ISSUE 31 • APRIL 1990 • £1.60

ACE

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CPC ■ SPECTRUM ■ PC
■ NINTENDO ■ SEGA ■

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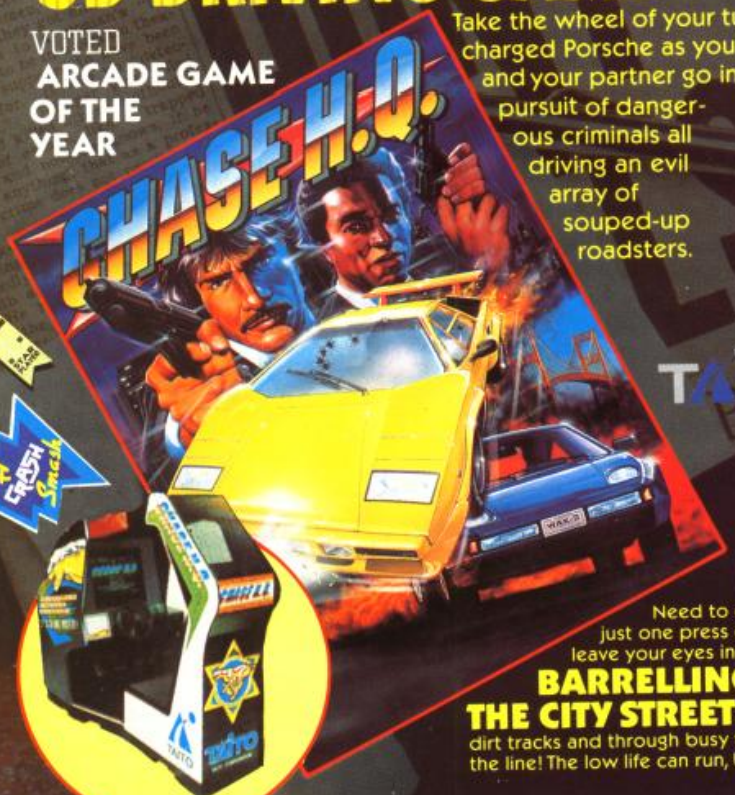

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as you re-live the knife edge existence of Ness in his struggle against the retribution of Capone!

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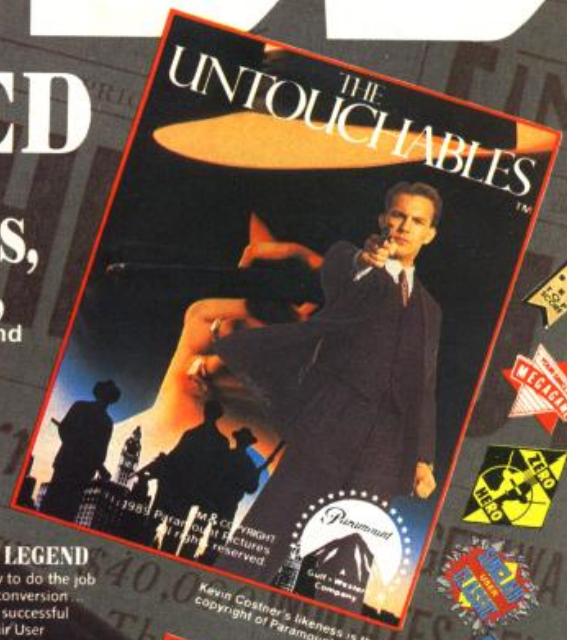
"a fine example of how to do the job properly ... a cracking conversion ... easily one of the most successful licences to date" Sinclair User



Kevin Costner's likeness is the copyright of Paramount Pictures

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SPECIALS

CITIZEN U.S.A. **19**
ACE **takes off at dawn** and returns with an exclusive report on computing USA. The trip starts here, with **foot-long meatballs** and a couple of **software gurus** who've invented a **hyperspace engine**.

ULTIMATE ULTIMA **23**
No doubt about it, *Ultima VI* is shaping up to be the game of the year. We flew to Austin, Texas for an **exclusive preview**...

