,132,251,172,174,002,174,175,002,032, 119
1260 DATA 240,255,164,251,208,185,032,241,183,138,072,032,241,183,104, 225
1270 DATA 168,024,032,240,255,096,000,000,000,000,000,000,000,000, 047

```

```

1 REM *****
2 REM *
3 REM * GIANT DEMO BY RICK ASTLEY *
4 REM *
5 REM *****
10 PRINT "":POKE 53280,12:POKE 53281,12:T=50000:C=T+396
20 SYS T"I"
30 A$=CHR$(115)+" "":SYS 50000 A$,2,1,2
40 SYS T"MY",2,183,35
50 SYS T"CCI",3,96,198
60 SYS C,8,15:PRINT " "
70 SYS C,8,24:PRINT " "EACH MONTH";
80 GOT080

```

Don't miss out!

## Commodore - Subscription Order Form

To Subscriptions Manager, Commodore Computing International,  
40 Bowling Green Lane, London EC1R 0NE. Tel: 01-278 0333 Telex: 267247 FINSEC

Please send me 12 issues of *Commodore Computing International*

Cheque enclosed
  Please debit my Access

Card No.

Subscription rate U.K. £15.00
  Europe £25
  Outside Europe £38

Expiry date: \_\_\_\_\_

Cheques should be made payable to:  
CROFTWARD LIMITED

Name \_\_\_\_\_

Address \_\_\_\_\_

County \_\_\_\_\_ Post Code \_\_\_\_\_

Telephone (home) \_\_\_\_\_ (business) \_\_\_\_\_

Signed \_\_\_\_\_ Date (Subscription to commence) \_\_\_\_\_





# FXED FXED FXED

John Stevenson

"FXED" is a sound effects editor for the CBM 64. FXED allows you to edit two hundred and fifty six different sound effects. Then when you have created the effects you want you can save out the data for them complete with IRQ and driver routines. The file saved out can then be loaded independent of the main program and utilised in basic programs, eg. games etc.

To use FXED first create the effects desired. then hitting the F7 key, FXED

will save them to either tape or disk. When it is finished saving, reset the computer and load the effects saved.

It is then ready for use in basic programs. The first line of the program must have "SYS 50651", this initialises the IRQ. Then to play an effect just type:

POKE 50156, effects number: SYS 50933.

You can play a maximum of three effects at any one time.

Instructions for the editor are on screen.

John Stevenson wrote this program for the effects in his current project. And when it was finished he came up with the idea to turn into a basic utility. You may have seen his last two projects, "PUB GAMES" & "ARK PANDORA". Both got very good reviews in CCI.

```

1 REM *****
2 REM *
3 REM *      FXED BY JOHN STEVENSON      *
4 REM *
5 REM *****
10 POKE 679,169:POKE 680,54
20 POKE 681,133:POKE 682,1
30 POKE 683,76 :POKE 684,0
40 POKE 685,188:POKE 650,128
50 L=48128
60 FOR X=0 TO 197:T=0:FOR Y=0 TO 14
70 READ A:IF A <0 OR A >255 THEN 100
80 POKE L,A:L=L+1:T=T+A:NEXT
90 READ A:T=T-(INT(T/256)*256)
100 IF T<>A THEN PRINT"DATA ERROR IN LINE"1000+(X*10)"CHECKSUM <>"A:STOP
110 PRINT1000+(X*10)"OK":NEXT
120 SYS 679
1000 DATA 169,000,141,032,208,141,033,208,032,168,194,032,243,194,169,172
1010 DATA 005,141,134,002,032,010,189,032,168,190,032,110,196,032,159,152
1020 DATA 255,032,228,255,201,081,208,006,032,018,191,076,022,188,201,202
1030 DATA 065,208,006,032,236,192,076,022,188,201,087,208,006,032,070,093
1040 DATA 191,076,022,188,201,083,208,006,032,032,193,076,022,188,201,183
1050 DATA 069,208,006,032,122,191,076,022,188,201,068,208,006,032,084,233
1060 DATA 193,076,022,188,201,082,208,006,032,174,191,076,022,188,201,068
1070 DATA 070,208,006,032,136,193,076,022,188,201,084,208,006,032,226,152

