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## THIS MONTH

### News

Corby factory closes, C1280 appears, and a multistandard model is released

### Mail Merge

Your users and views, and the end of Risk?

### Charts

64, Vix 39 and C16-Plus/4 top-sellers

### Graphics contest winners

The best entries for our Commodore/Horizons computer art competition



### Soft Hits

The latest coppers, Masters, winners and burleys in our games round-up

### Minter Maria

Jeff sounds off about games and work (I)

### Tower of Adventure

Ken Matthews hits the adventure trail again

### Programming the C128

The latest part of our Basic V 1.6 guide

### Laser Basis

Could Ocean's first utility package help you to write professional games? Tony Kendall investigates



### Money Manager

A simple financial package for the 64, Plus/4 or 128

### Space Snakes

The second part of our machine code game

### Networks

A look at Microsoft's Solus 64 area

### Answer Back

Technical tips from Jack Cohen

### Game Killer contest

Win the latest and most exciting add-on for the dedicated game players from Robotek



## AMIGA UK

### Intro

Chris Kaday, Commodore's marketing director, and Chris Jenkins, editor of Commodore Horizons, introduce our 16-page Amiga UK supplement

### Deluxe Paint

David Lawrence looks at the utility package which may do more than any other to share off the Amiga's stunning graphics abilities



### Las Vegas CES

Despite a low profile at the Consumer Electronics Show, the Amiga still caused a stir

### Book offer

Your chance to buy the first and best guide to the Amiga PC

### Which Computer?

The Amiga, of course — the star of the Which Computer Show



### Bratcacos

The first UK game for the Amiga — the impressive animated arcade adventure from Pegasus

### The Bitbox

The secret of the Amiga's fast, complex screen handling

### The System

What makes the Amiga so special — the hardware, the DOS, the custom chips? David Lawrence explains

## Editorial

IN THIS month's issue you'll receive a free sixteen-page supplement on the most exciting personal computer in the world — The Commodore Amiga. With its up-to-date central processor system, open architecture, custom graphics and sound chips and powerful optional peripherals, the Amiga is the computer of tomorrow, today — powerful, flexible and affordable.

Affordable, at around £1000! Well, many people pay that much for a hi-fi system, or a video camera, or a music synthesiser — and the Amiga is at the forefront of technology in the fields of sound, video and music, as well as computing. For those of you who can only dream, we hope our coverage of the Amiga — which will continue in the renamed Commodore Horizons and Amiga UK from next month — will be of sufficient interest for you to spend some time reading more about the world's best PC.

For those of you who will continue to use the 64, 128, C16 and Plus/4, the future looks just as exciting — stick with us as we continue to explore the world of Commodore computing!

## Next Month

**CBM music**  
Sampling, FM and SID

**Game Killer**  
Using the killer cartridge

**Plus**

News, reviews and contacts

**EDITOR** Christopher Jenkins **PREDICTION EDITOR** Barbara Hays **EDITORIAL SECRETARY** Caroline Smith **ADVERTISING MANAGER** Simon Langston **MANAGING EDITOR** Brendan Cox **PUBLISHING DIRECTOR** Duncan Scott **TELEPHONE CALL DEPTN** 0147 414 **TELEX** 296275 **SUBSRT UK ADDRESS** Commodore Horizons, 12/13 Little Newport Street, London WC2E 8PP **US ADDRESS** Commodore Horizons, c/o Business Press Inc, 201 East 42nd Street, New York, NY 10017 **SUBSCRIPTIONS UK** £6.00 for 12 issues, overseas surface including US and Canada £16.00 for 12 issues, US and Canada airmail £20.00 for 12 issues.

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ABC

**SUBMITTING ARTICLES** Commodore Horizons invites readers' contributions, either personal listings or articles. Articles should be typed, double spaced with a wide margin. Where possible programs should be submitted on cassette or disk with a printout on plain white paper. Please keep a copy of your submission — do not send your only copy. Please enclose an a.s.c. if you wish your submission to be returned. All submissions must be your own original work.

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# Corby factory closes

COMMOCORE has announced that the Corby assembly plant is to shut down, putting an end to the manufacture of hardware in the UK. From now on, all Commodore products sold in the UK will be manufactured on the continent or in the United States.

The Corby plant, which opened with the help of government grants 18 months ago, consists of marketing, sales and administration headquarters and an assembly line. It is this assembly line which is to close, with the loss of 200 jobs.

The 60m headquarters will remain, with 170 employees, as a centre for sales, administration and servicing.

Thomas Kattigan, president of Commodore International, said that to meet the challenge of the next two to three years, Commodore would be concentrating on fewer plants using higher technology. Corby, being essentially just an assembly site, did not fit in with



this strategy.

Commodore's \$11.5m loss in the year ending June 1985 has led to widespread speculation as to its ability to carry on in the market. The company had forecast a profit for the next quarter, but has now retracted the claim, at the same time as it announced the closure of the Corby factory and a Californian chip manufacture plant. The company's bank debts now total \$1.6m, though there is no

indication yet that the company will file for bankruptcy.

In the UK, the company is to discuss with the Department of Trade and Industry the repayment of grants for the Corby factory. Faith in the Amiga still seems high, but the *Wish Computer Show* will be a good indicator of likely response to the machine in the UK. Sales in the States have been "at the low end" of the company's expectations.

# Ultimate in merger

IN A surprise move, US Gold and Ultimate have announced a marketing deal which amounts to a company merger.

Although there had been speculation that *Finalist*, which had released the 64 versions of *Saber Wolf*, *Underworld* and *Night Shade*, might be planning a marketing deal with Ultimate, the news of the US Gold deal was unexpected. The new association begins immediately, with the release of two Spectrum titles, followed by *Dragon Blade* for the 64. Six further titles are expected during the year.



# Elektraglide goes 64

ENGLISH software has announced the release of its long-awaited Commodore 64 version of *Elektraglide*.

The "fantasy racing game" incorporates fast-scrolling graphics, impressive music and challenging gameplay. Following closely the Atari version of the game, widely regarded as one of the most

impressive Atari titles of 1983, *Elektraglide 64* will cost £9.95 on cassette and £12.95 on disk.



English Software, 2nd Floor, 1 North Parade, Parnassage Gardens, Manchester, M20 1BS, 061-833 1158.

# Bond is released

*The Adventures of Bond - Another Bond* has now been released by Probe Software. The arcade adventure, based on the character created by comedian Russ Abbott, costs £9.99 on cassette and £11.99 on disk for the 64.

The game involves more agent Bond in a quest for thirty sets of clues, hidden in the furniture of a TV studio. Only when he has found the clue, and matched them with the possibilities for some of the world's worst jobs, can he rescue the kidnapped Abbott.

Contact Probe Software, 123 Midham Road, Surrey London SW17, 01-872 8179 for more details.



The tie-up means that Ultimate can now concentrate on the programming aspect of games, while their major business, marketing, is taken on by US Gold. Both companies will have their logos on the game packaging.

# Showtime again

THE SEVENTH "official" Commodore Show will be held at the Hammersmith Forum, London, on May 9-11th.

Opening times are Friday and Saturday, 10am to 5pm, and Sunday 10am to 4pm, and admission fees are £3 for adults and £2 for children. Around 150 exhibitors are expected.

For more information contact the organisers, Graham Exhibitions, Europa House, 66 Charter Road, Hove East Sussex, BN1 9WY, 0434-626 6333.

# First produces packs

FIRST Publishing has announced a series of packaging deals for its German-produced software products and programming books.

*Prospects* will consist of two or more First products distributed together at a considerable saving. *Pak One* consists of the three programs *PowerPlan*, *FlowWord* and *Finalize*, at £59.95, compared with the individual price of £114.

*Pak Two* includes the 64 *Compiler* and *Assembler Monitor* for £34.99, as opposed to the normal price of £54.

*Pak Three* consists of two books — *Anatomy of the Commodore 64* and *Year 64 Cassette Book* — at £36.99 rather than £56.

For details contact First Publishing, Unit 20B, Henselton Road, Horseshoe Park, Pangbourne, Berks, RG73T 2DA.

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## C128D launched

THE BIRMINGHAM **Whisk Computer Show** was dominated by Commodore's latest business-oriented machines, the Amiga and C128D.

The price of the C128D, which features a built-in 1571 double-sided disk drive and monochrome monitor, is set at £499, plus VAT.

The C128D is firmly aimed at the business market, and features a detachable keyboard and industry standard 3½ inch disk drive. The money monitor has 40 and 80 column capabilities.

Marketing director Chris Keady commented: "With immediate access to thousands of existing CP/M business programs the software base for the 128D is formidable...the machine offers a high degree of functionality at a very



competitive price."

Release date is expected to be the end of February.

The Amiga was officially launched at the **Whisk Computer Show**. For more details see our Amiga UK supplement this month.

## Plus/4 revival?

IN THE wake of high sales for low-priced Plus/4 and C16 packages over the Christmas period, more software companies are planning releases for the neglected machines.

ACE, the air combat simulator from Cascade, is to be upgraded; the C16 version will now be accompanied by a full

80K Plus/4 game, incorporating the speech, ground and air targets, refuelling routine and two player option of the 64 version.

Noragon's popular **Mercury** is set for conversion to the Plus/4, and for the first time US Gold is going into the C16 market with a conversion of the short-stopping **Beach Head**.

We'll be reviewing all the games as soon as copies are available.



## Multi-modem

MIRACLE Technology has announced a new package for the 64 and 128. The 64 Multi-modem gives access to Protel, Microsoft, Microlink and suitable databases, bulletin boards and electronic mail services.

The 64 Multi-modem has all software on-board in ROM, is memo-driven, includes serial and auto answer, and supports baud rates of 300/600, 1200/19

and 9600. The software is memo-driven and functions include save and print frame, auto-dialling with odd and even and software downloading.

The multi-modem fits into the 64's cartridge port and has only one external connection, the telephone lead.

Cost is £136.15 including VAT and delivery, and B1 approval is expected shortly. Contact Miracle Technology, 9 Peter's Street, Ipswich IP1 1SR, 0473-216144.

## 80-column without tears for C128

POTENTIAL owners of the C128, put off by the cost of purchasing the 991 8081 colour monitor to obtain the 80-column display, will be pleased to hear of two products designed to fit these two products together with almost equally good results.

Robtek's **Magic Monitor** cable consists of a DIN plug which connects to the Video CAH of the 128; a D connector for the 8081 socket; and two phono plugs which connect to the monitor's audio and video inputs. Using the switch on the D plug, the 40 or 80 column displays can be selected with no further reconnection.

The Magic Monitor interface cable costs £14.95 — considerably cheaper than a C28+ 8081 monitor — and Robtek expect it to sell best to 64 owners who want to upgrade to the 128 without changing their 1700 monitor. For more details contact Robtek at 26 Market Place, Fallowley Way, London NW11, 01-269 0438.

Manufacture Telegate has announced a range of monitor interfaces for the 128. The **Video 1** 8081 to Composite

video converter allows any monitor or TV to display the 40 or 80 column output for the 128. The unit is mains operated and features an 80' output for television, and a composite video and sync output for monitors. Price is £79.95.

The **Video 1**, at £49.95, is similar but provides only the monitor outputs, so cannot be used with a TV.



Lastly, the **Video 1** is a monochrome version of **Video 1**, giving a clear black and white display at £29.95. Contact Telegate at the new address of 128 Tapp Street, Bradford, BD4 6QY, 0374-662268.

## Words and pictures from Supersoft

SUPERSOFT's latest release is a novel flowchart program. For the 64, **Flowchart** allows programmers to produce a flowchart from a Basic listing, and display it or print it out to watch the program's structure. Recommended printers include the MPS-801, 802, 803, Commodore 1125 or 8, or any Epson compatible dot matrix printer with suitable interface. **Flowchart** is an American

product, selling in the States for \$79.95. Retail price in the UK is £12.99 cassette or £14.95 disk. For more details, contact Supersoft, Winchester House, Caning Road, Wokingham, Hants, Midloston, HSI 7LL, 01-361 1164.

Supersoft has also taken over the marketing of the **Print Tech** **Video Digitizer** for the 64. This cartridge-based peripheral enables digitised images to be created from any standard video source, such as a VCR or video camera. The digitiser takes four seconds to produce a four-frame scan of 256 by 128 pixels. Any of the four levels can be replaced by any of the 64's sixteen colours, and there are full storage and print-out facilities. The Digitiser costs £149.95 with disk software, and a cassette version is planned.



## What the #?!! #

I WAS delighted to see Michael Pritors' small routine to eliminate the dreaded "!!" with input statements. (Jan issue).

Unfortunately it does not appear to work for all Commodore bit computers. Perhaps it is my input of the routine into the computer or could there have been a publisher's error?

T. J. Gibson  
Hamilton  
Lansdale, PA

OK — we posted, Line 20 should read INPUT # 1, NAMES. We missed out the back. The offending assembler has been fixed.

## Solving 80-col

IN YOUR January 1986 issue you have two articles relating to the C128 both pointing out the need to purchase Commodore's new 1985 colour monitor to allow use of the 80 column mode.

**Taylor Handwork**  
CHECK!  
N/O Adams

For my magazine to make mistakes is poor, but for one specializing in the Commodore range it is inexcusable. Surely you would wish to support the new machine rather than just people off buying through ill-informed articles.

I have recently purchased the C28 but certainly would not have done after reading your article had I not already discovered that the ROM port used for 80 columns has a manufacturing composite video output on pin 7. Few business programs using 80 columns need colour and my word processing and database programs will be viewed on the comparatively inexpensive Philips 1500 green screen monitor which produces a very clear 80 column display with sound for around £80.

In order to make life easy I have the 40 columns and 80 columns outputs connected to a changeover switch, very simple to do for anyone handy with a soldering iron or I am sure most TX, repair or computer drainers could make the lead cheaply enough.

The connections are given in the C28's manual but note the slight error on page C3, the ROM port has no audio. Audio is taken from the Video socket (pin 9) and works in both 40 & 80 column modes.

Please, before criticising —

CHECK!  
N/O Adams

Buy  
Lance  
**POINT TAKEN** — but Commodore's own publicity material implies the necessity of the 1985. Fortunately companies such as Mullerik and Teltips are already making interface adapters which enable you to use cheaper monitors with the C128 in 80-column modes — see the new page for details. I would have thought that the home computer industry should have progressed beyond the stage where owners are required to get the soldering iron out each time they need to get absolute performance out of their latest £200+ purchase.

Basic, could you recommend a good book on the subject?

I have just bought my first copy of the Commodore Horizons magazine, and was so impressed I have put in an order for the next twelve months.

Paul Harpwood  
Edinburgh, Scot



Basic 3.5 was developed in response to criticisms of the Commodore 40's Basic, which included no specific commands for sound and graphics. On the C128, yet another disk is used — the more advanced Basic, VTA.

Software buyers of course write to machine code rather than Basic, because it's a lot faster and more efficient, so the quality of a machine's Basic rarely affects them. To learn more about the C128 and Plus/4's Basic, try The C128 Plus/4, by Brian Lloyd, and The Working C128 by David Lawrence, both published by ourselves, and look out for The Plus/4 Programmer's Reference Guide, soon to be published in the States by Scott, Foresman & Co. No further details on this one yet, but we expect a UK edition will arrive — eventually.

## Plus/4, basically

HAVING just purchased a ++ over the Christmas period, and not being worried about the software shortage, there are a few interesting points which I would like to mention in the main one being "What is Commodore 3.5 Basic" and "why has it not been used before" and why software houses have been slow in writing programs for what seems to be a very advanced basic?