WHEN IN ROME **29**
After the earthquake: just outside Francisco, Electronic Arts are preparing to **shake the world** with *Centurion* – a Roman simulation and strategy title from the designer of *Defender of the Crown*.

FASTER THAN LIGHT **33**
....Or **FTL** for short. Now's your chance to travel to San Diego and meet the people who created *Dungeon Master* and *Oids*.

ON SKYWALKER RANCH **37**
Our fearless correspondent braves rabid skunks, man-eating racoons, and a private security army to enter Lucasfilm's **creative paradise** and confront the creators of *Loom*, *Maniac Mansion*, and *Indiana Jones*.

ONTO THE SILVER SCREEN .. **41**
They didn't **come from the Desert**: they came from Cinemaware's state-of-the-art CD development system.

THAT'S HANDY! **99**
Hand-held consoles are **sweeping America**. John Cook reports.

D-I-Y STUDIO **105**
Who's in the powerhouse?? Check out MIDI widgets that can make really **bad** sounds out of **raw data.**

BITMAP BLARNEY **86**
Your chance to get a **personal invitation** to the ACE Conferences and meet some of the **big names** in the business in person.

POWER TO THE PEOPLE! **11**
Fill in the form on this page and change history: by nominating your favourite games for the the prestigious **Golden Joystick** awards. And win **£150 worth of software** into the bargain!

THE *ACE* TREATMENT

This month's games range from the simple but addictive (*Pipedream*) to the awesomely complex (*Knights of Legend*). Every one gets the rigorous ACE treatment...

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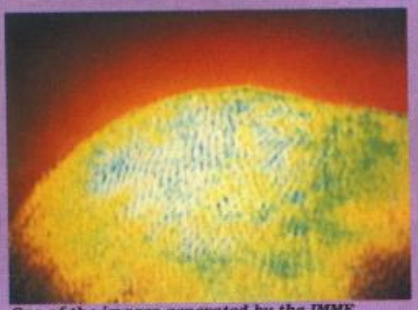
SILICON UNIVERSE

On page 21 you can meet two computer beachboys who've devised one of the most fiendish machines ever – a multi-media engine that can scan and respond to events within a room, manipulating data to fill the space with mesmerising lights and sound. We hope to have a demo at the Computer Entertainment Show in September. Don't miss it!

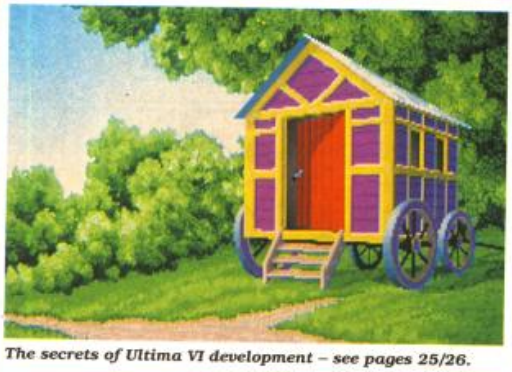


One of the images generated by the IMME machine: read all about it on page 21.

WIN AN

JAM TODAY!

Well, almost...Certainly this could be the most exciting year or computer gamesplayers since the launch of the Spectrum – and every bit as significant. Just as went to press, reliable sources reported that Commodore's 'CD-ROM' Amiga is in fact a CD-ROM console. At the same time, NEC were reported to be seriously considering launching the PC Engine in the UK. The enormous boost that these machines will give to the development of CD-based games in the UK could change games-playing history. In America, almost every company is busy developing games either for the FM Towns CD-ROM super-machine, or for the PC Engine + CD-ROM drive. They know that in three years time CD will be THE storage medium for entertainment software, offering not only huge storage and full-motion video, but also the possibility of truly interactive video using CD-I technology. By writing CD software now, these companies are developing vital expertise for the future. Up until now, there has been a danger that the UK would get left behind in this race, but if Commdoore do release a CD unit here, everything could change. Our dreams about CD-based games could become reality much sooner than we think... ACE celebrates next month with a special free gift giving complete details on CD games and machines. Don't miss it!