1080 DATA 191,076,022,188,201,071,208,006,032,188,193,076,022,188,201,071
1090 DATA 089,208,006,032,022,192,076,022,188,201,072,208,006,032,240,058
1100 DATA 193,076,022,188,201,085,208,006,032,074,192,076,022,188,201,228
1110 DATA 074,208,006,032,036,194,076,022,188,201,073,208,006,032,126,202

```

# Program

1120 DATA 192,076,022,188,201,075,208,006,032,088,194,076,022,188,201, 233  
1130 DATA 032,208,006,032,229,192,076,022,188,201,133,208,006,032,192, 221  
1140 DATA 196,076,022,188,201,134,208,006,032,149,196,076,022,188,201, 103  
1150 DATA 135,208,015,032,014,197,032,251,196,032,117,195,032,110,196, 226  
1160 DATA 076,000,188,201,136,208,009,032,235,196,032,021,197,076,000, 071  
1170 DATA 188,201,088,208,003,032,168,197,076,022,188,162,000,189,139, 069  
1180 DATA 189,240,007,032,210,255,232,076,012,189,162,000,189,129,190, 064  
1190 DATA 240,007,032,210,255,232,076,026,189,162,024,160,000,024,032, 133  
1200 DATA 240,255,162,000,189,103,189,240,007,032,210,255,232,076,048, 190  
1210 DATA 189,162,022,160,010,024,032,240,255,162,000,189,083,189,240, 165  
1220 DATA 007,032,210,255,232,076,070,189,096,158,032,040,088,041,032, 022  
1230 DATA 068,069,086,073,067,069,032,078,079,032,032,005,056,000,005, 239  
1240 DATA 032,032,032,032,032,032,032,040,070,053,041,032,076,079,065, 168  
1250 DATA 068,032,070,088,032,032,040,070,055,041,032,083,065,086,069, 095  
1260 DATA 032,070,088,000,096,147,032,032,032,032,032,032,032,040,081, 010  
1270 DATA 044,065,041,032,078,079,084,069,032,072,073,032,032,032,013, 010  
1280 DATA 013,032,032,032,032,032,032,032,040,087,044,083,041,032,078, 130  
1290 DATA 079,084,069,032,076,079,032,032,032,013,013,032,032,032,032, 157  
1300 DATA 032,032,032,040,069,044,068,041,032,087,065,086,069,070,079, 078  
1310 DATA 082,077,032,032,013,013,032,032,032,032,032,032,032,040,082, 083  
1320 DATA 044,070,041,032,080,085,076,083,069,032,072,073,032,032,013, 066  
1330 DATA 013,032,032,032,032,032,032,032,040,084,071,041,032,080, 117  
1340 DATA 085,076,083,069,032,076,079,032,032,013,013,032,032,032,032, 206  
1350 DATA 032,032,032,040,089,044,072,041,032,065,084,084,065,067,075, 086  
1360 DATA 047,068,069,067,065,089,032,032,013,013,032,032,032,032,032, 143  
1370 DATA 032,032,040,085,044,074,041,032,083,085,083,084,065,073,078, 163  
1380 DATA 032,082,069,076,069,065,083,069,032,013,013,032,032,032,032, 219  
1390 DATA 032,032,032,040,073,044,075,041,032,070,088,032,068,069,076, 036  
1400 DATA 065,089,013,013,158,013,013,032,032,032,032,032,032,032,080, 156  
1410 DATA 082,069,083,083,032,083,080,065,067,069,032,084,079,032,080, 252  
1420 DATA 076,065,089,032,069,070,070,069,067,084,000,159,013,013,032, 140  
1430 DATA 032,032,032,032,032,032,040,070,049,044,070,051,041,032,070, 147  
1440 DATA 088,032,078,085,077,066,069,082,032,032,068,079,087,078,047, 232  
1450 DATA 085,080,013,001,000,162,000,189,183,190,240,007,032,210,255, 111  
1460 DATA 232,076,170,190,096,019,005,029,029,029,029,029,029,029,029, 252  
1470 DATA 029,029,029,029,029,029,029,029,029,029,029,029,029,029, 179  
1480 DATA 029,029,029,029,029,029,048,048,048,157,157,157,017,017,048, 103  
1490 DATA 048,048,157,157,157,017,017,048,048,048,157,157,157,017,017, 226  
1500 DATA 048,048,048,157,157,157,017,017,048,048,048,157,157,157,017, 001  
1510 DATA 017,048,048,048,157,157,157,017,017,048,048,048,157,157,157, 001  
1520 DATA 017,017,048,048,048,000,173,218,192,141,225,192,173,214,190, 104  
1530 DATA 141,226,192,173,215,190,141,227,192,173,216,190,141,228,192, 021  
1540 DATA 032,178,192,173,225,192,141,218,192,173,226,192,141,214,190, 119  
1550 DATA 173,227,192,141,215,190,173,228,192,141,216,190,096,173,217, 204  
1560 DATA 192,141,225,192,173,222,190,141,226,192,173,223,190,141,227, 032  
1570 DATA 192,173,224,190,141,228,192,032,178,192,173,225,192,141,217, 130  
1580 DATA 192,173,226,192,141,222,190,173,227,192,141,223,190,173,228, 067  
1590 DATA 192,141,224,190,096,173,221,192,141,225,192,173,230,190,141, 161  
1600 DATA 226,192,173,231,190,141,227,192,173,232,190,141,228,192,032, 200  
1610 DATA 178,192,173,225,192,141,221,192,173,226,192,141,230,190,173, 023  
1620 DATA 227,192,141,231,190,173,228,192,141,232,190,096,173,220,192, 002  
1630 DATA 141,225,192,173,238,190,141,226,192,173,239,190,141,227,192, 064  
1640 DATA 173,240,190,141,228,192,032,178,192,173,225,192,141,220,192, 149  
1650 DATA 173,226,192,141,238,190,173,227,192,141,239,190,173,228,192, 099  
1660 DATA 141,240,190,096,173,219,192,141,225,192,173,246,190,141,226, 225  
1670 DATA 192,173,247,190,141,227,192,173,248,190,141,228,192,032,178, 184  
1680 DATA 192,173,225,192,141,219,192,173,226,192,141,246,190,173,227, 086  
1690 DATA 192,141,247,190,173,228,192,141,248,190,096,173,222,192,141, 206  
1700 DATA 225,192,173,254,190,141,226,192,173,255,190,141,227,192,173, 128  
1710 DATA 000,191,141,228,192,032,178,192,173,225,192,141,222,192,173, 168  
1720 DATA 226,192,141,254,190,173,227,192,141,255,190,173,228,192,141, 099  
1730 DATA 000,191,096,173,223,192,141,225,192,173,006,191,141,226,192, 058

# Program

1740 DATA 173,007,191,141,227,192,173,008,191,141,228,192,032,178,192,218  
1750 DATA 173,225,192,141,223,192,173,226,192,141,006,191,173,227,192,107  