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## Top Twenty CBM 64 Games

1	(14)	Commando	Elite	£9.95
2	(10)	Rambo	Ocean	£9.95
3	(11)	Winter Games	Epoch/US Gold	£9.95
4	(9)	Little Computer People	Activision	£9.95
5	(9)	Mercenary	Movision	£9.95
6	(9)	Last V8	Mastertronic	£2.99
7	(10)	They Sold A Million	Hit Squad	£9.95
8	(11)	Flight Night	US Gold	£9.95
9	(9)	Academy Hall of Fame	US Gold	£9.95
10	(4)	Summer Games 2	Epoch/US Gold	£9.95
11	(8)	Way of the Exploding Fist	Medbourne House	£9.95
12	(10)	Eliza	Fleebid	£14.95
13	(9)	Quarries	Datasoft/US Gold	£9.95
14	(12)	Kik Start	Mastertronic	£1.99
15	(9)	Transformers	Ocean	£9.95
16	(9)	New Games 2	Virgin	£9.95
17	(9)	Scaletric	Leisure Genius	£9.95
18	(7)	Mazing Destruction Set	Activision	£12.95
19	(8)	Action Disk	Mastertronic	£1.99
20	(12)	Beach Head 2	Access/US Gold	£9.95



## Bubblers

1	Sara	Mastertronic	£1.99
2	Gynscope	Medbourne House	£9.95
3	Origami Force	Monolith	£9.95
4	Superman	Raycat	£9.95
5	Zorro	US Gold	£9.95
6	Master of Magic	Mastertronic	£2.99
7	Ballteam	Activision	£9.95
8	Revs	Fleebid	£12.95
9	Ace	Cassidy	£9.95
10	Zorro	Mastertronic	£1.99

## Top Three CBM 64 "Non-games"

1	(-)	ElectroSound	Ophex	£14.95
2	(1)	Mini Office	Datasoft	£9.95
3	(2)	Music Studio	Activision	£12.95

## Top Five C16 Games

1	(1)	Formula One Simulator	Mastertronic	£1.99
2	(-)	Tutti Frutti	Mastertronic	£1.99
3	(2)	BMX Racers	Mastertronic	£1.99
4	(2)	Squire	Mastertronic	£1.99
5	(-)	Rockman	Mastertronic	£1.99
6	(9)	Vegas Jackpot	Mastertronic	£1.99
7	(4)	Daley Thompson's Star Events	Ocean	£9.95
8	(-)	C16 Classics	Graphic Graphics	
9	(9)	Spotlight	Mastertronic	£1.99
10	(9)	Air Wolf	Elite	£9.95



## Top Five Vic 20 Games

1	(1)	Crazy Carve	Mastertronic	£1.99
2	(2)	King Tut	Mastertronic	£1.99
3	(4)	Rockman	Mastertronic	£1.99
4	(2)	Rip the Game	Mastertronic	£1.99
5	(8)	Psycho Shopper	Mastertronic	£1.99
6	(-)	Bullet	Mastertronic	£1.99
7	(8)	Doodiebug	Mastertronic	£1.99
8	(8)	Vegas Jackpot	Mastertronic	£1.99
9	(-)	Sub Hunt	Mastertronic	£1.99
10	(9)	Duck Shoot	Mastertronic	£1.99



Data compiled by Gallup from a panel of specialists and chain stores, for the month ending December 31st.

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*Max Headroom 2, by Bob Stevenson, is a multi-frame animation. It's a sequel to Bob's original Max pic on Compuser, and has certainly turned a few heads!*

ANIMATION

# GRAPHICS

The best entries for the Commodore Horizon

*Hugh Riley's Bringdown is a sinister little piece in which the passenger's eyes flicker back and forth as the elevator drops them to an unknown fate*



*Richard Hare's Space Ace is drawn in an impressive comic-book style*



LOW-RES

*Chris and Ant Wood's Sid is simple yet effective*





*John Kendrick's highly-detailed landscape of Scarborough shows St Mary's Church and Scarborough Castle. It was drawn using Koolha Pad.*

# S WINNERS

HI-RES

Compuart/Compuart computer graphics competition



*Each winner gets a great Wigmore House MS-2000 mouse, with graphic design software. Next month we'll look at some of the runners-up and show you more of what the Mouse can do!*

*Nigel Taylor's impressionist portrait The Tear displays a bold use of colour and striking composition. Drawn using Koolha Pad.*



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## Jumpers

Above average ladder-and-platformer stuff from Mastertronic, *More Adventures of Big Man the Most Misadventurous Man*, to give it its full title, looks pretty good for a C16 game.

There are fifteen screens to get through, in each of which



your time is limited by the air level shown at the bottom of the

screen. There are stompers, levers, elevators, pits and more to negotiate, though fortunately the game includes an all-too-rare feature: each time you restart, you can move to any level you have reached before by repeatedly pressing the V key — so you don't have to waste time getting through screens you've already dis-

tered. Good idea.

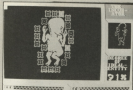
The usual LEFT-RIGHT-JUMP business, but particularly well done.

Program: Big Man, C16  
Supplier: Mastertronic  
Price: £1.99  
Graphics: ★★★★★  
Sound: ★★★★★  
Gameplay: ★★★★★

## From on high

*Donix* the Machine, unjustly ignored when it first appeared on the Acornsoft UK label, is one of the greatest 64 programs ever assembled; more than just a game, it includes a complete musical and vocal score soundtrack on a separate cassette, to be listened to in sync as you play the game.

Bill Crosser's vision of a totalitarian future, where the Defeat Police root out all deviations from the norm, is the background for a series of half-games, half-movie™



engagements in which you interact with the program to aid the development of an independent

life form — from the game tanks, to the womb, and beyond.

Featuring contributions from Ian Dury, Frankie Howard, Crocker and, most of all, yourself. Donix deserves a whole article to itself — it's a majestic, mysterious and moving vision, and certainly the sort of production for which home computers are ideally suited. Why are you sitting there? — get out and buy Donix the Machine.

Program: Donix the Machine, 64  
Supplier: Electric Dreams  
Price: £9.95  
Graphics: ★★★★★  
Sound: ★★★★★  
Gameplay: ★★★★★

## Rollers

*Wild Ride* is an average game, suitable mainly for including a "hotgame" — a small arcade section which you can play as the main game is loading. In this case it's a version of Lunar Rescue, and I suppose future LaserDisc titles will feature more of these 1K

marvels.

As for *Wild Ride* itself, it has some very colourful graphics and loud music, and a nice title screen. The plot concerns a down running around a roller-coaster, leaping over cars, balloons, birds and bolts of electricity in a bid to defeat a mad bomber. A scamer at the bottom of the screen shows you where the bombs have been

dropped, and you must detonate them before they fall



on the track. Collect junk food

and balloons for bonus points. 22 levels, very fast and furious, but not wildly exciting. Nice cartoon-style graphics promise better things to come, though.

Program: Wild Ride, 64  
Supplier: Interceptor  
Price: £7.95  
Graphics: ★★★★★  
Sound: ★★★★★  
Gameplay: ★★★★★

## Into gear

*Scalatrix* is a very well-programmed package, and brought back memories of happy hours spent playing on the living room floor. Unfortunately, the game is very similar to *Pitstop*, *Pitstop 2*, *Rev*, and several other racing programs, so it may not do as well as it deserves.

The big gimmick is that you can design your own race course, picking different shapes and lengths of track from a menu and combining them into complex patterns which can be



stored on tape or disk for later use. Alternatively you can race

on one of the several world championship tracks included in

the program.

The actual race section, which has one and two player options, is very similar to *Pitstop* split screen, good writing, fair sound effects, and the chance to sidestep your opponent as you dash for the finishing line. On the whole, very good fun, but badly timed considering the number of racing games already on the market.

Program: Scalatrix, 64  
Supplier: Leisure Genius  
Price: £9.95  
Graphics: ★★★★★  
Sound: ★★★★★  
Gameplay: ★★★★★

## Not quite F.A.B.

Thunderbirds is a reasonable little arcade game in itself, but certainly doesn't do justice to Gerry Anderson's excellent *Sixties* paper dramas. In Firebird's game you control Thunderbirds One and Two,

wrapping control from one to the other by pushing the fire button as you pilot them through a complex of caverns. There are fuel pods to pick up, treasures to collect, and sliding blocks of stone to move as you proceed in your quest for some missing archeologists. There's an equipment screen on which you can select supplies such as missiles, acid and explosives,

but nowhere do the instructions tell you how to use them!



Some nice speech effects — "Thunderbirds Are Go!" —

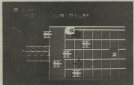
but a poor version of the familiar theme music. All in all, a waste of an opportunity to make a marvellous Thunderbirds game.

**Program:** Thunderbirds, 64  
**Supplier:** Firebird  
**Price:** £3.98  
**Graphics:** ★★★★★  
**Sound:** ★★★★★  
**Gameplay:** ★★★★★

## Spaced out

The space Navy is not dead! Just when you thought it was safe to go back into the cosmos, Andrew Braybrook's mega zapper *Uridium* tears into view.

Using the same hard-edged graphics style which distinguished *Parasite*, *Uridium* is an unashamed arcade extravaganza in which your task is to fly-by alien barbarians, blasting all the surface features and fighters. Your aim is to survive the attacks of the fighters, mines and homing missiles until



you get to the wave bonus screen. Have you ever hit the

fire button as bonuses flash up, then fly past the disappearing

barbarian zapping all the remaining targets.

Excellent theme music and sound effects, brilliant graphics and frantic action make *Uridium* a winner — twenty-five levels of sheer excitement as your spacefighter performs incredible flips and rolls under your command. The best pure arcade game for some.

**Program:** Uridium, 64  
**Supplier:** Hivision  
**Price:** £8.95  
**Graphics:** ★★★★★★  
**Sound:** ★★★★★★  
**Gameplay:** ★★★★★★

## Fractal caverns

Fourth of Activision's games from Lucasfilm, *The Eibolus* is as graphically impressive as *Bullblaze*, *Fractals* and *Korath Kill*, but has a little more to it in the way of plot. Reminiscent of *Wells'*

*The Time Machine*, the scenario has you exploring underground



complexes drawn with impressive fractal graphics, in search

of energy sources and treasures.

There are several types of energy balls which you must capture or avoid as appropriate, and beautifully-drawn monsters to fight off. Each level presents its own problems to solve as you move through the tunnels, and at the end of each is a dragon which you can defeat only after much experimentation with the energy balls.

Excellent graphics and nice

Philly (Glas-like) intro music, though without playing all the way through to the labled seventh level it's hard to say whether the initial interest will last.

**Program:** The Eibolus, 64  
**Supplier:** Activision  
**Price:** £5.99 tape, £14.99 disk  
**Graphics:** ★★★★★★  
**Sound:** ★★★★★★  
**Gameplay:** ★★★★★★

## Rubble

Some excellent graphic design in this comic arcade adventure, recycled of the Tasker design team. Based on the once-popular *Flintstone* cartoon series, *Yabba-Dabba-Doo* involves you in building a mini-age home and woking a mini-age wife while facing all those every-stone-age-day problems of fire-bombing prehistoric, dopey dinosaurs and bouncing boulders.

There are some great animation effects, such as when Fred



Flintstone gets clubbed and sees stars, and the galloping

dinosaur which you must avoid on your trips to the store

quarry, rubble pit, garage and health club.

The ultimate aim is to build a house before your neighbours do, but there are lots of subsidiary tasks along the way — earning money to hire a dinosaur, collecting rocks, finding Wilma and so on.

Good fun, and worth seeing just for the sprites.

**Program:** Yabba-Dabba-Doo!, 64  
**Supplier:** Quixotiva  
**Price:** £3.95  
**Graphics:** ★★★★★★  
**Sound:** ★★★★★★  
**Gameplay:** ★★★★★★





## Zoff 2

**E**nigma Force is the excellent follow-up to Beyond's *Shadowfire*. Although it features the same characters and a similar task — the Enigma Force trying to neutralize the evil General Zoff — the sequel rolls less heavily on icons. Instead, the top half of the play area is a multi-chamber representation of an insectoid complex through which you must move your heroes.

By clicking on particular icons you can select a character,



choose direction of movement, issue commands to pick up or

use various objects, direct the character to fight indepen-

dently, call up status indications for your characters, and search out the spare ship which will enable you to escape the complex — once you've dealt with Zoff.

Excellent music score, very clever animation and artificial intelligence routines, and a satisfying mix of complexity and clarity makes *Enigma Force* far superior to *Shadowfire*.

**Program:** Enigma Force, Ad  
**Supplier:** Beyond

**Price:** £9.95

**Graphics:** ★★★★★

**Sound:** ★★★★★

**Complexity:** ★★★★★

★★

## Turkey!

**Y**ou've read the comic, you've seen the film, now DON'T go out and buy the game. *Superman* is the latest film tie-in fiasco, and Beyond very sensibly refused to send out review copies until now; quite a few of you, I would guess, have

been presented with this cluttered at Christmas, before having read a decent review.



The game represents a series of battles between Super and

villain Darkseid; you can play either part. The battles take place in six maze-like sections of Metropolis, and in seven "combat zones". So in effect there are eight games to play, each of which is more complex than the last. It's really basic stuff, "avoid the lasers", "bomb the city", "destroy the Kryptonite" and so on. There are various objects to find on the maze screens, and complications connected with

capturing innocent humans, but why bother to go on? Graphics and sound are uninspired and there's no sense of jeopardy at all.

Is it a bird? Is it a plane? No — it's a turkey.

**Program:** Superman, 64

**Supplier:** Beyond

**Price:** £9.95

**Graphics:** ★★★★★

**Sound:** ★★★★★

**Complexity:** ★★★★★

★★

## Boing!

**V**ery whacky indeed, is the best way to describe *Boomer*. I mean, how many games can you do in the role of a tennis ball (taken from *Michael Treanor's Tennis Battle at the End of Time*)? The game area is viewed from above, so the tennis ball bounces upwards and away from you. Your job is to direct it, jump by jump, across a complex grid of platforms, avoiding mountains, monsters and deadly falls. There are



hollow squares, landing on which can give you extra lives or

result in you being gobblin' up. Arrowed squares give you an

extra long bounce to help you avoid mountains or make tremendous leaps through space.

At the end of each round you have a chance to hit some squares, and another bonus is given according to how few bounces you used. As the game progresses the grid becomes more complex, and the mountains taller and more numerous.

Excellent game.

**Program:** Boomer, 64

**Supplier:** Clevland Graphics

**Price:** £4.95

**Graphics:** ★★★★★

**Sound:** ★★★★★

**Complexity:** ★★★★★

★★★★

## Magical

**A** very clever combination of arcade and adventure features, *Master of Magic* is also distinguished by Bob Whitford's latest musical masterpiece — this time the SID chip seems to produce around eight voices in an atmospheric, complex medieval soundtrack.

The screen is split into several areas: a map section which scrolls in all directions, showing your present location, tunnels and passages and objects present; an explanatory text section; a command menu; and a graphics section.

Your task is to find a potter of immortality, moving around the caverns picking up weapons and spells, fighting off

monsters, running away when appropriate, and conserving



your mind power and it is necessary to cast a particularly

powerful spell.

Complex and enjoyable: a great "adventure" for people who normally wouldn't play adventures!

**Program:** Master of Magic, 64

**Supplier:** Muzertronic

**Price:** £3.50

**Graphics:** ★★★★★

**Sound:** ★★★★★

**Complexity:** ★★★★★

★★★★

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# MINTER MANIA

Once again *The Heiry One* considers the art of skiing, art on the *Amiga*, 64 shoot-'em-ups and plans for the next *Larnasoft* epic

WELL, HELLO once again, I'm back in the UK for a bit after two ski holidays, they were well good I must admit. We went skiing in a French resort called LaPlagne, there wasn't much snow at first but at least there was still skiing to be had up the top of the mountain, on the glaciers. Me and Tony Crowther went up the peak most nights and got really snowed and had some excellent chats about software, computers, life, the Universe and everything. Tony took to the skiing really well, he hasn't done any at all before we went, and by the end of the two weeks he was pretty good. It started snowing on Christmas Day which opened up the mountain quite a bit, so we were able to back quite a few interesting runs those last few days. I decided to break out the French at one stage so I went skiing in the jans, Pirevan Toben and Alpha one which presented quite an unusual spectacle, these French men used to keep hairy propensities hidden! It down in each wored top while breaking out to Genesis on the Walkman. There was plenty of wiping-out-at-much-4 as well, including my best fall of the whole holiday after which I ended up with my head right under the powder snow and just my arms and legs sticking out, wriggling feebly. The resort's really good, you can ski down off the mountain right up to the bar for a quinine before the next descent. The only downer was that the altitude led over luggage on the way back, and before we got it back someone nicked my ski boots which were brand new this holiday. Ah well, at least I can claim a new pair on the insurance.

## Belgian

We found an article with Atari's excellent *Caesario* in it, and I'm afraid many French coins disappeared into that monster, it's fantastically addictive I even got recognized by a Belgian bloke who had all my games, that did wonders for the spot! Not surprisingly, I met him in the arcade...The place is so good I'm going to go back for a longer stay, and take my Commodore with me to start on my new CH game, when I get fed up with the coding I'll just pop out onto the pipes for a spot of ski-ing. Sounds so to me!