The secrets of Ultima VI development – see pages 25/26.

GAMEPLAY

SCREENTEST **37**
What a month! *Player Manager* chases *Kick Off* up the field; *Gravity*'s a **startlingly original** game from Imageworks; *Pipemania*, a **startlingly unoriginal** but awesomely addictive game from Entertainment International.

BRAVE NEW WORLDS **88**
Four glorious pages for adventurers and followers of the not-so-straight-and-narrow path. Pat Winstanley checks out the latest fantasy releases and offers some hints and tips for harassed explorers.

TRICKS AND TACTICS **93**
No less than **five pages of megatips** for today's top games. Remember, when the going gets tough, the tough **cheat.**

What goes up must come down in **Gravity.**

REGULARS

ACE NEWS **102**
SNK launch an astonishing games console that boasts **40Mbyte game cartridges**; Sony launch Data Discman – CD-ROM in the **palm of your hand**; Amstrad launching **new CPC games machines**; Titus move into CD-I...all the latest from the ACE news team.

MIGHTY MISSIVES **14**
Only two pages of letters this month, to make space for our US features...but you made **every column inch count.**

FREE ISSUE! **84**
Take out a subscription and wake up once a month to your own copy of ACE – and **save money** into the bargain.

IN THE PINK **107**
This month's Pinks feature the return of the ACE Hardware Upgrade Guide: **everything** you ever wanted to know about the machines most likely to make your **dreams come true**.

WIN! WIN! WIN!

GO TO TOWNS! **44**
Yes, **it's true**. there's a card on the front of this issue that could you win you the world's **most desirable, most exclusive CD-ROM games computer**. Find out more inside – and be the first to join the CD games revolution!

FM TOWNS

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AND STRATEGY IN THE DRAGON

The first fantasy role-playing epic set in the legendary game world of Krynn.

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In the mystical world of Krynn, eight brave companions face Draconian monsters, skeletal undead, magic and the ancient dragon Khisanth in seeking the precious disks of Mishakal.

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Takhisis, Queen of Darkness, and her Draconian hordes overrun much of the homeland of Krynn. Even the elven armies of Qualinost, valiant in their resistance of this evil power, struggle on the edge of defeat. Heroes of the Lance come forward ... or Krynn will forever be consumer by evil!

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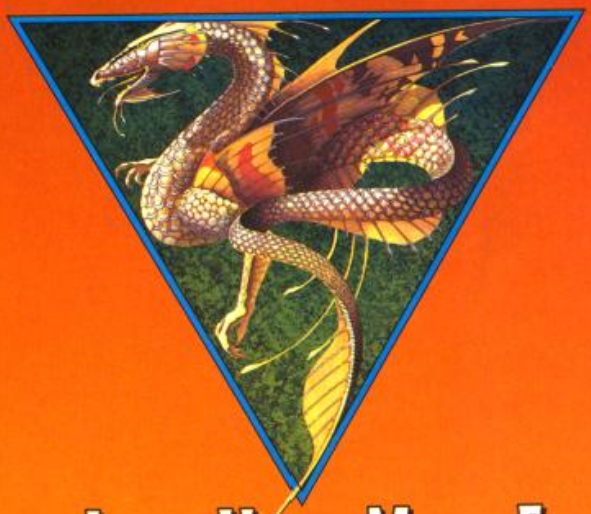
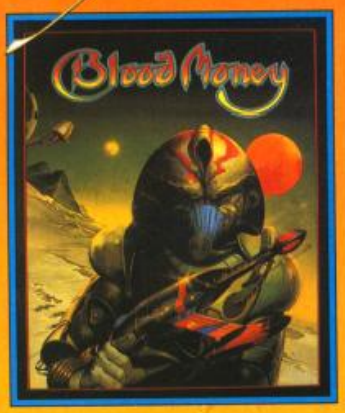


V O L U M E · 3



Speedball - total action - total aggression - the ultimate sport from the Bitmap Brothers.