1760 DATA 141,007,191,173,228,192,141,008,191,096,173,224,192,141,225,019  
1770 DATA 192,173,014,191,141,226,192,173,015,191,141,227,192,173,016,209  
1780 DATA 191,141,228,192,032,178,192,173,225,192,141,224,192,173,226,140  
1790 DATA 192,141,014,191,173,227,192,141,015,191,173,228,192,141,016,179  
1800 DATA 191,096,238,225,192,173,225,192,208,012,169,048,141,226,192,224  
1810 DATA 141,227,192,141,228,192,096,032,055,195,096,096,160,000,200,003  
1820 DATA 192,140,208,251,096,232,224,002,208,243,096,000,000,000,000,100  
1830 DATA 000,000,000,000,000,048,048,048,173,224,192,141,001,195,096,142  
1840 DATA 173,218,192,141,225,192,173,214,190,141,226,192,173,215,190,039  
1850 DATA 141,227,192,173,216,190,141,228,192,032,140,194,173,225,192,096  
1860 DATA 141,218,192,173,226,192,141,214,190,173,227,192,141,215,190,009  
1870 DATA 173,228,192,141,216,190,096,173,217,192,141,225,192,173,222,211  
1880 DATA 190,141,226,192,173,223,190,141,227,192,173,224,190,141,228,035  
1890 DATA 192,032,140,194,173,225,192,141,217,192,173,226,192,141,222,092  
1900 DATA 190,173,227,192,141,223,190,173,228,192,141,224,190,096,173,193  
1910 DATA 221,192,141,225,192,173,230,190,141,226,192,173,231,190,141,042  
1920 DATA 227,192,173,232,190,141,228,192,032,140,194,173,225,192,141,112  
1930 DATA 221,192,173,226,192,141,230,190,173,227,192,141,231,190,173,076  
1940 DATA 228,192,141,232,190,096,173,220,192,141,225,192,173,238,190,007  
1950 DATA 141,226,192,173,239,190,141,227,192,173,240,190,141,228,192,069  
1960 DATA 032,140,194,173,225,192,141,220,192,173,226,192,141,238,190,109  
1970 DATA 173,227,192,141,239,190,173,228,192,141,240,190,096,173,219,254  
1980 DATA 192,141,225,192,173,246,190,141,226,192,173,247,190,141,227,080  
1990 DATA 192,173,248,190,141,228,192,032,140,194,173,225,192,141,219,120  
2000 DATA 192,173,226,192,141,246,190,173,227,192,141,247,190,173,228,115  
2010 DATA 192,141,248,190,096,173,222,192,141,225,192,173,254,190,141,210  
2020 DATA 226,192,173,255,190,141,227,192,173,000,191,141,228,192,032,249  
2030 DATA 140,194,173,225,192,141,222,192,173,226,192,141,254,190,173,012  
2040 DATA 227,192,141,255,190,173,228,192,141,000,191,096,173,223,192,054  
2050 DATA 141,225,192,173,006,191,141,226,192,173,007,191,141,227,192,114  
2060 DATA 173,008,191,141,228,192,032,140,194,173,225,192,141,223,192,141  
2070 DATA 173,226,192,141,006,191,173,227,192,141,007,191,173,228,192,149  
2080 DATA 141,008,191,096,173,224,192,141,225,192,173,014,191,141,226,024  
2090 DATA 192,173,015,191,141,227,192,173,016,191,141,228,192,032,140,196  
2100 DATA 194,173,225,192,141,224,192,173,226,192,141,014,191,173,227,118  
2110 DATA 192,141,015,191,173,228,192,141,016,191,096,206,225,192,173,068  
2120 DATA 225,192,201,255,208,014,169,050,141,226,192,169,053,141,227,159  
2130 DATA 192,141,228,192,096,032,055,195,096,120,169,001,141,026,208,100  
2140 DATA 173,017,208,041,127,141,017,208,169,000,141,013,220,141,014,094  
2150 DATA 220,169,202,141,020,003,169,194,141,021,003,088,096,169,001,101  
2160 DATA 141,025,208,173,215,194,240,004,076,229,194,000,169,001,141,218  
2170 DATA 215,194,169,192,141,018,208,076,049,234,169,000,141,215,194,167  
2180 DATA 141,018,208,032,002,195,076,188,254,162,000,169,000,157,000,066  
2190 DATA 212,232,224,025,208,248,096,000,000,173,001,195,208,012,169,211  
2200 DATA 000,141,004,212,141,000,195,141,032,208,096,173,000,195,240,242  
2210 DATA 009,206,001,195,169,011,141,032,208,096,169,015,141,024,212,093  
2220 DATA 141,000,195,162,000,189,217,192,157,000,212,232,224,007,208,088  
2230 DATA 245,096,174,225,192,169,048,141,226,192,141,227,192,141,228,077  
2240 DATA 192,224,000,240,007,032,081,195,202,076,069,195,096,238,228,027  
2250 DATA 192,173,228,192,201,058,240,001,096,169,048,141,228,192,238,093  
2260 DATA 227,192,173,227,192,201,058,240,001,096,169,048,141,227,192,080  
2270 DATA 238,226,192,096,173,218,192,141,225,192,032,055,195,173,226,014  
2280 DATA 192,141,214,190,173,227,192,141,215,190,173,228,192,141,216,009  
2290 DATA 190,173,217,192,141,225,192,032,055,195,173,226,192,141,222,006  
2300 DATA 190,173,227,192,141,223,190,173,228,192,141,224,190,173,219,060  
2310 DATA 192,141,225,192,032,055,195,173,226,192,141,246,190,173,227,040  
2320 DATA 192,141,247,190,173,228,192,141,248,190,173,220,192,141,225,077  
2330 DATA 192,032,055,195,173,226,192,141,238,190,173,227,192,141,239,046  
2340 DATA 190,173,228,192,141,240,190,173,221,192,141,225,192,032,055,025  
2350 DATA 195,173,226,192,141,230,190,173,227,192,141,231,190,173,228,086

# Program

2360	DATA	192, 141, 232, 190, 173, 222, 192, 141, 225, 192, 032, 055, 195, 173, 226, 021
2370	DATA	192, 141, 254, 190, 173, 227, 192, 141, 255, 190, 173, 228, 192, 141, 000, 129
2380	DATA	191, 173, 223, 192, 141, 225, 192, 032, 055, 195, 173, 226, 192, 141, 006, 053
2390	DATA	191, 173, 227, 192, 141, 007, 191, 173, 228, 192, 141, 008, 191, 173, 224, 148
2400	DATA	192, 141, 225, 192, 032, 055, 195, 173, 226, 192, 141, 014, 191, 173, 227, 065
2410	DATA	192, 141, 015, 191, 173, 228, 192, 141, 016, 191, 032, 168, 190, 096, 096, 014
2420	DATA	173, 144, 199, 141, 225, 192, 032, 055, 195, 173, 226, 192, 141, 145, 196, 125