I've just about done the Atari ST version of *Colossus* now, and without adding in about Atari too much and annoying all you Commodore heads, so that to say that the ST should not be overlooked if you're looking for an upgrade from 64 and can't afford the awesome Amiga. Forget the little badge saying "Atari" on it, just take a look at some of the things it can do...I think you'll be impressed.

Back to the Commodore, and my first game of the moment, which is Rino Software's "C", a scrolling shoot-'em-up in the style of *Blaxx* *Pilot* and *Servino*, and which has visually lead in my 64 just recently. It's a good, solid, sophisticated arcade blast with 4 different planets and millions of alien for the blasting. There are overloads of *Blaxx* too, in that you



have to collect up "Energy Bonks" first to shoot your way into the warp gates that take you from planet to planet, and ultimately to fire in the final confrontation with the mother ship. Also, when you meet the Mammo keep a tin on the space bar, concentrate on running just ahead of Mammo and loose off the Energy Bonks with your feet. Or get a mine to be ready on the space bar during that critical phase.

"C" was coded by the same guy who did *Alligand's Hyper Circuit* and the style of graphics and scrolling are pretty similar, but the gameplay is, in my opinion, quite a bit better; at least "C" hangs around in my Commodore quite a bit longer than *Hyper Circuit* used to. It's really nicely presented, too, with a little demo of each stage. Very much a dedicated *Arxidee's Mass* and more enjoyable. As a matter of fact writing about it has whetted my appetite for some more. I shall boot it up when I've finished writing this.

On the Amiga front, I've now got a little more staff, including Commodore's own *SimpleCraft* art program. Some of you may have seen the Egyptian mask demo from this on *Mirage Live* recently. They're really good, but I like making "lightpipes", wored continuously-moving abstract designs you get by using the package's *Animate* *Palette* and *Mirror* commands. Overall, though, the package is not as nicely designed as Atari's excellent *Metachrome* software for the Atari ST. However, Electronic Arts' *Digital Point* is coming soon and from what I've heard it should be truly excellent.

While on the subject of Electronic Arts, I got a demo of theirs other day called *PolyDrops*, which purports to be an "interactive painting program currently evolving at Electronic Arts", and to generate the kind of effects you might find "in the box laser lightshows". It works by taking base

shapes and moving them around so they leave multicoloured trails whilst in various symmetry modes. Does this sound a little familiar? Perhaps it started "looking" shortly after I saw demos of *Psychoballs* and *Colossus* in *Electronic Arts' Mosaic*, anyway I've seen it, and I'm not worried. Pretty fit for use; *Colossus* is certainly nice, *Hebetic*...

I've also seen a static screen from *Martin Madson*; you can't tell it from the arcade version. And I've got a weird and wonderful abstract game being developed by Synapse called *Wired Walker* that's got some mindblowing music in it, especially if you listen with 'phones on, it's being said that Synapse intend to package the game with a set of 'phones, a "sound" move I should say, it'll be first in the queue for a finished version when it's released.

Hopefully the current lack of Amiga staff shouldn't last long, and some of the staff in development looks like it's gonna blow minds. Pity the Amiga's just so damn expensive.

I've got the design saved for my next Commodore game now, I expect to start writing it the end of January when I've got the ST Colossus all wrapped up. I'm looking forward to getting back into the Commodore scene, I haven't approached a demo one Computer for ages I've been so out of touch. I still go online an awful lot and it seems to be getting busier, there are a lot of people who come on every Christmas. Fantasy's music now and words well but it's a bit expensive; I still love good old ordinary CH. I'm still ploughing thru my mailbox at the moment, I come back off here and had 7 floppy "discories" of stuff waiting for me!

## Fish

I went to see Marillion last night and they were just amazing. Go and see them if you get the chance; you'll not regret it. I saw our Fish at a computer show in Birmingham, he's a good bloke, like "Burrage", too! They met him at the same show, and challenged him to a drinking contest!! Imagine... a drinking contest with Phil! He never stood a chance...

While on the subject of music, I must mention everyone to "bush" out and buy "Power Windows", Bush's latest. It is awesome, their best album of the past few years. Coincidentally, Microsoft had these massive adverts up at the show in Las Vegas advertising their "Windows" *Macintosh* operating system, huge ads with "Microsoft Presents Power Windows" on them. Maybe someone in their advertising department's a Bush fan!

I'd better go now, it's getting late and it's time to put on another CD. I shall pass on only to say "FF" to the American Moki I met in Las Vegas who imports CH apparently just to read me columns, he'll be ego trip again! This is the '84 at LJF on Friday 18th Jan, Zowie and out, see ya next month... ■

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## **CHRIS KADAY** marketing director, *Commodore*

FEW people can argue that the real key to the growth of the computer industry following the introduction of the micro has been innovation. It is therefore all the more ironic that the current obsession with standards, coupled with a widespread reticence to adopt new technology, seriously hampers the successful introduction of a new computer.

However, we also know that one of the main causes of the current slow down in penetration of the personal computer market is the failure of the industry, (and that means we, the manufacturers) to convince the non-user that computers are easy to use and can provide real productivity benefits.

It is against this background that the **Commodore Amiga** will be launched, with its unprecedented multi-tasking capabilities, windows management, fast processing speed and superb colour graphics. These facilities, amongst others, will excite both user and non-user alike to the new opportunities that computers can deliver, and we believe that the Amiga will indeed set a revolutionary new standard, in that the PC can be not only practicably valuable, but stimulating to use.

The early establishment of a sound software base is always a problem for new machines, and here the Amiga has got off to an excellent start with a wide range of utilities, horizontal and vertical market applications already nearing completion. There will be a variety of word processors, spreadsheets and database offerings, together with application packages in desk-top publishing, advertising and design, CadCam, catering, farming, transport, avionics, that motor trade and many, many others.

With its video interface and graphics, the Amiga is already being seen as an important development in the educational market, with machines being evaluated by a number of leading universities.

The Amiga is also an extremely effective low cost graphics terminal and there are several significant programs underway in this area.

Since the Amiga's unique capabilities will take some time to



be realised, and to meet the need to innovate within the standard, there is also an MS DOS Emulator capable of running the most popular IBM compatible programmes.

Let us hope however, that this will not be the sole criterion on which the Amiga will be judged. Economical IBM-compatibility is one another. After all, why buy a Mini when you can get a Ferrari for the same price? Our case rests! 🌐

## **CHRIS JENKINS** editor, *Commodore Horizons*



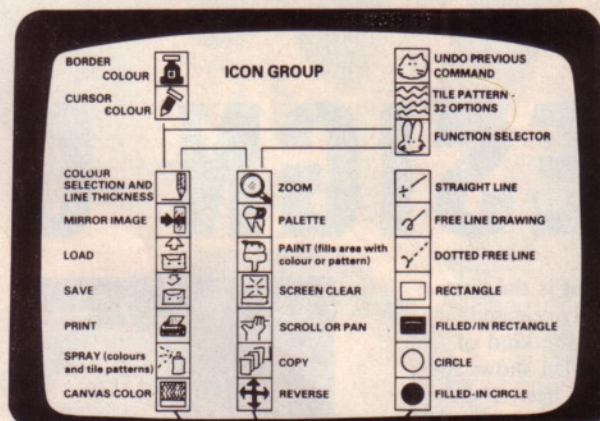
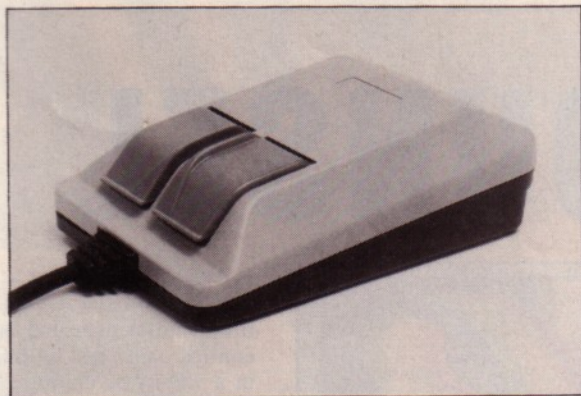
WELCOME to our free Amiga supplement — our way of introducing you to Commodore's revolutionary new machine,

and to our plans for the future of *Commodore Horizons* magazine.

As Commodore's marketing director Chris Kaday says, it's important to realise that the Amiga is not just a business machine, and not just an overpriced games machine. It's an applications PC, and is destined to become the favoured electronic tool of many amateurs, semi-pro's and professionals in the fields of graphic design, engineering, planning, video technology, sound synthesis, and many fields which we cannot yet imagine.

*Commodore Horizons* will keep you up to date with all the latest developments in the Amiga market, explaining the advanced technology involved, the capabilities of the software and how some of the most astounding effects are achieved. We know that many of you will be happy to stick with your 64's or 128's, and of course we will not be cutting down on our coverage of these best-selling machines; but from next month, in the new-look *Commodore Horizons and Amiga UK*, we'll be affirming our commitment to Commodore and the PC of the future, the Commodore Amiga. 🌐

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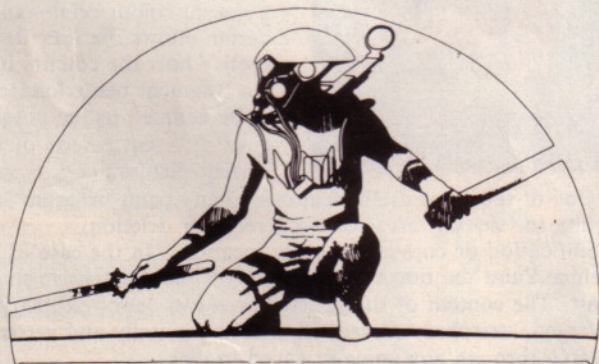
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## DESIGN COUNSEL

**Deluxe Paint** is the first commercially released example of the kind of program which shows the Amiga at its best. If this review seems at times a little over-enthusiastic, perhaps I should explain that when Deluxe Paint was first demonstrated in this country, to an audience of competing software developers, it was greeted with outbreaks of spontaneous applause. The applause was deserved.

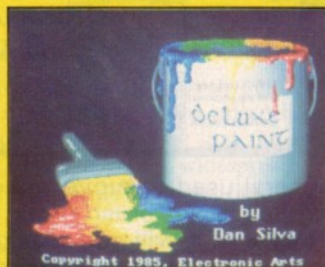
The simplest description of Deluxe Paint is that it is another "paint" program, with all the facilities that would be expected of something developed two years after Macpaint set the standard for personal computers. The power of Deluxe Paint derives not so much from extra facilities (though there are quite a few) but from the full integration of all its talents, as we shall see later.

Like any competent "paint" program, Deluxe Paint comes equipped with a variety of line and shape building tools.

Straight or freehand lines, circles, ellipses, rectangles and polygons (filled or outline) can all be created using a variety of built in brush shapes selected from the control panel. The thickness of the lines involved can be varied, either by swapping built-in brushes or by the facility to change the size of any brush picked up from the menu. In addition to lines and shapes, text can be added to designs in a variety of fonts. As in previous paint programs the user always has the option to "undo" the last action performed or to clear the whole screen.

Other "standard" features include the ability to magnify a portion of the design and work on it in enlarged mode for more precise control — the degree of magnification can be varied to suit the needs of the particular design. A powerful set of symmetry facilities allows the user to draw on the screen and see the material duplicated so as to create symmetrical patterns in a variety of styles.

For precise work an invisible grid can be imposed on the screen so that lines and shapes generated will begin only at grid points. Unlike most previous programs the space between the grid points can be set by the user before commencing a design or even during the course of it. If the grid does not provide sufficient accuracy, a menu option is provided which displays the screen co-ordinates of the cursor or, when a shape is being created, the position relative to the start of the shape. Using the co-ordinates facility all of the line and shape tools can be used with individual pixel precision.



- PACKAGE: DELUXE PAINT
- PUBLISHER: ELECTRONIC ARTS
- PRICE: TBA
- MACHINE: AMIGA 256K (extra facilities available on 512K machines)

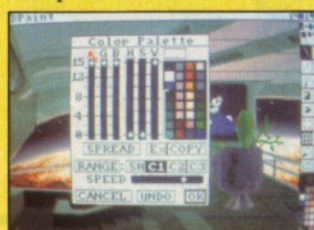


As expected with a machine like the Amiga, all the facilities provided on the control panel can be obtained in a variety of colours. In the normal "low resolution" mode of 320\*200 pixels, 32 separate colours can be used in a single design. Which 32 colours is for the user to choose using a simple colour palette facility which allows colours to be mixed and shaded within the range of 4096 colours that the Amiga is capable of producing. Higher resolution is available in the form of a 640\*200 mode giving 16 colours on a 512K machine or four on a 256K model. Finally, for 512K machines only, a high resolution 640\*400 mode is available, still with 16 user-definable colours. Portions of pictures can be loaded into other designs, provided that the resolution is the same and a special colour remapping option allows the user to specify how the colours in the fragment being loaded are to be adapted to the possible quite different palette of the current picture.

One of the most useful features of any paint program is the ability to "select" areas of the screen for deletion, modification or copying to other locations. In the case of Deluxe Paint the range of operations is more extensive than most. The content of the selected area can be moved, shrunk, enlarged, stretched, curved, flipped horizontally and vertically, rotated through any angle or saved to disk.

What sets Deluxe Paint off from other packages, however, is the capability that it gives to the user to treat a selected screen area or object as if it were a normal paint brush selected from the control panel. Any shape on the screen can be picked up and used as a brush, regardless of its complexity or the number of colours involved. The illustration shows a simple example of a line of coloured blobs picked up and used to paint a rainbow with a single stroke.

The integration of Deluxe Paint begins to show when we go beyond the simple use of an object as a brush to more complex actions. Deluxe Paint has a fair range of shape-making abilities — all of them can be used with the user defined brushes. The user can pick up a block of letters from the screen and then draw a line composed of those letters. If a complex multi-coloured shape is being used as a brush to create





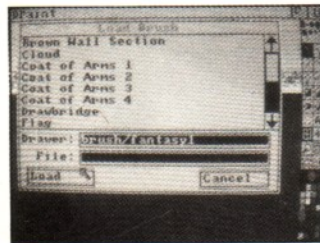
**DELUXE PAINT** on the Amiga; stunning graphics software for the new generation of personal computers.  
This image of the Tutankhamen mask exploits the Amiga's 640 x 400 pixel mode, using 16 colours and Deluxe Paint's advanced brush routines.



special effects, the program will just as happily draw lines, dotted lines, circles and polygons with that shape as with a brush shape chosen from the control panel.

It is quite impossible to describe the variety of effects which can be achieved using the flexible brush definitions combined with varied shape-making tools. Many of the effects are quite unexpected, though obvious once experienced. To create a regular network of lines on the screen, simply create a single square, set the grid facility to give the correct spacing and paint the square all over the screen using the dotted line tool — hey presto.

So much does effective use of Deluxe Paint rely on the use of different brushes that not only can whole designs be stored on disk and retrieved later, so also can individual brushes. Specialist users will quickly build up a library of useful



brushes and shapes which can be quickly incorporated into successive designs. The disk supplied contains, among many others, the example of a bare room and a set of Christmas-type objects stored as brushes. Shown below is an example, created in a few minutes, of the flexibility inherent in shape storage. Every feature of the room apart from the floor, walls and the scene outside the window, is a separately stored brush — including the animated flames in the fireplace.

One further strength of the package is the range of "modes" in which can be used to determine how a brush will affect what is already on the screen. Using the modes it is possible to place the brush on the screen "as is", as a single colour outline, the background colour in the rectangle surrounding the brush shape can be made transparent, the brush can be used to "smear" colours already on the screen as if they were being rubbed with a finger, to shade them slightly without having to go to the colour palette or even to "blend" colours so that rubbing the brush over the border between two colours leads to the colours blurring into each other.

No discussion of modes would be complete without mentioning "cycling", which allows a range of colours to be defined in the palette and then cycled so that each colour



within the range changes at regular intervals, taking on the colour of its predecessor. Cycling can be used to achieve a variety of effects from hypnotic patterns to very simple animation.

It will be clear from what has gone before that I have very few reservations about Deluxe Paint. No doubt other and more specialised tools will appear for the Amiga which will perform particular tasks better than a general "paint" program, no matter how good. As a creative tool, however, or for general design work at a fairly low level, it is difficult to imagine anything appearing in the short term which could be much better.

A few points, however, should be mentioned. The first is the quality of the print-outs obtained, at least on the popular Epson FX80. Clearly it is not possible to do justice to a colour picture in black and white. Even so the Amiga device driver for the average Epson printer leaves a lot to be desired when it comes to graphics mode. Compared to the graphical output of, say, the GEM system on an IBM PC, an Amiga graphics print-out is a poor affair. If the quality of the device driver software supplied with the Amiga is not improved, Electronic Arts would do well to design their own.

The other reservation has to be over the instruction manual for the package, which is a confused and pallid affair. Deluxe Paint is easy enough to learn by experimentation but even so a clearly laid out manual would have been a help.

It is sad that having lavished so much skill on the packages they produce, many software houses refuse to recognise that manual writing is a skill on its own — and one that successful programmers or sales executives don't often possess. If Electronic Arts want to pitch programs like Deluxe Paint at a price level closer to commercial programs than to simple home software — a level that is fully justified — then buyers have the right to expect documentation up to the best commercial standards.



Finally, the number of fonts supplied with the package is a disappointment, as is the range of sizes the individual fonts are supplied in. Only seven type styles are supplied, which makes the package inferior in this respect to Macpaint. In most cases, each type style is supplied in only two sizes. No doubt some would argue that the ability to resize material on the screen makes it unnecessary to supply the text fonts in a variety of sizes. In fact increasing the size of a font is nowhere near as simple as crudely multiplying its dimensions. Simply magnifying text leads to lettering which is quite unacceptable for serious use. It is to be hoped that future editions of the program will be issued with a range of fonts which does justice to the flexibility of the program in other respects.

Deluxe Paint, despite the one or two reservations listed above, is the kind of program that most Amiga owners will lust after. I suspect that in the hands of intelligent dealers, this one package will sell more Amigas than any other. For anyone who feels the need for some creative fun or simple design work this program, for the present at least, is indispensable. 🌐



HOW IS Commodore's wonder machine the Amiga faring in the tough European market?

# LAS VEGAS CES

HERE'S still no indication of the likely UK price of the Amiga, but in the States it seems that the cheaper Atari 520 ST is giving the superior machine a run for its money.

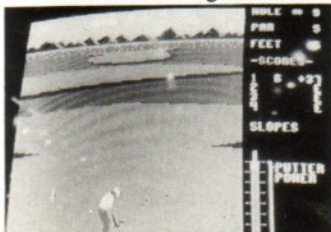
At the Las Vegas CES, Commodore made a tactical blunder by holding a press conference on the opening day, then disappearing entirely — leaving the field open for Atari.

However, despite the absence of Commodore several software companies showed products for the 64 and the Amiga. The C128 did fairly well too — with something like 120,000 sold at Christmas, it's been a reasonable success so far in the States.

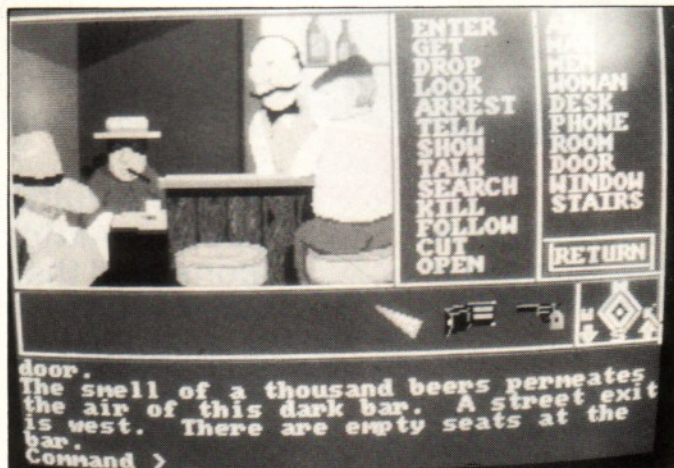
Many software houses, unable to decide between Commodore and Atri, and between the old 8-bit machines and the new 16-bit, did not exhibit; notable by their absence were Infocom, Broderbund, Datasoft and Sierra. However, Sub-Logic, Access, Microprose, Activision, Electronic Arts and the UK Mastertronic and Firebird showed some significant new releases.

● **ELECTRONIC ARTS**, for some time the major US champions of the Amiga, announced that the five Amiga titles launched in December recouped all their development costs for 1986 — and that's estimated at \$600,000. Titles include **Deluxe Paint**, a high-level graphic design package; **One-on-One**, a basketball simulation; **Seven Cities of Gold**, a conversion of a 64 adventure game; **Archon**, a chess-like strategy game; and **Financial Cookbook**, a home economics planner.

Seven more Amiga titles are



Leader Board



Borrowed Time — Activision's Amiga adventure

planned for the first quarter of '86. These include **Deluxe Print**, a versatile printing tool; and **Deluxe Video**, a do-it-yourself graphic storytelling package. Three new products specifically for the Amiga are **Return to Atlantis**, a 3-D underwater adventure; **Arctic Fox**, a combat flight simulator; and **Instant Music**, which can be used to create soundtracks for **Deluxe Video**.

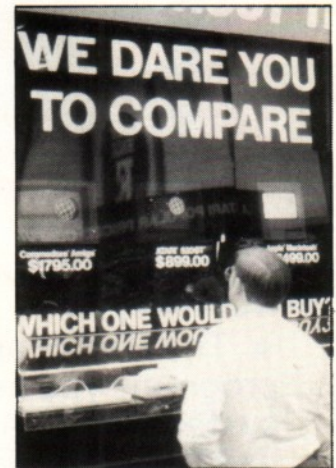
Enhanced versions of the 64 games **Skyfox** and **Adventure Construction Set** are also planned.

● **ACTIVISION** previewed **Borrowed Time**, an interactive text and graphics adventure from the creators of **Mindshadow**; and **Hacker** and **Mindshadow** have been

converted from the 64. Conversions of **Little Computer People** and **The Music Studio** are also on the way.

Activision's UK managing director, Hugh Rees-Parnall, promises Amiga versions of **Hacker** and **Mindshadow** in the UK in early Spring.

However, it wasn't all joy unrestrained for the Amiga; Atari's notorious comparison test, showing the bouncing ball demo (for which the Amiga is famous) running on the Amiga, Atari 520 ST and Apple Mac, drew some unflattering price comparisons. What Atari didn't say is that the 520ST demo is silent, while the Amiga version is accompanied by thunderous sampled sound; and the Amiga version is produced by a simple



matter of scrolling two "playfields", while the ST version takes up huge amounts of processor power.

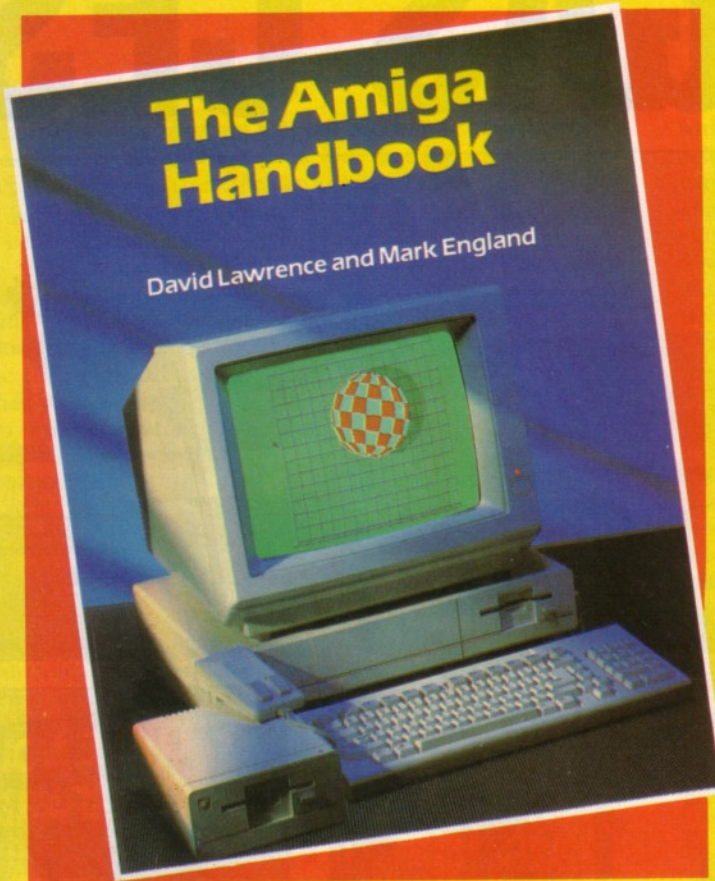
Bing Gordon of Electronic Arts, staunchest supporters of the Amiga, commented "Atari's Jack Tramiel has shown himself to be pretty canny, while Commodore has been making a lot of mistakes recently." The failure to show the Amiga properly at CES, and the continuing scepticism of software suppliers towards the market hopes of the expensive Amiga, mean that Commodore's machine is in for a rough ride, unless licensing of the technology involved can produce a new standard operating system for the new generation of home computers.

**J**

OIN THE REVOLUTION —

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# —AMIGA WHICH COMPUTER?

THE AMIGA, of course! At its UK launch the new machine made a predictable impact

THE AMIGA has made a big impact at the Birmingham Which Computer Show — but at the Las Vegas Consumer Electronics Show the reception has been more muted.

Following the conference of European software developers in December, the Amiga's UK launch at the National Exhibition Centre made it the centre of attention at the country's biggest business computer show.

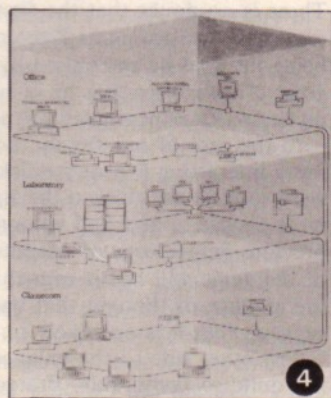
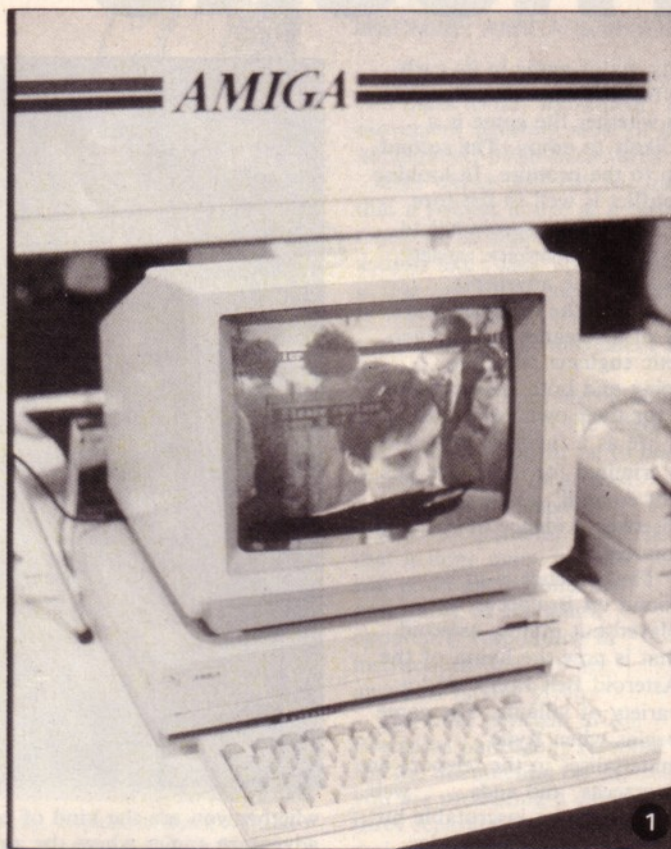
Software from a wide range of developers was to show, promising a good number of titles at the release of the machine on the UK market in the Spring.

● **DIALTEXT**, from Talbot Computers, is a complete integrated communications program for the Amiga. It features simple access to databases such as Telecom Gold, Easy Link and One-to-One, autodial/logon, printing or disk save of calls, user definable mailboxes with passwords, bulletin board feature, text editing and multitasking.

● **AMIGALINK** is a local area network system which allows up to 125 "nodes" per ring. Rings on different sites can be connected via modem, and the SimpleNet software allows remote file access. The system allows computers, peripherals and terminals to be linked together in a cost-effective way, and will be available from Nine Tiles Computer Systems in April.

● **ABasicC**, **MCC PASCAL** and **CAMBRIDGE LISP** from Metacomco, designers of the Amiga DOS operating system, are the first of a series of releases from the Bristol-based 68000 specialists.

● **AMIGA FONT DESK** from Cygnet Computer Consultants is a typesetting package, featuring allowing the simple production of documents, standard forms and technically illustrated literature. It also supports the production



1. Video genlock, combining a video camera signal with Amiga-generated graphics; 2. Cygnet's Font Desk; 3. Metacomco's ABasiC; 4. Nine Tiles' Multilink; 5. Micronet on the Amiga

of artwork and letterheads, and can output to laser or dot matrix printers.

The Illustrator section will take in **Graphicraft** or **DeLuxe Paint** pictures, or **Textcraft** files.



● **ACQUISITION** from Taurus is an office filing system which allows you to define how files should be indexed and cross-referenced, which employees have access to which files, whether the system is hier-

## THE AMIGA TRIBUNE

14th January 1986

### MACKRAZ SAYS BOING

It was at the Amiga Developers Conference at Earls Court that the witty humour of Jim Mackraz first showed itself.

### CYGNET ANNOUNCES LAUNCH OF THE FRONT DESK

Cygnet Computer Consultants of Peterborough today announced the launch of the Amiga Font Desk. This is a typesetting package of the highest specification. It allows the easy production of simple and technically illustrated literature. It also covers the production of artwork for letterheads, advertising material and magazine production. Output can be made to standard dot matrix printers and to LaserJet printers. The package also provides an Illustrator which allows the creation of technical illustrations and artwork. The Illustrator also allows the loading of Graphicraft and Deluxe Paint illustrations. The main typesetter also allows the use of Postscript files. The Amiga Font Desk should be available Mid-1986 from all Amiga Dealers on a worldwide basis. Contact: Cygnet Computer Consultants on (0473-48555).



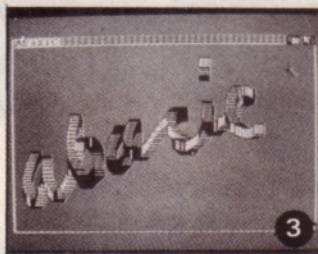
### COMMODORE AMIGA KILLS THE OPPOSITION DEAD

After attending the recent Amiga Conference one couldn't see death at all the opposition. The Commodore Amiga is the most sophisticated personal computer available on the market today. It must certainly be treated as one of the future market leaders.

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Cygnet's Font Desk — some day all magazines may be made this way!





# BRATACCAS

THE PROBLEM with reviewing any major game in its early days is that two potentially very different things may have to be said about it. The first concerns whether the game is a good idea and one that people are likely to enjoy. The second is whether the early versions live up to the promise. In looking at **Brataccas** from Psygnosis this conflict is well to the fore.

First, is **Brataccas** a good game? The answer surely has to be yes, with good scores for originality, authenticity, variety, humour and even tension — not bad for one adventure.

The theme of the game is the search for the evidence that will save the reputation and the life of a scientist called Kyne. Kyne's problem is that he is a genetic engineer who has discovered how to create a super-being and both government and the underworld want his work for their own nefarious ends. Kyne is destined to spend his life as a fugitive, branded

a criminal for crimes he did not commit, unless he can discover evidence of his innocence.

The evidence is to be found on **Brataccas**, a played-out mining asteroid that is now the haunt of the Asteroid Belt Police and a variety of villains. The game begins when Kyne materialises in the teleport on **Brataccas**, and ends... well I'd love to be inscrutable but I haven't the faintest idea how it ends.

**Brataccas**, as the illustrations show, is far from being a text based adventure. Everything, including the cast of around sixty different characters, is represented in the form of an animated cartoon in which the player controls Kyne. The extensive list of actions and interactions with other characters is controlled by means of the mouse or keyboard.

The other characters in the adventure consist of a troupe of straight laced police under the orders of the crippled Commander Stopp, the robot droids who guard the official areas of the asteroid, the barmen, the bureaucrats, the assassin Lash, the evil Kol Worpt and a variety of stooges — to name but a few.