2430	DATA	173, 227, 192, 141, 146, 196, 173, 228, 192, 141, 147, 196, 096, 162, 016, 122
2440	DATA	160, 014, 024, 032, 240, 255, 162, 000, 189, 133, 196, 240, 007, 032, 210, 102
2450	DATA	255, 232, 076, 120, 196, 096, 030, 070, 088, 032, 078, 085, 077, 066, 069, 034
2460	DATA	082, 032, 005, 048, 048, 048, 000, 032, 235, 196, 238, 144, 199, 173, 144, 088
2470	DATA	199, 141, 225, 192, 032, 055, 195, 173, 226, 192, 141, 145, 196, 173, 227, 208
2480	DATA	192, 141, 146, 196, 173, 228, 192, 141, 147, 196, 032, 110, 196, 032, 251, 069
2490	DATA	196, 032, 117, 195, 096, 032, 235, 196, 206, 144, 199, 173, 144, 199, 141, 001
2500	DATA	225, 192, 032, 055, 195, 173, 226, 192, 141, 145, 196, 173, 227, 192, 141, 201
2510	DATA	146, 196, 173, 228, 192, 141, 147, 196, 032, 110, 196, 032, 251, 196, 032, 220
2520	DATA	117, 195, 096, 032, 113, 199, 160, 000, 185, 217, 192, 145, 254, 200, 192, 249
2530	DATA	008, 208, 246, 096, 032, 113, 199, 160, 000, 177, 254, 153, 217, 192, 200, 207
2540	DATA	192, 008, 208, 246, 032, 168, 190, 096, 032, 028, 197, 032, 106, 197, 096, 036
2550	DATA	032, 028, 197, 032, 131, 197, 096, 162, 000, 169, 032, 157, 079, 197, 232, 205
2560	DATA	224, 016, 208, 248, 169, 000, 141, 096, 197, 162, 000, 189, 097, 197, 240, 136
2570	DATA	007, 032, 210, 255, 232, 076, 047, 197, 160, 000, 032, 207, 255, 201, 013, 132
2580	DATA	240, 007, 153, 079, 197, 200, 076, 061, 197, 140, 096, 197, 096, 074, 074, 095
2590	DATA	074, 074, 074, 074, 074, 074, 074, 074, 074, 074, 074, 074, 074, 000, 012
2600	DATA	000, 147, 005, 078, 065, 077, 069, 032, 032, 000, 174, 203, 197, 138, 160, 097
2610	DATA	255, 032, 186, 255, 173, 096, 197, 162, 079, 160, 197, 032, 189, 255, 169, 133
2620	DATA	000, 032, 213, 255, 096, 174, 203, 197, 138, 160, 255, 032, 186, 255, 173, 065
2630	DATA	096, 197, 162, 079, 160, 197, 032, 189, 255, 169, 219, 133, 254, 169, 197, 204
2640	DATA	133, 255, 169, 254, 162, 137, 160, 207, 032, 216, 255, 096, 173, 203, 197, 089
2650	DATA	201, 001, 240, 014, 169, 001, 141, 203, 197, 169, 049, 141, 101, 189, 032, 056
2660	DATA	204, 197, 096, 169, 008, 141, 203, 197, 169, 056, 141, 101, 189, 032, 204, 059
2670	DATA	197, 096, 008, 162, 022, 160, 026, 024, 032, 240, 255, 173, 101, 189, 032, 181
2680	DATA	210, 255, 096, 120, 169, 001, 141, 026, 208, 173, 017, 208, 041, 127, 141, 141
2690	DATA	017, 208, 169, 000, 141, 013, 220, 141, 014, 220, 169, 254, 141, 020, 003, 194
2700	DATA	169, 197, 141, 021, 003, 088, 096, 000, 169, 001, 141, 025, 208, 173, 253, 149
2710	DATA	197, 240, 003, 076, 024, 198, 169, 192, 141, 018, 208, 169, 001, 141, 253, 238
2720	DATA	197, 076, 049, 234, 169, 000, 141, 018, 208, 141, 253, 197, 032, 043, 198, 164
2730	DATA	169, 015, 141, 024, 212, 076, 188, 254, 173, 239, 198, 240, 051, 173, 242, 091
2740	DATA	198, 208, 027, 162, 000, 189, 215, 198, 157, 000, 212, 232, 224, 007, 208, 189
2750	DATA	245, 189, 215, 198, 141, 212, 198, 169, 001, 141, 242, 198, 076, 099, 198, 218
2760	DATA	206, 212, 198, 173, 212, 198, 208, 011, 169, 000, 141, 239, 198, 141, 242, 244
2770	DATA	198, 141, 004, 212, 173, 240, 198, 240, 051, 173, 243, 198, 208, 027, 162, 164
2780	DATA	000, 189, 223, 198, 157, 007, 212, 232, 224, 007, 208, 245, 189, 223, 198, 208
2790	DATA	141, 213, 198, 169, 001, 141, 243, 198, 076, 155, 198, 206, 213, 198, 173, 219
2800	DATA	213, 198, 208, 011, 169, 000, 141, 240, 198, 141, 243, 198, 141, 011, 212, 020
2810	DATA	173, 241, 198, 240, 051, 173, 244, 198, 208, 027, 162, 000, 189, 231, 198, 229
2820	DATA	157, 014, 212, 232, 224, 007, 208, 245, 189, 231, 198, 141, 214, 198, 169, 079
2830	DATA	001, 141, 244, 198, 076, 211, 198, 206, 214, 198, 173, 214, 198, 208, 011, 187
2840	DATA	169, 000, 141, 241, 198, 141, 244, 198, 141, 018, 212, 096, 000, 000, 000, 007
2850	DATA	000, 000, 000, 000, 000, 000, 000, 000, 000, 000, 000, 000, 000, 000, 000, 000
2860	DATA	000, 000, 000, 000, 000, 000, 000, 000, 000, 000, 000, 000, 000, 000, 000, 000
2870	DATA	173, 239, 198, 208, 004, 032, 016, 199, 096, 173, 240, 198, 208, 004, 032, 228
2880	DATA	048, 199, 096, 173, 241, 198, 208, 003, 032, 080, 199, 096, 173, 112, 199, 009
2890	DATA	141, 144, 199, 032, 113, 199, 160, 000, 177, 254, 153, 215, 198, 200, 192, 073
2900	DATA	008, 208, 246, 169, 001, 141, 239, 198, 169, 000, 141, 242, 198, 096, 173, 181
2910	DATA	112, 199, 141, 144, 199, 032, 113, 199, 160, 000, 177, 254, 153, 223, 198, 000
2920	DATA	200, 192, 008, 208, 246, 169, 001, 141, 240, 198, 169, 000, 141, 243, 198, 050
2930	DATA	096, 173, 112, 199, 141, 144, 199, 032, 113, 199, 160, 000, 177, 254, 153, 104
2940	DATA	231, 198, 200, 192, 008, 208, 246, 169, 001, 141, 241, 198, 169, 000, 141, 039
2950	DATA	244, 198, 096, 000, 174, 144, 199, 169, 199, 133, 255, 169, 145, 133, 254, 208
2960	DATA	224, 000, 240, 015, 165, 254, 024, 105, 008, 133, 254, 144, 002, 230, 255, 005
2970	DATA	202, 076, 124, 199, 096, 000, 255, 000, 000, 000, 000, 000, 000, 000, 000, 184

## C64 Keyboard Matrix and the I.R.Q. System

by K. Munn

### This is a simple routine explaining the idea behind using I.R.Q.'s.

In the past, you may have seen assembly language listings which contain sections like the one below and wondered where the comparison values came from and how they work within a program.