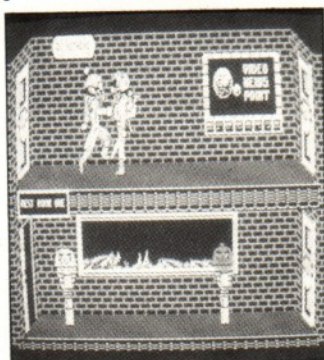
Whether **Brataccas** is the style of game that you will enjoy depends, I think, on

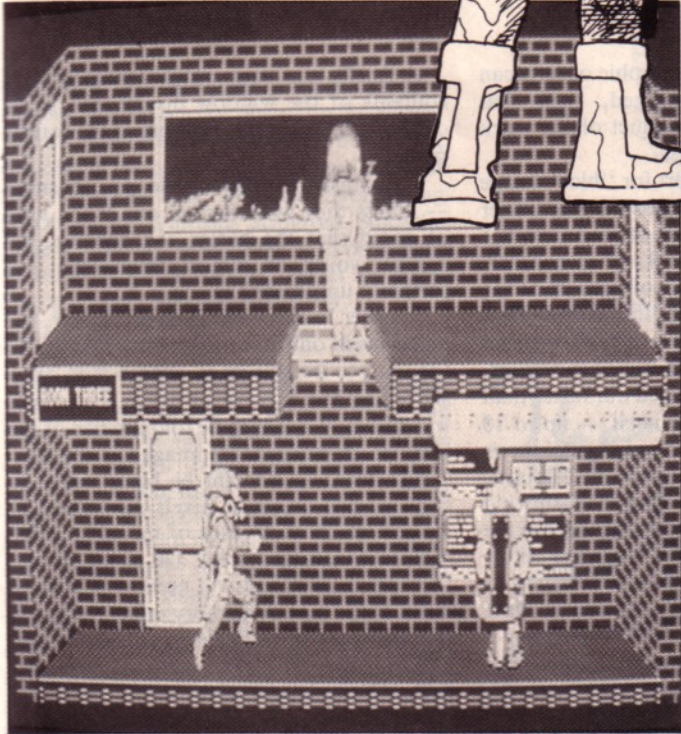
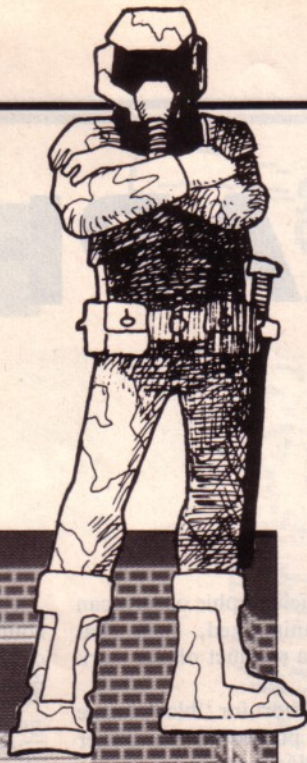


whether you are the kind of person who can cope with adventure games where the aim of the game is ill defined. There is no doubt that the first few sessions of playing can be extremely frustrating as Kyne makes his way from bar to bar being insulted or patronised by everyone in sight, and to no great effect except that he is eventually killed and arrives mysteriously reincarnated in the transporter room.

In the case of our family, however, the first step towards a more interesting life very quickly became apparent and we were soon in the thick o the fight (literally). It is certainly, for most people, a new and colourful experience compared to previous generations of adventures. How long the challenges of the game will last is something that only time will tell, but the amount of thought that has obviously gone into its design suggests that it is not likely to be solved quickly.

The other side of the balance that was mentioned earlier is not quite so favourable. **Brataccas** is a clever and complex piece of programming and to maximise the return on the





considerable effort it must have taken, Psygnosis have written it in such a way that it can be easily adapted from one 68000 based machine to another. In practice this means that many of a machine's in-built facilities are ignored since they will not be common to others to which the game must be adapted.

All this may well be satisfactory on an Atari ST or a Macintosh but with due respect to those machines they are not in the same class with the Amiga when it comes to graphics. It is often painful to see Brataccas struggling to maintain large groups of animated objects, such as people, on the screen. Figures flicker to the front and back of a group as their priority changes without apparent logic. When objects move they do so in crude steps which have obviously been found necessary to keep the game running at a reasonable speed.

Quite simply, Brataccas makes inadequate use of the Amiga's built in graphics facilities. The Amiga itself has the capability to manage both sprites and "blitter objects" quickly and smoothly under simple direction from a program. Anyone who has seen even the simplest animation examples on the Amiga will realize that the animation on Brataccas simply doesn't come up to scratch. The game needs to be stripped down and properly designed for the Amiga — a hastily translated ST version simply won't do.

Apart from that general point, there are a number of minor annoyances with the version of Brataccas that I played. Not least among these was the fact that it crashed several times over a period of days, leaving a half-drawn room on the screen. More annoying were the times when speech bubbles vital to making a decision about the game were displayed slightly off the screen so that the text could not be read.

Some attention also needs to be paid to the way in which the game is controlled by means of a mouse. If you watch the

**PROGRAM:** BRATACCAS

**PUBLISHER:** PSYGNOSIS

**PRICE:** TBA

**MACHINE:** AMIGA (with minimum 512K memory)

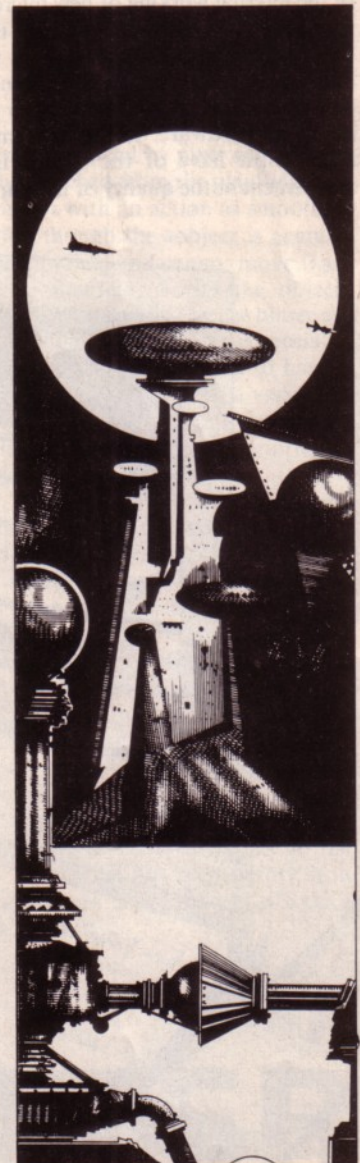
average user with a mouse you will quickly see that there are two parts to any movement. First of all there is a quick, gross movement covering most of the distance and then a slight adjustment, often backwards to the precise position desired.

This works perfectly for most applications, which require that a pointer arrive at a certain position. Brataccas, however, treats slight movements of the mouse as commands to perform actions like "pick up", "draw sword" and so on. The result is that any slight backlash can be interpreted as an instruction. If you run out of space on the desk and need to reposition the mouse, any slight movement as you pick it up can be taken as an instruction.

These 'phantom instructions' area at least irritating and sometimes can cost the player dearly. The solution for games like Brataccas might be to de-sensitize the mouse so that a movement, say, of at least two inches is needed to register a command. Until that is done many players will never get beyond the annoyance of the game apparently responding to instructions they are not aware of having given.

The final criticism of the Brataccas package is reserved for the documentation. If you are producing a game for three separate machines it makes sense to produce an overall instruction booklet. It doesn't make sense to weave the detailed instructions for running the game on the three machines so closely together that it is almost impossible to distinguish which instructions apply to which machine. With the best will in the world, instructions which tell the user to Kickstart the Amiga (power it up with the special boot disk) and then ensure that the power is off need to be revised.

The overall conclusion on Brataccas must be that it is good, but that it still needs some work. Undoubtedly it is a good game with a lot of depth, style and challenge that will make it a favourite for more than just a few hours of play. At the same time, Psygnosis need to ensure that irritating faults and limitations don't stand in the way of that fact being appreciated. 🌐



# FAST GRAPHICS

IN OUR overview of the Amiga we looked at the main features of the Amiga's hardware and noted that while they gave a guide to what makes the machine tick, the only way to really understand it was to look in detail at the individual functions that they performed. Nowhere is that more true than in the case of the "blitter", the strange sounding device that forms part of the AGNUS chip described earlier.

## Hardware

Those who tends to avoid the technicalities of the internal working of new micros should try not to turn off their minds at this point because what follows is not too technical and, to put it bluntly, you cannot really understand the Amiga withough thinking about its hardware. If the first impression that people have of the Amiga is one of amazement at the quality of its graphics and

the sheer speed at which graphic objects can be moved and manipulated, then that amazement is really a product of the work of the blitter.

The name blitter is short for "block image transfer" and the purpose of the blitter is simply to transfer blocks of data from one place in the first 512K of RAM to another. Once again, as with much of the rest of the hardware, this task relieves the 68000 of time consuming chores which would slow down the system but also, in the case of the blitter, the process is actually carried out faster than it would be by the 68000 itself — up to 10 times faster in fact — since the blitter is specifically designed to carry out the task.

The act of straightforward data shifting is central to what the blitter does within the Amiga graphics system — though the blitter is not necessarily limited in its application to graphics, it will just as cheerfully shift programs around in memory if necessary. Graphics is the major area, however, and here the relevance of the blitter is clear to anyone who has worked for more than a few minutes with an Amiga.

The totally flexible display of the Amiga, with windows appearing and disappearing, shuffling behind one another, moving from one point to another on the screen, is no more nor less than a massive demand for the movement of data in memory. Every time a window is shifted from one place to another, for instance:

a) the area that it used to occupy has to be reconstituted by bringing the previous contents back from a "memory buffer" in which they have been saved.

b) the data from the area which is about to be covered by the window has to be copied from the display memory into a buffer.

c) finally the data which represents the contents of the window display has to be copied into the display memory at the correct point.

These tasks, though simple, are not small — unless they were carried out at the kind of speed that the blitter can achieve, the Amiga would be almost impossible and certainly unpleasant to use.

In order to carry out such a transfer, the blitter needs only to be told where in memory the data to be shifted is, where it is being shifted to and how much there is to copy. In addition it needs to be told the size of the lines which make up the image it is copying.

For instance it might be being asked to copy a small image 32 pixels across and 20 pixels high from an area of memory which represents a total display 320 pixels across. In order to do this it will need to be able to move to the byte in memory representing the beginning of the rectangle holding the image, pick up the two 16-bit words of data that defin 32 pixels and move them, then skip through the memory to the data representing the second line of pixels in the rectangle. This operation it would perform twenty times and in doing so copy the spcified image, without touching anything around.

## Pixels

Simply moving data is not the limit of the abilities of the blitter, useful though it may be. One of the problems of writing data into a display arises if the image to be placed on the screen is not rectangular, or where the images to be placed on the screen need to be drawn from separate sources. In fact that blitter can cope unaided with a wide variety of situations like this because the AGNUS chip provides it with 4 dedicated direct memory access channels.

Three of these channels the blitter uses to call up data simultaneously from up to three different sources, while the fourth channel is employed to send the resulting output to the destination in memory. In calling up information from more than one source, the blitter is equipped to carry out a variety of what are known as "logical operation" such as AND, OR, INVERT, EXCLUSIVE OR, which allows pixels from one source to take priority over others, to be manipulated, to be combined with others and so on.

One frequent use of these abilities is to overcome the fact that the blitter can only move rectangles directly — this raises a



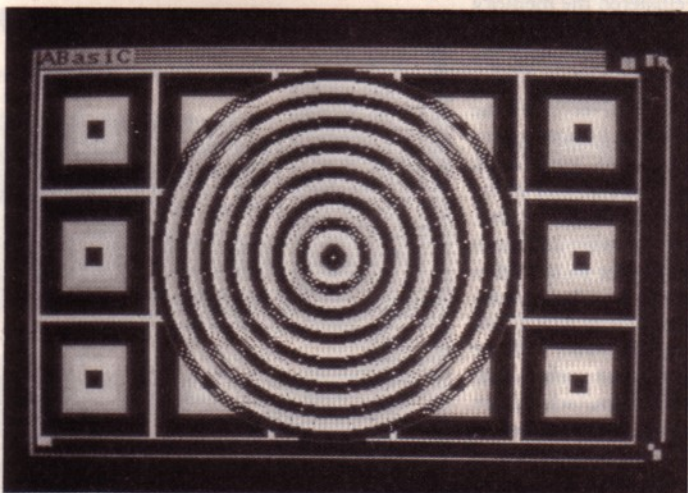
Not a hideous monster in your computer, but an essential part of the Amiga's graphics abilities . . .

problem if, for instance, a multi-coloured circular pattern is to be placed on the screen. What has to be moved is actually a rectangle containing the circle and unwanted parts of the rectangle may obliterate something important and is already displayed. Since the circle is multi-coloured, there is no possibility of telling the blitter only to transfer the pixels that are not "background" color.

### Patterns

In such cases the ability to combine different sources can be used to make the blitter pick up say, a black copy of the circular pattern from one source. The circular pattern itself is then taken from memory as the second source. Finally the two are combined with the existing screen display (the third source) so that any pixels which fall within the shape defined by the black "mask" are overwritten and any which fall outside the shape defined by the mask are left unchanged. The result is then sent out along the fourth DMA channel and the circular pattern appears on the screen without the least disturbance to anything around it.

So fast is the blitter at carrying out complex tasks involving placing an image



## The Blitter

over a background that it can be used to move objects around a display in much the same way as "sprites" on something like the Commodore 64 — independent small images which are not part of the main display and so can be moved rapidly around. In doing this it is aided by another important feature,

its ability to move data a certain number of bits to the left or the right before it places them into the display.

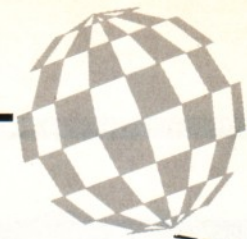
Without this, the smallest movement that could be made of an object would be one complete 16-bit word, the smallest unit with which the Amiga normally deals. With the ability to shift data left or right an object can

be made to move pixel by pixel as if it were completely detached from the playfield over which it moves with an action as smooth as a full sprite, though the subject is actually part of the playfield and cannot move from playfield to playfield. Sprite-like objects whose movement is handled by the blitter are referred to as "bobs" and there is specialist software in the operating system to handle them and to provide them with a variety of sprite-like characteristics such as transparency, collision detection, priority on the screen and so forth.

Finally, apart from its role in shifting memory the blitter is also used for two more specialised graphics roles, area filling and line drawing. Filling an area with a color or pattern is a logical extension of its abilities to work with the outline of an object and to fill an area of memory with something.

Line drawing is also provided for in a variety of different modes, solid, textured, inverse video and so on, which is why the Amiga can achieve such speed at the constructions of line drawn items, even to the extent of providing smooth animation of several changing line-drawn shapes on the screen — something not seen before in a micro in anywhere near the Amiga's price range. 🌐

# BY THE BLITTER

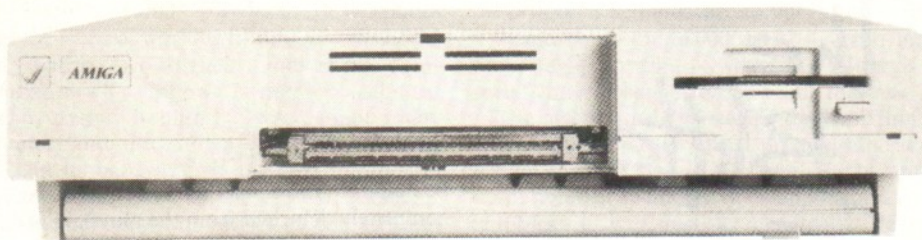


# THE SYSTEM

EVERY working computer, no matter how humble, is a complex machine made up of an extraordinary variety of components. What makes a **good** computer, however, is not complexity but the quality of the components and the effectiveness of the design that ties those components together. On both these counts the Amiga family represents a major step forward in personal computers, offering a level of power and performance simply not seen before in a personal computer. In this article we intend to cast a quick eye over the

sole responsibility of a single chip within the system. Nevertheless, a great deal can be learned about the machine simply by using the four major chips as a guide.

Though much of the work carried out by a CPU on lesser machines is borne by the rest of the hardware on the Amiga, the 68000 is still the heart of the Amiga system, as it is of a great many of the latest generation of sophisticated personal computers. The CPU is the most flexible of the Amiga's hardware in use, accepting a massive range of



major features of the Amiga that justify such seemingly extravagant claims.