```
100 LDA $C5
110 CMP $04
120 BEQ XXXX
```

It's not commonly known that, when a keypress is made, an individual matrix value is placed into location 197 (\$C5 hex). These values do not correspond to either the Commodore ASCII codes or to the screen Character codes. Neither are they to be found in the otherwise excellent Commodore 64 Programmer's Reference Guide. Listed below is a table of keyboard matrix values.

Note that these values are assigned to individual keys and not to characters. Therefore, it is immaterial whether the SHIFT/CBM/CTRL keys are held down or not, the values remain the same.

Incidentally, the keypress values of the SHIFT/CBM/CTRL keys are held in another memory location ie. 653 (\$028D hex) and when PEEKed return values of 1, 2 and 4 respectively. When one or more of these keys are held down, their values become accumulative and are stored in the same location, indicated by a number ranging from 0 to 7. Thus, if the three keys were held down the value 7 would appear in location 653. If SHIFT

and CTRL were held down at the same time PEEKing location 653 would return the value 5 etc.

Armed with this information, we can now unravel the assembly language program above.

```
100 LDA $C5 ! Load the accumulator with the keyscan value currently held in location 197
110 CMP #$04 ! Compare that value with the value of 4, ie. the matrix value of the F1 key.
120 BEQ XXXX ! Branch to the routine programmed for use with F1. If the value is < 4 then carry on to the next line number.
```

Using this information in conjunction with the IRQ interrupt system, we can make the CBM 64 do many jobs to help make programming easier.

Briefly, the IRQ interrupt system checks that the computer is performing all the housekeeping jobs which keeps it working normally, keyscans, updating the screen etc. These interrupts take place approximately 60 times a second.

The IRQ interrupt vectors are at locations 788 and 789 (\$0314 and \$0315 hex) in lo/hi-byte form and normally points to the interrupt servicing routine in ROM at location \$EA31. We can, however, POKE these locations and make the vector point to our own machine code programme prior to conducting its own normal functions. The program which accompanies this article demonstrates one of the many uses to which we can put our new-found knowledge. The first program is a BASIC loader. Once typed in, SAVE it before attempting to execute the code

as it will initialise and NEW itself on RUNNING. The second program is for those of you with an assembler. It is fully annotated with remarks on the program's execution and will help you follow the program flow.

The program is placed in memory within the 4K block beginning at location 49152 and is initialised by SYS 49152. The program is simplicity itself to use and the functions are as follows:—

F1 indefinitely pauses a BASIC program whilst depressed and is useful in following program execution or listing line numbers etc.

F3 advances the border colour.

F5 advances the screen colour.

F7 advances the screen character colour.

This short program illustrates the value of the keyboard matrix system when used in conjunction with IRQ interrupts. It's interesting to note that, although only 4 keys are used, it's perfectly possible to utilise the function keys to perform 16 different jobs if used in conjunction with the SHIFT/CBM/CTRL keys. All that's required is to insert comparisons whilst PEEKing location 653, and then branching to the required routine.

Enjoy yourself with the keyboard matrix and IRQ interrupts. Experiment with them and use the information contained in this article to make your own programming easier.

It's even possible to have a one-key keyword entry system similar to the Sinclair Spectrum. But then, that's another story...

-- 57	1 -- 56	2 -- 59	3 -- 8	4 -- 11	5 -- 16	6 -- 19	7 -- 24
8 -- 27	9 -- 32	0 -- 35	A -- 10	B -- 28	C -- 20	D -- 18	E -- 14
F -- 21	G -- 26	H -- 29	I -- 33	J -- 34	K -- 37	L -- 42	M -- 36
N -- 39	O -- 38	P -- 41	Q -- 62	R -- 17	S -- 13	T -- 22	U -- 30
V -- 31	W -- 9	X -- 23	Y -- 25	Z -- 12	+ -- 40	-- 43	£ -- 48
-- 46	* -- 49	! -- 54	: -- 45	; -- 50	= -- 53	-- 47	, -- 44
/ -- 55	F1 -- 4	F3 -- 5	F5 -- 6	F7 -- 3	SPACE -- 60	RETURN -- 1	INST/DEL -- 0
CLR/HOME -- 51	UP/DOWN CURSOR -- 7LEFT/RIGHT CURSOR -- 2						

# Program