The power of the Amiga rests mainly on a collection of four chips never before seen in combination — three of them never before seen at all — the Motorola MC68000 central processor unit, the AGNUS address generator, the DENISE (or DAPHNE) display encoder chip and the PAULA (or PORTIA) ports, audio and UART chip. Based around this central core is 256K of memory used by the system to store the operating system of the Amiga — the form of the memory involved may be specially protected random access memory loaded from disk when the machine is first powered up, or read-only memory chips with the operating system built in, according to the version of the AMIGA. Outside of this the standard Amiga comes equipped with 256K of random access memory available to the user, with the option to expand up to 512K by the simple addition of a cartridge of extra memory, or up to 8 megabytes (8,388,608 bytes) on a special external memory board. This is, of course, far from the end of the story. The full Amiga system is crammed with hi-tech components and capable of expansion in a wide variety of ways, according to need.

## 68000 CPU

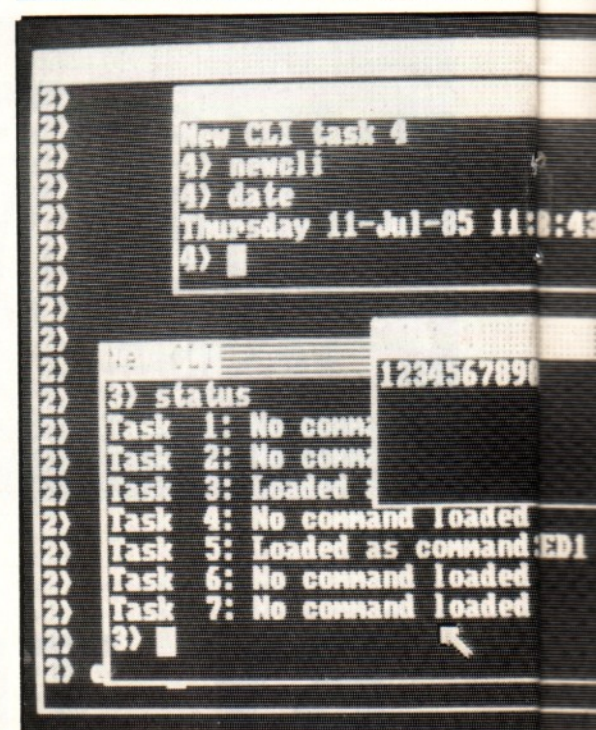
A full description of the Amiga, such as you will find in our book, involves going beyond the individual components to their parts and to the ways in which they work together, since very seldom is any function the

instructions compared to earlier generation, and its task is to co-ordinate the works of everything else in the system and to carry out by itself a wide range of functions of which other aspects of the system are not capable.

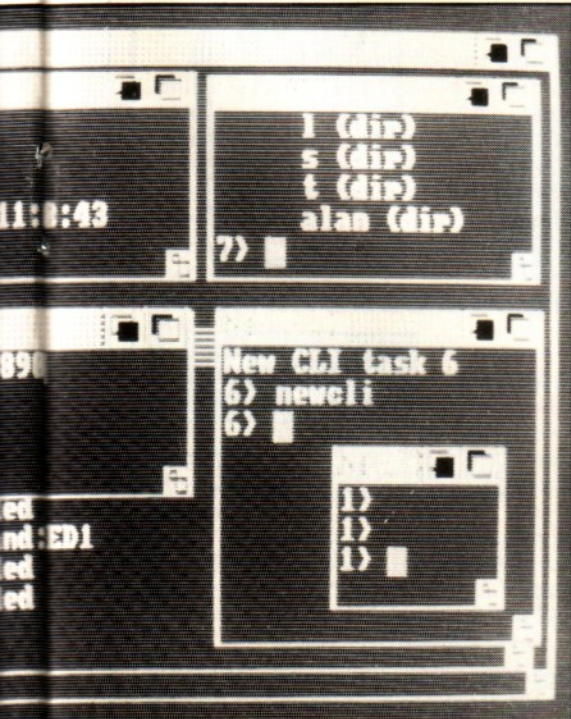
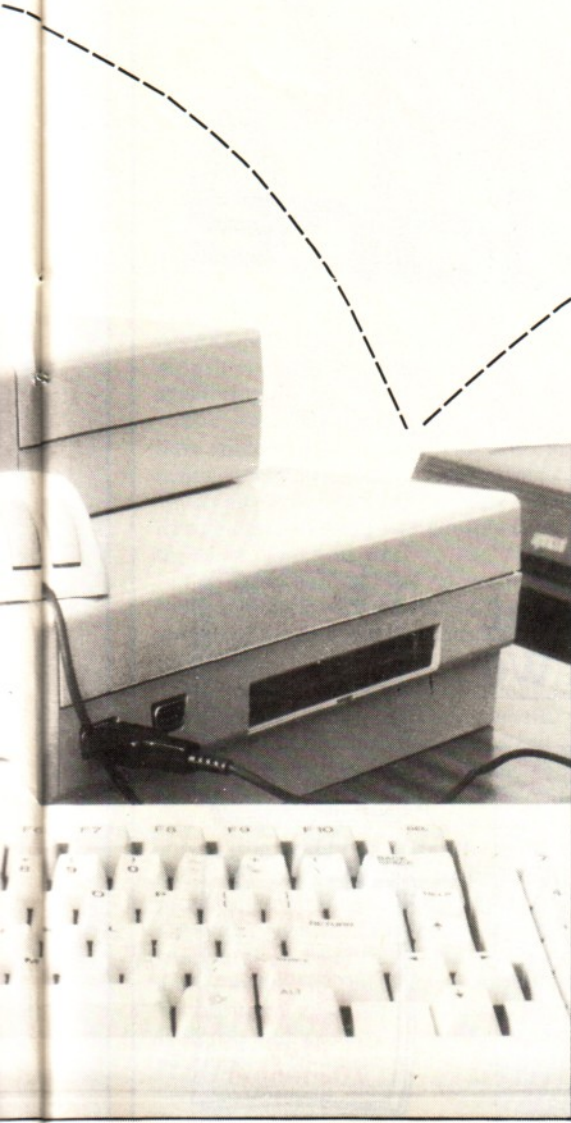
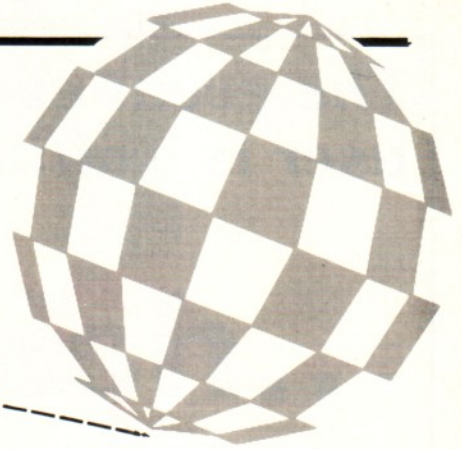
## Memory

Around the 68000 is clustered the memory of the machine, consisting of a collection of "dynamic RAM" chips which must be refreshed roughly every 2 thousandths of a second if they are not to lose all record of the data they contain. The basic Amiga comes equipped, as mentioned above, with 256K bytes of memory devoted to the storage of the operating system of the machine and another 256K available to the user. Another 256K can be added in the form of a slot-in cartridge which can be inserted into a port behind the front panel of the machine. The arbitrary limit of 512K this imposes is nothing to do with the abilities of the 68000 CPU, but rather with the three other specialist chips, which are designed to deal only with memory addresses falling in the first 512K. The 68000 itself is quite capable of dealing with in excess of 16 million bytes of memory and provision is made to use this power by means of an expansion port on the side of the Amiga which, among other functions, allows the system to be made up to a full 8 megabytes.

AGNUS, which stands for the "Address Generator Chip", is in many ways the key to the speed of the Amiga in operation. In this single chip are contained three crucial



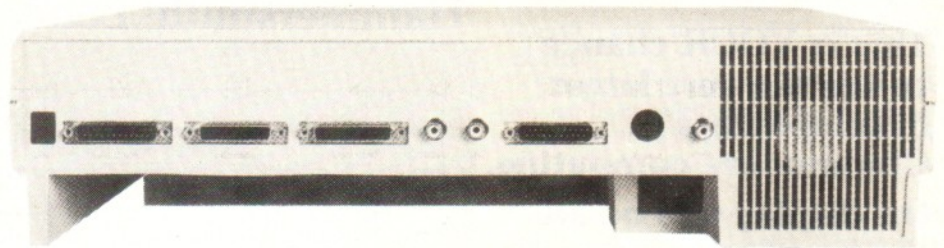




functions:

a) The controls for the "direct memory access" channels, which allow several different parts of the system to access the memory, without having to ask the CPU to both obtain the data from a specified location and/or place it into a specified location. The Amiga has an astonishing 25 direct memory access channels devoted to functions like audio, graphics, disk drives and so on, and every one of those channels is directly responsible for relieving the CPU of a task that takes up

manipulate the wide variety of colours which the system allows. DENISE makes it possible for this complex data to be sent straight out of memory, without having to be heavily processed, and then to be rapidly transformed into a format suitable for the screen — thus again relieving the CPU of a major task which is otherwise constantly going on. The addition to this overall task, DENISE also handles the job of mixing in the images of any sprites, small graphics objects which are capable of being moved around the display rapidly,



much of its time in lesser systems.

b) The "Copper" co-processor, which allows material to be placed on the screen of the Amiga in a manner which is exactly synchronised with the 50/60 per second passages across the screen of the beam of electrons which creates the display. The Copper is an extremely fast device which not only improves the quality of the Amiga's display but once again relieves the CPU of the need to wait for the correct time to place an item on the screen.

### The blitter

c) The "blitter" — short for "block image transfer" is a device mainly used for the manipulation of areas of display memory which need to be moved, though it can be and is applied to other purposes within the first 512K of memory which require that blocks of memory be moved around. The point of data from place to place in memory is capable of tying up the CPU for relatively long periods, so that once again the AGNUS chip provides a facility which frees the 68000 for other, more important work that only it can carry out and secondly, within its relatively limited sphere of operations, the blitter is around 10 times as fast as the 68000 itself.

DENISE is the display encoder chip, and its basic task is to create the display on the screen of the monitor or television attached to the Amiga. The data on which the Amiga display is based is stored in a complex format which makes it easier to generate and

independently of anything else. Finally, as if these tasks were not enough, DENISE also carries most of the responsibility for monitoring the mouse port, through which information is received from the mouse device.

The final major custom chip amongst the Amiga's hardware is PAULA, the ports, audio and UART chip. The majority of the chip is devoted to the complex task of handling the Amiga's four separate sound channels, with some help from the AGNUS chip, which places 4 direct memory access channels at the disposal of the audio system. In addition to this, PAULA handles the communication of the system with the disk drives and with the serial port at the rear of the machine.

### Faster and better

These then are the major components of the Amiga — in terms of function, if not of size. None of them can be really described as major steps forward in technology. What is special about them is that in the Amiga, for the first time among the new generation of graphics-based personal computers, someone has taken the trouble to sit down and analyse the kind of task which the graphics environment requires and the kind of burdens it places on the system. AGNUS, DENISE and PAULA, though fairly simple devices in themselves are precisely adapted to take over roles from the 68000 CPU and to perform those roles faster and better, leaving the raw power of the 68000 to be used where it is needed most — in running programs. ●

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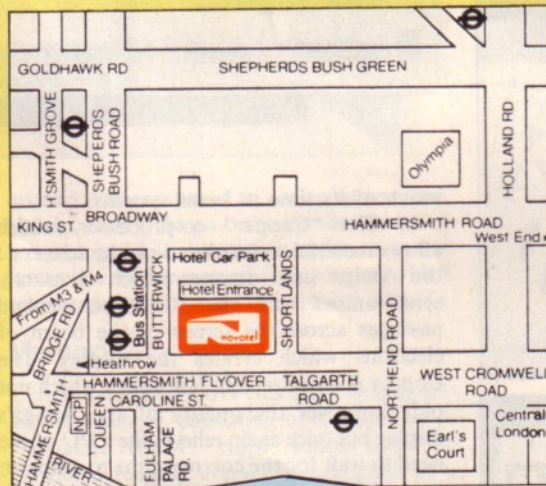
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# A perfect wish...

**Kan Mathews dreams his way through Wishbringer, takes on Darkon and eyes The Odyssey in this month's fairies feature**

AS PROMISED, the featured adventure this month is the latest from Infocom, **Wishbringer**.

The world's premier adventure writers have spared lesser mortals with this one by making their latest piece of interactive fiction 'Introductory' level. Of course, what's introductory to them will confound all but the most agile synapses?

The package is the new standard 'bookcase' style with the manual fixed to the cover and the disk and play aids in a suitable tray inside.

The manual, in the guise of a book from the Festeron Town Library, details the history of the Magic Dream Stone and how it can be used to gain seven wishes. There follow fifteen pages of instructions on how you can interact with the program.

Now the beauty of Infocom — the play aids. No one else has their knack of producing sophisticated material that sets the scene and gives the player such a feeling of being in the adventure. Their eye for detail and touch of humour are masterful. **Wishbringer** gives you a Postal Map of Festeron and vicinity, a sealed, mysterious envelope — complete with playpen stamp and you very own 'glow-in-the-dark' Magic Stone!

## Daydreams

Well, Game-God and you are catapulted into a daydream — only to be shaken from your reverie, in the nick of time, by your Boss, Mr. Crisp the Postmaster who has this vexatious envelope for you to deliver...

So begins your Quest, wrapped in fog and steeped in mystery. You will walk the twilight streets of Whitelife, hushed but your next step should set you into the path of Treble, green as the leaves and comely lady Nancy Bean Pateal.

Humour runs through the game — it's surprising how a laugh at the right time gives you the urge to play a little more no matter how much you think you are. Old hands will appreciate a few scenes that hark back to Zork and a little white house or crackle at the fiddle in the grue's noze.

To see any more would be to give away too much for those of you already reaching into your pocket for the studies. The best about I can come clean though and you'll need about 125 before you too can receive this excellent game. Only Infocom could take the fantasy theme everyone's saying is past it and give it a new and sparkling lease of life.

It will be very interesting to see what Pat Austin et al will do as they move into disk as the many revolutionary features of the **Wish** in **Paradise** make it easily the most sophisticated cassette adventure around — perhaps Infocom better watch out for lurking Levbit!

After the Lord Mayor's Show... comes **Naah of Darkon** from Tasknet, the Yorkshire firm who produced the two best-known (and 7) adventures for Uncle Clive's QL.

Apparently the people of the planet Naah — you know the place, just beyond

**Odyssey**, based on Homer's epic tales of ancient Greece. The game is written by Duckworth's dynamic duo — Mike and Peter Gerrard.

A classical adventure is good old test-only style — I nearly gagged when I found the opening text to be inverse black on green! But, happily this changes as you go through the game, to reflect your background I game.

No surprises with this game, limit descriptions and quite slow responses although the vocabulary is adequate to the tasks required of it. There is plenty of game though, with around 80% on the two cassettes.

The theme, being around 3000 years old, can hardly be called original but the Gerrards have used head to keep to the plot and have given an original treatment to an old theme if you like.

Overall though, nothing to write home about and not really worth buying unless you, or the kids are interested in re-living the Illiad.

Last but by no means least this month, an enchanting little tale from Ireland's first ladies of Adventure — **The Brides of St. Bride's**, entitled **The Snow Queen**.

Yep, you've guessed it — based on the Fairy Tale of the same name. Mike Scanlon once played by Vivian Light tells me that you'll need to read the story to understand the game and a lexicon of it will be contained with the adventure.

No one-playing, troll-bashing, mindless mayhem in this game, although 'Fairy Tales' are full of it (they weren't called the Brothers Grimm for nothing). Indeed, Ciria, the heroine of this tale, is so nice it's sickening sometimes — she won't do anything until things are 'just so'.

Nevertheless the game is fast, it's rich and original — it's quite good fun trying to think like a goodie all the time.

## Ring cycle

The version I'm playing is just a preview but by the time you read this the final version should be out — the only adventure with the **Mary Whitehouse** seal of approval???

How the time flies. Ready for your delight next month I've got **Misquero** from UK Gold, **Coma** from a new company called **Ralfist** and perhaps a look at the Commodore version of **Lord of the Rings**. Oh yes **Ninjaboy** forgot, **Mickey Mouse's Space Adventure** — are they trying to tell me something?? ■



the sun of **Cresal** — have stirred up the ultimate evil power, **Darkon** with their dabbling in magic and technology. Of course, only you and your faithful droid **Komorra** (sic) can save the planet — blah, blah, hoze, hoze!

The cassette cover shows a minotaur and a minor town of the game is all you need to put you off. It does have half screen graphics — black on green — agh! But my main beef is the parser. The game will list its vocabulary for you — it only takes half the screen and trying to play down to its level is infuriating.

Leave this one where it belongs — on the shelf!!!

Next, from Duckworth, comes **The**

# C128 pictures

In the second of our three articles on C128 Basic, Tony Harrison-Smith looks at the graphics commands and includes some useful listings

In last month's issue I looked at the new commands for making the entering and debugging of programs easier on the C128. This month I will be investigating the commands for making the use of graphics easier. The Commodore 64 was well-known for having good sound and graphic capabilities, but it was notoriously hard to get the full use out of them. The C128 has new commands added which allow the use of its full capabilities without having to resort to tedious use of Pokeys and Pokes.

## Hi-res

Overall twelve hi-res graphics commands and functions have been added to the C128 to aid the drawing onto a high resolution screen. Most of the following commands would have needed a large machine code routine to run effectively on the C64.

The first, and obviously the most important, command is the one which sets the type of graphic screen to be used. This command is **GRAPHIC**. There are six different types of graphic screens available from text to bit mapped graphics. The bit mapped graphic screens can be standard or multi-coloured and can also be selected with a split screen option. The split screen option is very powerful, allowing the programmer to select the line where the graphics end and the text begins on the screen. The final option with the graphic command is to clear the screen whenever the command is called. It should be noted that if any of the bit-mapped



screens are used, 96 of basic programming memory is reserved for the screen. As there is 16k of memory for basic programs, this is not really a problem.

To clear a screen without having to recall the graphic command use the command **WASH**. This will clear only the graphic screen specified after the **GRAPHIC** command. This command is very useful when using text and

graphic screens within a program when you do not want the screen cleared every time you select a new screen type.

The standard definition of the C128 bit-mapped screen is 100x100 pixels but the multi-colour screen only has a definition of 100x100 pixels. To overcome any difficulties in using both screens in the same program, or even converting programs from another

machine with a different definition, the command **SCALE** is used. This command allows the theoretical definition of the C128 graphic screen to be changed. What happens is that when a draw box, etc command is used, the C128 will work out the relative position on its theoretical screen and then scale the coordinates to fit on its actual screen. This might sound complicated, so let me give an example. You scaled the theoretical screen to 500x400 to copy another machine's definition. To position the cursor in the centre of this machine's screen you would designate the coordinates 250, 200. The C128 will now work out the relative position of those coordinates and then position its own cursor to the centre of

## ROTATING BOXES

```

20 COLOR 0,0: REM SET BACKGROUND GREEN
30 COLOR 1,2: REM SET FOREGROUND WHITE
40 GRAPHIC 1,1: REM SET AND CLEAR BIT MAPPED SCREEN.
50 CHR$ ,18,1,"PROGRAM 1- ROTATING BOXES"
60 FOR I=1 TO 180STEP 30
70 BOX ,25,25,50,50,1,0 : REM DRAW BOX AT ANGLE I
80 NEXT I
90 COLOR 1,0: REM SET FOREGROUND YELLOW
100 FOR I=1 TO 90STEP 10
110 BOX 1,75,50,125,100,1,0 : REM DRAW BOX AT ANGLE I
120 NEXT I
130 COLOR 1,1: REM SET FOREGROUND BLACK
140 FOR I=1 TO 180STEP 10
150 BOX ,200,75,250,175,1,0 : REM DRAW BOX AT ANGLE I
160 NEXT I
170 SLEEP 5 : REM WAIT 5 SECONDS
180 GRAPHIC 0 : REM BACK TO TEXT MODE
  
```

the screen automatically. As can be seen from the previous example the scale command allows for much easier conversion of graphic layouts from other sources.

As with most computers there is a **draw** command. This allows a line to be drawn from one point to another. The additional feature of the C128 version is that you can select any one of 4 colour sources. The colours can be taken from the background, foreground or multi-colour 2 + 3. All the drawing commands included in the C128 have this colour facility. With these, there is no need to limit the command to start and finish coordinates, several points can be included so that a one line command can draw a complicated shape. This allows the drawing of shapes in the screen without an excessive amount of program code.

To aid the drawing of lines on the screen, the command **width** allows either single or double width lines to be used.

### Boxes

To draw a box or rectangle on the screen use the command **box**. In its simplest form, you specify the top-left and bottom-right corners of the box and it is drawn on the screen. The box command will also allow you to specify its colour source, the angle of the box and whether it should be printed with the original colour specified. Program 1 shows some examples of rotating boxes that give an interesting pattern.

For any geometrical shapes the **circle** command is used. This may sound a bit odd but the circle command has nine Parameters which can be set to change its shape. The parameters are: colour, X & Y position of its centre, X & Y radii, starting and finishing arc angles, rotation angle and increment between segments of arc. If a segment of 45 degrees is specified the circle command will draw an octagon. Program 2 shows some examples of the shapes that can be formed by this command.

The **paint** command allows an area which is bordered by a fully closed shape to be filled with a colour from a specified source. An additional feature is the option to paint up to the first boundary in lines or the first boundary of the same colour as the 'paint'. This is useful if you are using multi-colour graphics and you do not want to paint over adjacent areas.

To display text on a graphics screen use the command **char**. This will display text in the position specified on either a graphic or text screen. The ability to work on both types of screen allows the programmer to display a message on any screen using only one sub-routine. For example a 'Please wait...' message.

If you wish to position the pixel cursor on a graphic screen ready for a next operation, use the command **locate**. This command will not actually display anything on the screen, it just sets X & Y positions.

The last two items are functions included to report back the current state of affairs. **WhereC** will report the current position of the pixel cursor or the colour of the pixel as required. The function **modeC** returns the current graphic mode in use at the time.

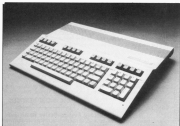
Next month we'll look at options and sound. ■

## CIRCLE COMMAND

```

20 COLOR 0,12: REM SET BACKGROUND DRAW
30 COLOR 1,2: REM SET FOREGROUND WHITE
40 GRAPHIC 1,1: REM SET AND CLEAR
   BIT MAPPED SCREEN
50 CHAR ,10,0,"CIRCLE COMMAND"
60 REM -----CIRCLE
70 CIRCLE 1,25,30,10
80 CHAR ,1,7,"CIRCLE"
90 REM -----ELLIPSE
100 COLOR 1,0: REM FOREGROUND=YELLOW
110 CIRCLE 1,100,30,30,18
120 CHAR ,9,7,"ELLIPSE"
130 REM -----ARC
140 COLOR 1,14: REM FOREGROUND=GREEN
150 CIRCLE 1,175,30,18,,270,70
160 CHAR ,20,7,"ARC"
170 REM -----ROTATED
180 COLOR 1,11: REM FOREGROUND=LT RED
190 CIRCLE 1,250,30,30,18,,30
200 REM -----POLYGONS
210 CHAR ,30,7,"ROTATED"
220 COLOR 1,2: REM FOREGROUND=WHITE
230 DRAW ,0,90 TO 315,90: REM BORDER
240 CHAR ,1,12,"POLYGONS USING
   DIFFERENT SEGMENT ANGLES"
...50 REM -----OCTAGON
260 CIRCLE 1,50,150,30,,,,,45
270 CHAR ,3,24,"OCTAGON"
280 REM -----TRIANGLE
290 COLOR 1,14: REM FOREGROUND=GREEN
300 CIRCLE 1,150,150,30,,,,,120
310 CHAR ,15,24,"TRIANGLE"
320 REM -----DIAMOND
330 COLOR 1,0: REM FOREGROUND=YELLOW
340 CIRCLE 1,270,150,30,,,,,90
350 CHAR ,30,24,"DIAMOND"
360 SLEEP 5: REM WAIT 5 SECONDS
370 GRAPHIC 0: REM TEST SCREEN

```





# Speed of lightning

The latest programming extension package, *Laser Basic*, comes under the examination of *Tony Kendle*, who develops some dangerous ideas...

OGAS Software, proud owners of many prestigious awards for their *White Lightning* games writing utilities, have produced nothing new for nearly a year. Anyone who is aware of the effort and care that went into *Lightning* will not be surprised to hear that they have been far from idle in that time and now look set to carry off floods of new trophies as the results come to light.

A liaison with the giant games company Ocean has spawned the Ocean IQ label. Together they promise to release a range of top-quality utilities including an "Intelligent" assembler/machine, which they say will be spectacular, and a word processor. There will also be music and graphics design packages which will be data compatible with the games utilities so that the output can be shared between them. Many months off yet will be a package that is designed for writing 3D vector graphics rather than sprite games.

The flagship of the new range is *Laser Basic*, for the Spectrum, Amstrad and Commodore machines. This new release is the pinnacle of the Ocean utilities to date, extremely powerful and easy to use. While the versions obviously differ to reflect the hardware of each machine there are many similarities between them. Not only are you provided with extensive routines for controlling sound and screen output, but there are also many lead-in structured programming additions. All three versions are excellent but Commodore owners have possibly got the best deal, partly because the hardware is the strongest for game writing but also, it must be said, because the original Basic is so badly in need of improvement.

The tape or disc comes with 3 predefined sets of sprites, a sprite designer, a very impressive demo program and the *Laser Basic* interpreter itself. There are in fact four separate types of commands available, graphics, sound, toolkit and structured programming. You are also given a "Turbo Tape facility" for quick saving and loading of the resulting program.

Toolkit commands consist of **DIB** for a disc directory, **DED** to remove a **PDN** program, **AUTH** for numbering and **BENUM** which also renames **GAMES** and **CGAMES**. Structured programming options

include multiple line functions and Procedures with local variables, **IF-THEN-ELSE**, **REPEAT-UNTIL**, **WHILE-WEND** and **CASEOF-CASEEND**.

The sound commands give total control over the SID chip ranging from simple voice, frequency, volume etc. to ambitious effects such as ring modulation. Music can be played under interrupt while other parts of

are something like 256 new commands to learn. A working knowledge of Basic is essential.

Some people may recall an earlier release from Ocean for the 64, *Basic Lightning*. The Commodore was the only machine on which this first attempt at a Basic language appeared and the new *Laser Basic* owes much of its development to that first release.

*Laser Basic* on the 64 has had a revision of many command names and the addition of some thirty new commands and facilities. There are also a couple of minor restrictions in the moves allowed for sprites and the degree of multitasking allowed. As long as you only use loaders/loop programs (as in common files are compatible with other Basic, although some command names may change when you load them in.

No copyright restrictions are placed on games produced with the utilities but the biggest drawback is of course that you need to have *Laser Basic* in memory before you can run your games. Ours are working on a mini-Basic that copies the commands used for the design of sprites etc. to be used for running games, but the best news is that the next release on the IQ-label, out by the time you read this, will be complete for each of the versions of the Basic. Because the *Laser Basic* routines are themselves well-compiled and extremely fast there may actually be little increase in speed of the graphics, although your game's logic will be enormously improved, but you will also finish up with machine code games that run completely independently of the utilities.

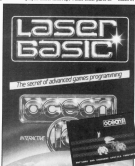
*Laser Basic* is fascinating to use, and within a relatively short while I was having dangerous illusions of programming competence with sprites rolling and jumping all over the screen. This package is a thousand games in one, tremendous value for money, and highly recommended. ■

#### Programs: *Laser Basic*

Supplier: Ocean, 6 Central Street, Marchion, PA1 2PQ, 066-831 6633

Price: CBM 64, £28 in 64 mode

Price: £14.95 cassette, £19.95 disk



the program are running.

The real heart of the package are the graphics routines, too many to detail here. Suffice to say you can build screens almost instantly, scroll, wrap, mirror, stretch and rotate screen windows or sprites. You can control 64 hardware sprites or 250 software sprites of any dimensions, and move these around the screen with a variety of options. **SCROLL**, **ORIG** etc. The results are better than many commercial releases.

The program supports up to three multitasking events at any one time, graphics and sound routines run almost insignificantly by themselves while the main program loops gets on with other things.

The manual is thankfully comprehensive and easy to follow with lots of explanatory diagrams. However you shouldn't underestimate the program — you are given almost total control over your computer and there

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# Looking after the pennies with Multisoft

The Multisoft disks contain programs for the C128, C64 and Plus/4 in a single package. Terry Hamilton-Smith looks at a home finance program

THE PERSONAL Money Management package (PMM) is the first release from Commodore on their Multi-soft label. The idea of Multi-soft is that several machines can access the programs on the one disk. This has the advantage that when upgrading your computer, you do not need to buy another version of the program.

The PMM program has been written to help find the most efficient way of managing money in a current and deposit account. The idea is to leave all the spare money in the deposit account to earn interest and have just enough in the current account to pay the bills.

During the review of this package I used it in C128 native mode and also in C64 mode to see the difference.

PMM has many facilities built in to make the task of running your accounts as easy as possible. The PMM can be divided into three main areas: setting budgets, standing orders and expenses; reporting the state of the finances; and saving the current data to disk.

PMM allows ten 'budgets' to be set. These are amounts that will be put away each month for a set bill, i.e. electricity. The monthly budget is set aside standing orders. These budgets are used each month to calculate how much money must be left in the current account to pay the bills, so do not try to fiddle the amounts to make your account 'look good'!

During the month the current expenses can be entered into the computer. The amounts, date and any comments are stored and the current expenditure is displayed. At the end of the month the current month's expenses can be calculated. After the calculation has been done the computer will advise how much can be put into the deposit account as 'spare' cash.

At any time PMM can give reports about the state of your finances. The reports generated are:

- Current balance
- Budget vs Actual expenditure
- Expenses over the last twelve months
- Past transactions on all budgets
- Past transactions by month

For all the reports, if a Commodore printer is connected, the option to print out the report is given.

Once you have been running PMM for a year, or you have entered last year's earnings, when you ask for the current balance report, it also will show you next month's expenditures. These figures are actually what

category, shows the last 14 transactions for any category selected. The Misc Income category shows what has been happening with the deposit account.

The past transactions by month report, will show all the payments made to and from the account for the month in operation. The

Other expenses or payments found on during entries  
Delete all entries in a category

Amount category name / balance  
Amount category / standing orders  
Change current date

Commodore Multi-Soft



report is in three parts, the bill and standing orders paid, the current account credits and finally the deposit account credits and debits. The last and obviously one of the most important, is the facility to save and reload data to disk. It should be noted that tape is not supported.

If PMM is used on the C128 in native mode or on the Plus/4 then an additional facility is supplied. A calculator with 9 memories, a % function and the normal arithmetic functions

(+/-/%) . The calculator is accessed by pressing the ESC key.

Generally I liked the package a lot, for £14.99 it gives a cheap introduction to finance control. The main plus point for the package, is that it always gives plenty of warnings if you are about to destroy any old data. The main dislike about the package is that when using C128 mode, I wish they could have used the extra memory to increase the category items stored to more than 14. With a heavily used item, such as running an old car, the 14 item limit does not show the years cost of running it as for best.

Product: Personal Money Management disk

Supplier: Commodore UK, 1 Pleasure Road, Waltham North Industrial Estate, Waltham, Northants, NN16 9JF  
Mower Plus/4, C64, C128  
Price: £14.99



you paid out this month last year. The Budget vs actual report will show the current saving, annual budgets and the expenditure over the last 12 months.