```
100 ! ### P A U S E / C O L O U R ###
110 ! COPYRIGHT (C) K. MUNN 1986
120 ! THIS ASSEMBLER PROGRAM IS FULLY
130 ! RELOCATABLE IN ITS PRESENT FORM
140 ! LINE 150 REQUIRES ALTERATION IF
150 ! PROGRAM RELOCATION IS DESIRED

160 !
170 *=$C000           ! INITIALISE START OF PROGRAM TO LOCATION 49152
180 SEI              ! DISABLE IRQ INTERRUPTS
190 LDA #$0D         ! LOAD LO-BYTE OF START LOCATION
200 STA $0314        ! INTO LO-BYTE OF IRQ VECTOR
210 LDA #$C0         ! DO THE SAME TO THE HI-BYTE AND

220 STA $0315        ! POINT IRQ VECTOR TO OUR PROGRAM
230 CLI              ! RE-ENABLE INTERRUPTS
240 RTS              ! RETURN TO SUBROUTINE
250 PAUSE JSR $FF9F  ! BRANCH TO KEYSKAN ROM ROUTINE
260 LDA $C5          ! LOAD MATRIX VALUE OF LAST KEYSKAN
270 CMP #$04        ! AND COMPARE WITH 'F1' MATRIX

280 BEQ PAUSE        ! IF SO BRANCH TO PAUSE LOOP
290 LDA $C5          ! IF NOT TAKE NEXT MATRIX VALUE
300 CMP #$05        ! IS IT 'F3'
310 BEQ BORDER      ! IF SO BRANCH TO BORDER ROUTINE
320 BACK1 LDA $C5    ! IF NOT TAKE NEXT MATRIX VALUE
330 CMP #$06        ! IS IT 'F5'

340 BEQ SCREEN      ! IF SO BRANCH TO SCREEN ROUTINE
350 BACK2 LDA $C5    ! IF NOT TAKE NEXT MATRIX VALUE
360 CMP #$03        ! IS IT 'F7'
370 BEQ CURSOR      ! IF SO BRANCH TO CURSOR ROUTINE
380 BACK3 JMP $EA31 ! JUMP TO IRQ SERVICING ROUTINE
390 RTS              ! IN ROM AND RETURN TO BASIC

400 BORDER INC $D020 ! INC BORDER MEMORY BY 1
410 JSR WSELSE      ! JUMP TO A TIME WASTING LOOP
420 JMP BACK1       ! JUMP TO SCREEN ROUTINE COMPARISON
430 SCREEN INC $D021 ! INC SCREEN MEMORY BY 1
440 JSR WSELSE      ! WASTE MORE TIME
450 JMP BACK2       ! JUMP TO CURSOR ROUTINE COMPARISON

460 CURSOR INC $0286 ! INCREASE MEMORY IN LOCATION 646
470 LDA $0286       ! STORE VALUE IN LOCATION 646
480 LDX #$00        ! START LOOP COUNTER AT ZERO
490 FILL STA $D800,X ! STORE VALUE OF LOCATION
500 STA $D900,X     ! 646 INTO COLOUR MEMORY
510 STA $DA00,X     ! FROM LOCATION 55296

520 STA $DB00,X     ! TO LOCATION 56295
530 INX             ! INC LOOP BY ONE AND IF LESS THAN
540 BNE FILL        ! 255 BRANCH BACK TO FILL ROUTINE
550 JSR WSELSE      ! ZZZZZZZ
560 JMP BACK3       ! BRANCH TO INTERRUPT SERVICE

570 WSELSE LDA #0    ! START OF THE TIME WASTING LOOP
580 STA $FB         ! MACHINE CODE IS SO FAST THAT IF
590 LDX #$00        ! THIS ROUTINE WERE NOT PRESENT
600 LOOP INC $FB    ! THE COLOURS IN THE BORDER, SCREEN
```

# Program

```
610 BNE LOOP      ! AND SCREEN CHARACTER ROUTINES
620 INX           ! WOULD FLASH TOO FAST TO CONTROL
630 CPX #000     ! THIS LOOP ENABLES EASY SELECTION
640 BNE LOOP      ! REMOVE THE LOOP INSTRUCTIONS
650 RTS          ! TO SEE THE DIFFERENCE IN SPEED
```