A list of all the last twelve months' expenses can be shown. The report shows the monthly expenses in three month batches. The past transactions report by category, shows the last 14 transactions for any

# Space Snakes return

The second part of Chris Woods' high-speed machine-code 64 game

THIS IS the second part of Space Snakes for the 64. Load up last month's listing and carry on typing in this month's until the program

is complete. Then save and RUN the program. The program will read each line into memory, check it, and stop if there is

a checksum error. When you have corrected all your errors you can save, run, and play by typing 999 1000. ■

```

1160 2070 67 02 00 0E 3C 23 FE 83 8C 3C 60 70 29 F3 30 01 69 20 20 F0
1170 2070 47 70 20 20 F2 07 80 80 82 80 81 00 20 20 00 20 20 20 20 20 20
1180 2070 F0 47 8E F3 07 00 00 00 07 87 F1 02 04 20 01 60 20 20 20 20 20
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1340 2070 00 00 27 70 1E 00 00 00 17 0E 1E 70 27 00 00 00 00 00 00 00 00 00
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# Solely 64 on Micronet

## — Compunet competition?

CompuNet's major rival, Micronet, has just launched a Commodore 64 section. John Minnow looks at what the service has to offer

COMMUNICATIONS — wasn't that supposed to be part of the great computer revolution? Well yes, it was and... well yes, it hasn't made much impact on general computer users. Modems have a reputation as an arcane sub-section of the hobby. That was no impression too until Micronet invited me to their HQ.

First things first — what is Micronet 6801? Established in 1983 it's a closed area of the Pronet system, British Telecom's network that allows business to speak into business. Run by magazine giant, EMAP, Micronet is a venture into electronic publishing and to access it you'll need a modem to connect your Commodore to the main computer via the telephone, and of course you'll have to pay a subscription fee, of which more later.

So what does it offer? Somebody once described it as "The largest home computer club in the country." Micronet's Pronet Product tells me, and you can get most things you can get from a club (except what coffee) without ever leaving the house. There's the information service, with both general and more specific news. Micronet has scored several news scoops with info on screens in a matter of hours. As a Commodore user though, you may start with the newly launched Solely 64 section where you'll find information dedicated to C684 machines, including pretty soon an Amiga section.

There are reviews too, a useful second opinion on the criticisms you'll find here, perhaps. Educationally there are courses in Artificial Intelligence and languages, backed up with books for further reference. And no club would be complete without some reading of software (legitimately, of course!). You can download Teletextware or linkups to multi-player games. Teletextware includes approximately eight free programs a month, with others at about three quid per the shop price. Pronet Product was keen to praise the utilities section, where instead of having to buy a suite of utility programs you can take just what you want at 9p or 11 each. Bigger games cost more but the range is wide, and

if you're worried about sales on the phone lines corrupting data, don't — all programs are self-checking and cancel if anything goes wrong.

The other games are run from the Micronet computer and include a Royal British treasure hunt that costs a penny a move and offers a £100 prize every fortnight — probably the reason for its popularity! Not best of all is Starnet, a multi-user game

experience with space capsules planning alliances or declaring war. You can even sell that ancient Vic30 via Micronet's very own market ads.

Finally, if this isn't enough, you can also access Pronet and shop from home or book travel tickets with your credit card, or even send telefax anywhere in the world. It's hardly surprising that Micronet currently boasts two million members per month and a very small loss of subscriptions.

So you're as sold on the idea as I am but the nagging question of cost rates in head. Will my phone bill stand the expense? Providing you're sensible and use the service after six and at weekends all Micronet calls are at local rate, so an hour costs only about 40p. Subscriptions? At £6.50 per quarter, it costs around 16p a day — less than a daily paper. Okay, there isn't a catch. No, there isn't. Many areas are free such as the Quilichan section, and Dingo Chat costs only 1p per message while a letter to Europe costs only 10p, the USA 11! Starnet captions pay 9p to register then 21p per move, which is very reasonable. Avoid the on-prem Pronet charge of 5p per minute and you'll have to try hard to bankrupt yourself, in my opinion.

### Facilities

The modem is going to be your major initial outlay, and the Minnow Multi Modem offers a whole host of facilities for costs 695. However £70 will buy you a Modem 1800 plus C.B.L. Cartridge, and for even less there's the CompuNet Modem, with as well as letting you access the other main electronic communications board can access Micronet with the addition of the Missing Software package. The total cost is a mere £55.00.

I'm completely sold on Micronet. It's extremely friendly to use with a good Help facility if you do manage to get lost, and Andy Whalley's Solely 64 section makes it of particular interest to Commodore users. All I can do is echo the advertisement of a few years back — "We should be talking to each other." ■



of space landing with room for 500 players. That Starnet was originally designed by Mike Singleton, at Lords of Midnight fame, should encourage you to join. Perhaps you are yourself as more of the games writer than a player — well, Micronet is always keenest in buying subscribers' programs to sell over the lines.

Already we're some distance from traditional publishing, but Micronet's most innovative and exciting area has to be its communications boards. This is the true network of micro enthusiasts, the club in your home. There are seven Quick Chatlines, with each new message replacing the previous one, and a variety of topics for anybody who wants to talk, with two open lines and specialised religious, political, music, adventure and gay lines. Conversation can be fast, furious and very witty.

In the Dairy Chatline conversation forms a daily chain and so you can trace remarks back. Here, as well as the general areas, are machine-specific sections and the Starnet chatline. This makes the game a more vital

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\* works with C128 in the 64 mode.

## Flasher

This 4K utility comes from Nicholas Jones of Lybham, Lancashire. THIS LISTING serves no real purpose, but is a fun to try out! Flasher gives the effect,

```
10 PRINT "I"
20 FOR#=81023:READ D:POKE49152+#,D:HEXTA
30 SYS49152:00T039
40 DATA162,8,160,200,200,200,253,160,250,200,200,253,232
50 DATA142,33,200,142,32,200,224,16,200,235,96
```

## 1520-word

This program for the 4K with the 128 printer/plotter is from Chris Payer. THIS SIMPLE word-processor program allows full control of the 1520 printer/

plotter's pen colour, character size, and text printing.

The machine code is read from data statements, and the program is run simply by typing it in and entering 8179. You can stop it by pressing 8179/STOP.

You can vary the effect by changing the 11 in line 58 to 13, to give a flashing border; or

by changing the 10 in line 56 to 12, you can have the paper flashing.

Leave the listing as it is for best. You can also vary the effect by changing the second number in each data line. You might like to use Flasher in a flash game to indicate a line of life, or use it as part of a loading routine.

plotter's pen colour, character size, and text printing.

To change colour, type in COL and you are presented with the colour option table. To change character size, enter COLU for COLLUM.

Text is entered one or two lines at a time,

and is then printed out. With a choice of roman, terry or digby column mode, four colours and upper or lower case, you have a reasonable word processor, but the program will not accept commas, spaces or colons. By entering CBR-D (Commodore key and D) as an alternative to a comma,

```
10 POKE53288,6:POKE53281,14:
   POKE646,1
20 PRINT"1520 NINE WORD-PRO
   OPTIONS"
30 PRINT"Q 01 00 COLUMN MODE"
40 PRINT"Q 11 00 COLUMN MODE"
50 PRINT"Q 21 20 COLUMN MODE"
60 PRINT"Q 31 10 COLUMN MODE"
70 GET#A:IF#A=" "THEN#D
80 IF#A>"3"THEN#D
90 C=VAL#A#3
100 IFCH=1THENCH=8:RETURN
110 PRINT"1 CASE OPTIONS"
120 PRINT"Q 01 UPPER CASE"
130 PRINT"Q 11 LOWER CASE"
140 GET#A:IF#A=" "THEN#D
150 IF#A>"1"THEN#D
160 L=VAL#A#3
170 PRINT"1 COLOUR OPTIONS"
180 PRINT"Q 01 BLACK"
190 PRINT"Q 11 BLUE"
200 PRINT"Q 21 GREEN"
210 PRINT"Q 31 RED"
210 GET#A:IF#A=" "THEN#D
220 IF#A>"3"THEN#D
230 C=VAL#A#3
240 PRINT#2,CO:PRINT#3,C:PRINT#6,L
250 INPUT#5,IS
340 IFIS="END"THENCLOSE2:CLOSE3:CLOSE4:
   CLOSE5:CLOSE6:END
350 IF#A="COL"THENCH=1:GOSUB100:PRINT#2,
   C:GOTO330
360 IF#A="COL"THENCH=1:GOSUB100:PRINT#2,
   CO:GOTO330
370 PRINT#4,IS
380 PRINT:GOTO330
400 REM * WORD-PRO DOES NOT ACCEPT *
410 REM * COMMAS, QUOTES AND COLONS *
420 REM * USE CBR-D, CBR-I & SFT-# *
430 REM * RESPECTIVELY. *

```

THE BAYMUSE program published in the February issue was from Graham Pullen of Southwick, Sussex. Sorry we neglected to credit you, Graham.

The Software File is always looking for good listings for the VIC 20, C16, Plus4, 64 and 128. We pay £20 for short listings, more if the program is worth writing up as a longer

article. Read the conditions below and send in your own programs — originals only, please — and we'll be sure to send you as soon as we can whether we want to print your program.

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## Use the monitor

I HAVE a C16, and am wondering if there is any way to stop the screen flashing during loading. I would like to be able to produce a loading screen, and also play music while loading. Also, how do you program multicolour UDG's?  
 Michael Chambers  
 York

**THE FULL** answers to your questions are too complex to give in great detail. You will need to learn to use the built-in machine code monitor, so get hold of some general C16 programming books, and something on machine code. In general terms, you should copy the relevant cassette loading routine into RAM using the monitor and the Transfer Memory command. The screen flash can then be eliminated from the code using a JMP, then your program can be loaded or saved using the integrated routine, with a final jump to the normal routine at the end of the cassette load routine.

To use music while loading, the music routine is parked into the system via the interrupt, using an assembled CHRGCT routine, and returned to normal after cassette use.

Multicolour UDG's use a lot of system memory, but if you want to find out more get *The Working Commodore C16* by David Lawrence, published by Newbit Books at £6.95. The advantages and disadvantages of multicolour mode are dealt with on page 41, but bear in mind that once you have combined this with your own UDG's this will be very little memory left for the rest of the program.

## Out of quotes

WHEN A quotation mark is printed on the screen using the M, the machine goes

into "quote mode", and cursor controls and other control symbols print as reverse-field graphics. But sometimes I want to print a quote mark from inside a program, yet I want to avoid going into quote mode. Is there any way this can be done?  
 J Karas  
 Plymouth  
 Devon

WHEN A quotation mark is printed to the screen, the value of memory location 112 (on both the 64 and the 128) is changed to 1 from the normal 0, and the machine goes into quote mode. To prevent this happening, all you have to do is use **POKE 112,0**.

## Collision course

I AM writing to ask how to detect collision between characters. I have a 64 and a Vc 20 - does a simple PEEK exist for other machines?  
 M Grant  
 Redwood  
 Warrs

**THIS FACILITY** exists on the 64 when using sprites - a sprite to sprite collision can be detected by reading the value in location 5279. The value obtained by PEEKing this location will tell you which sprites have collided, while sprite/data collision is detected by PEEKing 5278.

The Vc does not have sprites, so we would have to write a routine along the following lines; suppose we are dealing with single characters such as \* and +.

The movement routine, whether from keyboard or joystick, will give a location for the + to move to. The location is PEEKed to see if it is occupied by a \*, and if so then we have a collision. If the character is a shape consisting of several single characters, then you would have to check whether the boundary characters have collided. Of course, this sort of game would be better programmed in machine code!

## Bulletin boards

I HAVE just finished writing a bulletin board program for the 64. The board runs on 800 baud, and has many facilities such as electronic mail and downloading using the MCODEM protocol. But there is one problem, loading a sequential file from disk. I discovered that when I open the RS232 (page 173 part) the speed at which the disk loads the file drops drastically. The way I load files is similar to this subprogram:

```
10 OPEN 1,1,1,chr$(65) +
  chr$(66): REM open file 1,
  800 baud 8 bit, no parity
20 OPEN 1,1,"FILE" :
  REM open file 1 to disk drive
30 GET #1, A$: REM get
  letter from disk
40 PRINT #1, A$:
  PRINTAS: REM send
  letter to disk and modem
50 GOTO 30
```

I could use an input instead of a get in line 30, but this won't print all the characters.

Would you tell me if it is possible to open an RS232 channel on 800 baud and keep my disk drive working the normal speed?  
 N Goble  
 Aberdeen

**YOUR PROBLEM** is due to the way that the RS232 port operates, especially when mixing RS232 input/output with IEEE input/output (serial IEEE). The port is driven by a non-maskable interrupt, and thus will not wait for IEEE disk routines because IEEE has absolute priority on the system.

This is why the disk access is drastically slowed during your program. The solution is to GET as much data as possible into memory first, and then send it to the modem all at once. Repeat the process until the loading has terminated successfully.

Incidentally, don't attempt to clear the RS232 channel until all data has been transferred and the buffers are empty, otherwise the driver won't work properly.

You can avoid this with before closing an only these are lost to such a case.

## RGB and the C2N

I RECENTLY bought a monitor style TV which has an RGB input facility. Is there any way of converting the composite output of the 64 to RGB, or of receiving the video signal inside the machine before it becomes a composite signal?

My other question concerns a fault on the machine, after inadvertently connecting the C2N with the play button depressed, whenever a load or save is attempted the system goes straight into the monitor without giving any screen message, as if the play button were already depressed. This did not cause any problems until recently, when I bought a piece of software which will not run unless the STOP button is pressed. Is there a software means of 'overcoming' the fault, or can you suggest how it might be repaired?  
 N Robinson  
 Falkland  
 Islands

**SO FAR** as the monitor is concerned, RGB is not produced in the 64's video chip, and there is no way of converting the signal to RGB. Also, since the signal is changed to composite within the integrated circuit, there is no way to access it at that point. You will just have to give up on that one!

On the cassette deck, it sounds as if you have damaged the processor which deals with sending the position of the cassette deck buttons, by short circuiting the pins while connecting the deck lead. This should serve as a reminder to members of the dangers of connecting any peripheral with the power is switched on! You will need to have your 64 serviced, either by a local dealer or by Commodore. Contact Commodore on 0876-365555 for an estimate of the cost of replacing the IC.

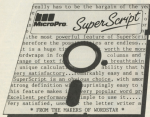








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Now you can play most of your favourite 64 games with an unfair advantage. The Game Killer, a cartridge which simply plugs into your 64 before you switch on, disables the sprite collision routines on which most arcade games rely. Imagine playing your favourites (MUNDO to the horns and missiles of the enemy — able to WALK THROUGH WALLS, or to IGNORE deadly obstacles! You can now see what happens at every level of a game without needing the skill or patience to play all the way through it — then switch on the Game Killer since you've reached the level you require, and play the game normally.

By experimenting with the Game Killer you should be able to gain an unfair advantage on most arcade games — though remember that not all rely on sprite collision routines!

The Game Killer will cost £14.99 in the shops, but we have TEN to give away in our easy-to-enter contest.

All you have to do is tell us WHAT game you would like to "kill", and why. The two funniest entries will win the Game Killer cartridges. Send your entry on a POSTCARD, to the back of a sealed envelope, to Game Killer, Commodore Horizons, 12/13 Little Newport Street, London WC2H 7PP, to arrive by the last working day of March. Winners will be announced in the May issue, and all normal competition rules apply. ■

The Game Killer has three functions:

- By pressing the button you can disable ALL sprite collisions.
- By pressing the button while holding down the CBM key you can disable only sprite to sprite collisions.
- By pressing the button while holding down the CTRL key you can disable sprite to background collisions.

You can then turn on the collision routines again by pressing the cartridge button a second time.

### PREVIOUS WINNERS

THE FIFTY winners of the English Software Topper the Copper contest have now been selected. If you've won you will have received your prize by now — if not, thanks for entering — some of the Sherlock Holmes captions were hilarious. Sorry we don't have space to publish the whole list.

The winners of the Activision Little Computer People contest are: J Hill, Woodford Green; P Rogers, Ashurst; B Lind, Harpenden; B Mason, Hove; B Dolce, Manchester; S Jenkins, Liswell; S Wood, Wombourne; J Crosswell, Hagen; P Phillips, Plymouth; C Fidler, Tansworth; G Lock, Kirby; C Hobson, Liverpool; J A Quintain, Norwich; R C Stambury, Pinner; B Harcourt, Haydon; S Sedgewick, Reauxton.

M Bradshaw, Ealing; S White, Dooton; A Ward, Halesowen; C W Hawkins, Bicester. The most popular people you wanted to be inside your computer were gorgeous posing Samantha Fox, for a variety of incomes reasons with which The Editor fully agrees, and poor old Clive Sinclair.

The two winners of Robtek's Turbo 50 cartridges in our wordsearch contest are: B Allen, Pring, & Doynt, Post Talbot; D W Day, Woodford Green; R A Channon, Whittonbury; I Hall, Woodford Green; C Chase, Barnham; S Street, Sutton Coldfield; A Barrett, Horsey; J A Thomas, Tolford; and T Roche, Poole. Congratulations to the winners and to the losers, you can still try this month's contest to win a Robtek Game Killer!

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- 3. The net movement on each account to supply input of the year.

- 4. VAT file codes and all general ledger figures, which are automatically printed and maintained by the program. This can also be used for the VAT ACCOUNTS program. The VAT P.L.I. when incorporated into the program is designed primarily for those users on the business system VAT system.

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  - VAT input/output facility which provides details of all the transactions entered into the system run of the program.

- 4. Facility to correct register management information such as cash balance, debit and credit entries, errors, transfers, etc.

5. Program includes with the program a ACCUMULATED program to enable trading profit and loss statements and balance sheet information to be generated.

- 6. Comprehensive account making is included together with comprehensive subprograms which may be integrated in.

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