```
100 REM ### P A U S E / C O L O U R ###
110 REM COPYRIGHT (C) K. MUNN 1986
120 REM WHEN THE PROGRAM LOADS IT WILL
130 REM AUTO-INITIALISE AND NEW ITSELF
140 REM THE UTILITY IS NOW INVISIBLE
150 REM TO YOUR OWN BASIC PROGRAMS
160 REM F1 WILL PAUSE BASIC
170 REM F3 ADVANCES BORDER COLOUR
180 REM F5 ADVANCES SCREEN COLOUR
190 REM F7 ADVANCES CHARACTER COLOUR
```

```
200 FOR X = 49152 TO 49258:READ A:POKE X,A:NEXT:SYS 49152:NEW
210 DATA 120,169,013,141,020,003,169,192,141,021,003,088
220 DATA 096,032,159,255,165,197,201,004,240,247,165,197
230 DATA 201,005,240,016,165,197,201,006,240,019,165,197
240 DATA 201,003,240,022,076,049,234,096,238,032,208,032
250 DATA 091,192,076,028,192,238,033,208,032,091,192,076
260 DATA 034,192,238,134,002,173,134,002,162,000,157,000
270 DATA 216,157,000,217,157,000,218,157,000,219,232,208
280 DATA 241,032,091,192,076,040,192,169,000,133,251,162
290 DATA 000,230,251,208,252,232,224,000,208,247,096
```

## ★ Programme Submission Procedure ★

DO NOT submit any programme or routine that you do not either own or have proper authority to do so.

ALWAYS include your name, address and the date on all material and any enclosures.

Do not forget to make it clear exactly which computer/s your programme or article is applicable to.

Include ROM or DOS versions wherever they are pertinent.

Number all pages.

If you have to submit work which is hand-written then you must make sure it is printed clearly.

Never use staples. Use paperclips if necessary.

If you are saving your programme to tape then save it AT LEAST twice on each side.

When you save a programme on disk save it twice and call the second file "BACKUP".

Remember to label all tapes and disks with your name and the title of the programme. Label tape or disk with your name and the name or title of the programme.

Always ensure that disks are well packaged. They should ideally be sent in a commercial disk mailer or at least packed between two pieces of hardboard or rigid plastic.

Please allow at least 8 weeks for acknowledgement as all programmes have to be thoroughly tested and made into a suitable format.

Enclose a self-addressed stamped envelope or package if you would like your programme to be returned.

### ★ Programming tips ★

If you can, use CHR\$(x) type commands instead of those hard to read graphic symbols.

If necessary renumber your programme on completion as many readers use auto number utilities to ease typing in.

Try to keep instructions within the programme itself as a sensible level. You can expand on them within the accompanying text if necessary.

TEST your programmes before submitting them or even better get a friend to test them for you.

If a programme contains machine code data please use decimal and not hex as there are fewer digits to be confused. Try and keep the same number of data statements in each line. Please add some form of error checking if your programme contains any more than five lines of data. There is a suitable routine at the end of this article.

# Int..er..rupted Again

In the April issue of this August journal (or was it the August issue of this April journal) there was an article of mine which explained briefly how interrupts work on the 64 by using something called the Hardware Interrupt Vector. In the same issue came a query from one M. A. Smith of Bures in Suffolk regarding the problems he was having getting sprites to move commands. An obvious call for an interruption, and with all due respect to Rae West I don't think his reply of "read page 272 of my book" was the most detailed of answers to the reader's query. So, once more unto the breach, and before you know it we'll have sprites racing around all over the place.

## Brief explanation

If anyone missed the last article on interrupts (shame, and that's you crossed off the editor's Christmas Card List), a very brief word of explanation. Every fiftieth of a second or so the 64 whizzes off to location \$EA31 in memory and sorts a few things out. By altering the content of memory locations 788 and 789 we can make it go somewhere else first, and thus have some other operation performed before \$EA31 is reached. Provided that we get there in the end, and that the program it reaches first is working correctly, then all well and good and the 64 gives the impression of performing two tasks at the same time.

## And onto sprites

The reader's query concerned a specific problem, that of moving sprites around the screen. So, for the sake of getting a sprite up and running, consider the following BASIC program:

"Insert listing headed BASIC SPRITE MOVEMENT here. Ta."

The routine starting at line 62000 reads in the sprite data to the appropriate places, while the data itself is contained in lines 6300-63031. Two sprites are used, resembling an open and a closed eye, and by alternating the two one gets a fair resemblance to an eye winking. Before starting on this program I took the sprite design from Dave Parkinson (AMIGA supremo), and dur-

ing development of it I took a glass or two of wine from the same bloke, so thanks are due to him for that.

Lines 19 to 166 control the sprite on the screen, and you'll see that the keys A and D are used to move the sprite left and right, while I and M move it up and down. Any other keys would have done equally as well. Lines 200 and 204 simply swap sprites, while line 300 makes a noise every time the sprite collides with the wall of the window in which it is encased. Lines 4 to 10 draw that up, and for the sake of clarity symbols like BLK have been used to represent pressing CONTROL and 1, CBM N for pressing the logo key and the N key to achieve a graphic character, and so on. SP represents SPACE bar, OFF represents reverse OFF, and as long as you DON'T type in the square brackets and commas we'll be all right.

Okay, nothing staggering yet, so let's put in some amendments to this program that will enable it to use another, later one.

"Either insert whole of AMENDMENTS TO BASIC PROGRAM here, or just use lines 19-32, since that's all that has changed. Ta."

As you can see, lines 19 to 32 are new, while lines 100 to 300 need to be removed altogether. The rest is the same. Don't, whatever you do, run this program yet though. The important lines to consider at the moment are lines 19 and 20. The four POKEs in line 19 determine, respectively, where the sprite starts in the X and Y co-ordinates, in which direction it will be travelling, and which particular sprite image is going to be the first one on display (an open eye, to begin with). Line 20 then alters the HIV to point to location \$C350, but since we haven't got any code there yet there's precious little point in implementing it just at the moment. Save the program, reset the 64, and type in the next one:

"Insert listing headed BASIC LOADER here. Ta."

## Onto machine code

The beauty about using a BASIC loader is that you can use the program without

having to know anything about machine code. So, type it in and run it if you like, and provided that you've entered the data correctly (the program will tell you) then you can re-load our amended BASIC program and run it. Do, however, save the BASIC loader first in case of disaster. This time, when the HIV is reset to go to \$C350, there'll be something there for it to play with. As before, pressing A, D, I and M will cause the sprite to move left, right, up and down respectively. From the little display in the left hand corner of the screen you can see that BASIC is still running quite happily, and if you don't believe it then just break into the program (run/stop as per normal) and list it. The sprite will be quite content to trundle about the screen, and you can still press the four keys to move it around.

However, the problem with BASIC loaders is that you can't do anything particularly useful with them if your knowledge of machine code is zero, so we'll spend a bit of time looking at various parts of it to see what we can alter. First of all, you might not like the choice of letters used to move the sprite about, and I must admit there is something slightly disconcerting about sending a sprite zooming up the screen every time you type the word LIST, for example. So, following closely.

We're using location 197 to give us a value every time a key is pressed, and in the case of the letter A that value is 10. 0A in hexadecimal, but 10 will do for now. If you want to use another key (say Q, value returned equals 62) replace the value 10 in line 200 with a 62, and the value 10 in line 290 with a 62. To change the D key, to say the E key (value returned equals 14) you'll need to replace the 18 in line 200 with a 14, and the 18 in line 250 with a 14. Similarly, to alter the I and M keys, you'll need to alter the value 33 in line 210 and line 350 for the letter I, and the value 36 in line 210 and line 320 for the letter M.

With me so far? Next, you might want to alter the sprite data pointer, to show different sprites on the screen. So, in the BASIC program you'll need to mess

CONTINUED



## CONTINUED

about with the value 248 in line 19, and the first value of 248 in line 360. Alter those, and you'll get different sprites displayed.

That was the easy part. Now you might want to alter the area traversed by the sprite, which depends on four values at the moment. These are the maximum and minimum X co-ordinates, and ditto for the Y co-ordinates. In order to make life easier, this program does not allow for sprites moving beyond an X co-ordinate of 255 (boo, hiss), so if you want to muck about with that you're on your own. However, the X minimum and maximum values are stored as 105 in line 230 and 240 in line 260. The corresponding Y values are stored as 64 in line 290 and 210 in line 330. Just put whatever values you feel like, if you want to have the sprite careering madly around somewhere else.

## More sprites

Finally, you might want more than one sprite, responding to different keys perhaps. Jam as well, eh? Okay. This, as you might imagine, requires major surgery to the machine code side of things. To get the easy stuff out of the

way first, add the following two lines to our BASIC driver program:

"Insert listing headed "FURTHER AMENDMENTS here."

You will see that line 18 is very similar to the existing line 19, and just sets some data up for another sprite. The same winking eye designs have been used, but anything would do really. Having typed in the changes, re-save the program.

To alter the original BASIC loader, change the 049,234 at the end of line 220 to read 080,198. As above, once the changes have been typed in, re-save the program. Now, to finish it all off, we need this second loader:

"Insert listing headed SECOND LOADER here. Ta."

As before, type it in and save it before attempting to use it. The sequence of events is now as follows. Load in the amended first BASIC loader and run it. Load in this second BASIC loader and run that. Finally, load in the amended BASIC driver program and run that. Provided that everything has been typed in correctly, two sprites will be running about the screen, one controlled by the A, D, I and M keys as before, the other by Q, E for left and right, and U, N for up and down. The second loader isn't in

fact all that different from the first one, but because the code is in a different place in memory various parts of it have had to be altered to accommodate that fact. Everything that was in the first loader and was referencing, for example, \$C3xx, is in this second loader referencing \$C6xx. Occurrences of \$C4xx have similarly been altered to \$C7xx, and so on. Finally, of course, a couple of changes had to be made in order to move sprite 2 around instead of sprite 1.

You want three sprites? Do it yourself! Seriously, the principle is exactly the same, and there's no real reason why you couldn't have any number of the little beasts running about the screen and generally getting in the way of things.

## Conclusion

A fair amount of typing in answer to a query, but at least it solves the problem and provides another insight into the workings of the 64. Interrupts are fun to play with, and very useful if you can actually master them. Perhaps next month we might take a look at something else that can be done with our old friend the Hardware Interrupt Vector.

P.G.

## COMPETITION RESULTS

### S.F. Competition

Kolin Robertson, Lincs; Kristian Benning, Wilts; M. Rizzo, Malta.

### Bazooka Bill

1st: Andrew Ayers, Stoke-on-Trent, Staffs.

Runners-up: Ian Todd, Sussex; D. Hawes, Orpington; Martin Appel, Newport; S. A. Brentnall, Mapperley; S. Andrews, Purley; G. Galloway, Spain; Andrew Elliott, Beds; Gavin Way, Melksham; J. Malinowski, Lincolnshire; Wayne Dibben, Upminster; J. Witney, Bilsby; J. Bartley, Glastonbury; W. Rizzo, Malta; J. Arnold, Merseyside; Jane Fletcher, Burley; Gareth Dear, Eaton Bray; Kieth Haggerty, Blyth; Stuart Harper, Bath; Steven Duxbury, Wakefield; CNO Plunkett, Ruislip; Allan Bland, Goole; Sean Minster, Cheshire; P. Elphick, Wallington; Peter Hynds, Wickford; Paul Dolan, N. Yorkshire; S. Garratt, Crewe; Alex Arrol, Hampton; M. Darlington, Shropshire; G. Bushell, Reading; J. Consadine, N. Humberside; Steve Skinner, Nottingham; L. Lodeiro, London; Alan Bateman, Avon; Phillip Embleton, Aberdeenshire; Mathew Tipple, Tyne & Wear; Russell Bloor, Stoke-on-Trent; John Bullions, London; Geoff Robertson, Merseyside; Peter Roberts, Woking; Steven Lea, Cradley Heath.

### Judge Dredd/Melbourne House Competition

Winner: David Laidler, Gosport, Hants.

Runners-up: M. Darlington, Telford; C. Garbutt, Essex; W. Dibben, Upminster; S. Benning, Wilts; S. Minter, Cheshire; A. Marney, London; Steven Duxbury, Wakefield; Darren Hawes, Orpington; A. Bland, N. Humberside; J. Bartley, Glastonbury; L. Lodeiro, London; J. Malinowski, Lincs; P. Dolan, Selby; C. Wynne, Chichester; Gavin Way, Wilts; Jane Fletcher, Burley; M. Prince, Kent; P. Cheesebrough, Keswick; M. Rizzon, Malta; J. Arnold, St. Helens; J. Witney, Lincs; M. Tipple, Tyne & Wear; John Consadine, N. Humberside; F. Morrissey, Nuneaton.

### T-Shirt Jamboree

Winner: CNIK, Southampton.

Runners-up: Kolin Robertson, Lincs; A. Marney, London; Martyn Appell, Isle of Wight.

Extra generous third prizes to: Richard Perkins, Chesterfield; M. Caine, Edinburgh; Aaron Gale, Southampton; James Witney, Lincs; Chris McLean, Cheshire; Geoff Robertson, Merseyside; Barry Kilborn, Stirlingshire.

# Advertisers' Directory

Access Associates	85	Inter Trading Company	121
Adamsoft	31	Konix	49
Alligata	44	Lan Computer Systems	115
Anco Marketing	67, 69	Load-It	135
Argonaut Software	101	Logic Sales	47
Ariadne Software	103	MCE	129
A. Shraddan	129	MDR Interfaces	103
Beau Jolly	59	Meedmore	128
Bitstream	112	Metacomco	104
Burocare	20	Microhex Computers	127
Calco	29	Microillusions	100
Cascade Games	47	Micromedia	122
Cavendish Commodore Centre	77	Micronet 800	35
Cimex Electronica	37	Microsnips	127
Computer Repairs	129	Microsystems	80
Comspec	95	Microtext	135
Croydon Computer Centre	129	Micro Workshop	129
Culton Sales & Services	121	Mirrorsoft	84
Database Publications	25, 27	MPC Software	106
Datel Electronics	51, 53, 105	Nevis Records	117
Dateline	7	New Tek	92
Delta Pi	112	Nobles	135
Digital Integration	57	Novacare	119
Digital Shades	112	Once Bytten	135
Dimension	9	Overbase Ltd	119
Direct Disk Supplies	20	Postronix	33
Direct Mail Discount	135	Precision Software	17, 19, 89, 91
Dosoft	116	Psygnosis Ltd	99
Dr. Soft	69	Ram Soft	129
E&J Software	129	Robtek	116
Evesham Micros	70, 71	Roundhill Computer Systems	87
Faster Than Light	43	Screens Micro Computers	37
Felsina	95	Selec	122
Finally Software	107	Shifnal Satellite Communications	121
First Analytical	31	Sixty-Four Software Centre	111, 133
G&B Electronics	30	Software Express	101
G. C. Bunce	129	Specialist Computer Centre	23
George Thompson Services	95	Strategic Plus Software	69
Gledhills	106	Supra Corporation	97
Granthams	103	System Software	39
Gremlin	2	Triangle Television	95
Haba/HB Marketing	87	Tricomputer	108
Hewson	41	Trilogic	13
Hi-Voltage	79	Trojan Products	122
Hobbies Exchange	129	Turtlesoft	38
H&P Computers	130	Tynesoft	IBC
HSV Computer Services	29	U.S. Gold	65
ICPUG	117	Wigmore House	112
Insight Systems	127	Wizard Software	15
		Worldwide Software	69

# Nº1

## IN A SERIES FROM MICROVALUE

**FOUR  
GREAT  
GAMES**

**FOR LESS  
THAN  
£1.00  
EACH**

**IAN  
BOTHAM'S  
TEST MATCH**

**BOMB**

**WORLD  
CUP II**

COMMODORE 64

FOR ONLY  
**£3.99**

comodore 64/128

**MICRO  
VALUE**

**MICRO  
VALUE**

ALSO AVAILABLE FOR SPECTRUM, AMSTRAD,  
ELECTRON, ATARI, VIC 20, C16/PLUS 4 -  
TITLES WILL VARY BETWEEN FORMATS

**MICROVALUE - ADDISON INDUSTRIAL ESTATE,  
BLAYDON, TYNE & WEAR NE21 4TE TEL: (091) 414 4611**

# "U.S. Top Seller is British"

CBM 64  
and CBM 128  
40 + 80  
Column  
Versions

## The Essential Package

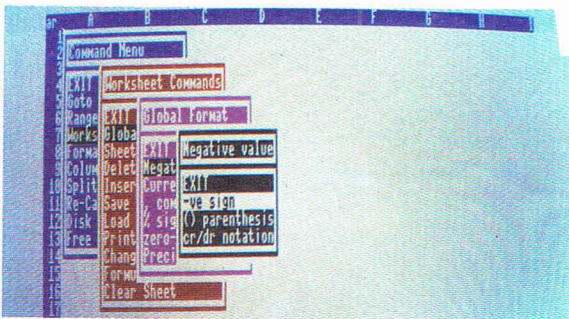
Over there they call it Swift-Calc; over here we just call it Swift, but whatever you call it, it's the most affordable and easy-to-use professional quality Spreadsheet around!

The Americans have voted with their wallets and made Swift one of the top ten Home Management programs, according to the highly respected Billboard chart. But it's British, written by Dave Middleton of Metamorphosis Developments, and published in the UK by Audiogenic Software.

Swift Spreadsheet is the essential financial modelling package. Use it in business, at home, or in your club or society to help you in budgeting, costing, quotations, household financial planning, or any task where the manipulation of figures is involved.

Swift will prove indispensable in forecasting and decision-making due to its 'What If' capabilities – it can show you instantly how results are affected when you change one or more of the contributory factors.

Even if you haven't used a Spreadsheet before, you will soon be able to harness the power of Swift to your own special requirements.



## WHAT THE REVIEWERS SAY

"Companies are spending thousands of pounds on micros running Lotus 1-2-3...home users have access to similar powerful programs like Audiogenic's Swift Spreadsheet" *The Guardian*

"This product is so outstanding in so many ways" *Commodore Horizons*

"Audiogenic's Swift Spreadsheet is far and away the best of the low-cost spreadsheets for home micros" *Sunderland Echo*

## VERSIONS AVAILABLE

Commodore 128 and 64 – both versions on one disk  
Commodore 128 and 64 – both versions on one cassette  
Atari 800XL and 130XE – both versions on one disk  
Atari 800XL and 130XE – both versions on one cassette  
BBC-B (40 Column screen display) – EPROM



## Best Value Package

Ever at £24.95 (BBC version £29.95)

ONLY SWIFT CAN GIVE YOU ALL THESE FEATURES...

- Easy to use – With pop-up menu control.
- Easy to learn – Comes with an instruction manual that is comprehensive and comprehensible.
- Enormous Spreadsheet area – Cell matrices are A1 to BL254 (Commodore 128 and Atari 130XE); A1 to Z254 (Commodore 64 and Atari 800XL); or A1 to Z126 (BBC-B).
- Professional 80 column screen display – On Commodore 128 version only (RGB monitor required).
- Highly flexible cell formatting – Column widths individually variable, user definable decimal precision, and text formatting to left, right or centre.
- Lots of numerical display options – Minus signs, debit brackets or cr/dr notation for negative values, currency symbols, percent sign, etc.
- Simultaneous display of two sheet areas – Horizontal or vertical split-screen facility.
- Graphical display option – Converts cell values into bar graphs.
- Can be used by unskilled operators – Automatic execution of pre-programmed operational sequences.
- BBC version supports both Tape and Disk filing systems – Comes as an EPROM chip.
- Commodore version gives easy interface to parallel printers – Built-in Centronics Interface.

Order now by phone... (0734) 303663

...or via Prestel to our Telex: 847826 AUDGEN G



Swift is the Trade Mark of Metamorphosis Developments Ltd. Now available from...

WH Smith, Boots, Laskys and all good software dealers.

# Audiogenic Software Ltd.

PO Box 88, Reading, Berkshire, RG5 1AA