Computer Gamesweek - 94%
"Speedball is fast, furious and graphically very stylish"

The One - 90%
"Never in the field of reviewing has such an excellent game been played by so many for so long. A must buy!"

C&VG Hit -
"Speedball is going to be a monster hit"

ST/Amiga Format Gold Disk Award! - 90%
"This game is so visually brilliant and possesses those classic addictive qualities that once you've picked up your joystick you just won't want to put it back down again".

C + VG Hit!
"If you're into missiles, bombs and explosions in large, classy quantities, Blood Money is a game you should try and buy without delay".

ZZAP - 94%
"Save every penny you can get your hands on and acquire Rocket Ranger".

Amiga Format - 90%
"Those who like a good puzzle and a bit of strategy will find Rocket Ranger compulsive".

Ace Rating - 814
"Superb graphics with arcade action and strategy - probably the best Cinemaware game yet".

New Computer Express
"Break out a spare can of Buddy and pop up your PC for this one".

image works

The BITMAP BROTHERS

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AMIGA/ATARI ST/PC £29.99

ACE NEWS

CD-ROM 'BOOK' ANNOUNCED, FIRST CDI GAME, NEW AMSTRAD CPC

PORTABLE POWER FROM SONY

Special thanks to Masato Niizeki and ASCII Corporation for their assistance

Sony has unveiled a prototype portable CD-ROM 'electronic book', a 500-gram palm-sized unit with built-in LCD used to display text stored on a normal audio Compact Disc. Data Discman had its public debut at a future technologies exhibition in Tokyo last month. Although no price or availability details are currently available, Data Discman will be used to electronically manipulate vast amounts of text data – such as encyclopaedias, telephone directories or even the Bible. It's also expected to double as an audio CD player.

The Data Discman technologies currently being developed could eventually lead to a portable CDI multi-media unit – capable of handling audio, video and computer graphics & text. Sony is hoping to create a standard for these 'electronic book' technologies by announcing the Data Discman so early in its development. Expect to see a full feature consumer version of the Data Discman in your local store within the next two to three years.

Meanwhile, Sony has also announced a revolutionary new portable computer. The Palm Top has a 68000 processor, 2Mb RAM, and an innovative 'keyboard-free concept' free hand system which replaces the conventional keyboard and mouse. This system can even understand Japanese hand writing – including the complex Hiragana, Katakana and Kanji alphabets. The Palm Top is due for mass production this summer, with units on sale in Japan by Christmas. No price details are currently available.

NEW WORLD CONSOLE LAUNCHED

SNK, the Japanese arcade manufacturer responsible for the block-busting *Ikari Warriors* coin-op, is developing a new 16-bit console which promises to be the hottest deck this side of a cyberspace CDI unit.

The NEO-GEO (New World) console is powered by a 68000 main-processor and Z80 support-processor. It can handle games cartridges with an astounding maximum storage capacity of 330-megabits – that compares to the humble four-megabit (512K) game carts found on Sega's 16-bit Megadrive console. NEO-GEO also uses IC technology (see **TECHNO-rACE** on page 11 for further details) to store player information like game hi-scores. This coupled with advanced graphics and sound hardware will effectively give the NEO-GEO the power of an arcade machine in your own home – the gameplayers ultimate dream machine. Industry rumours even suggest that NEO-GEO will come as both a home-based and coin-operated video games system.

The console will be launched in Japan at the end of the month, priced around £290. SNK will initially release six 40-megabit games carts, priced at a staggering £130 each. This makes NEO-GEO carts the most expensive home video games ever released. Interestingly SNK doesn't see this as a problem and is predicting Japanese sales of 300000 NEO-GEO consoles and 1.2 million game cartridges by early '91.

Details of the forthcoming NEO-GEO game titles and exact specifications of the console were not available as ACE went to press – SNK in Japan told us: "We're not ready to provide you with the information required. You will hear from us sometime around late spring". Look out for further NEO-GEO information in future issues of ACE...

ADVANCED CPC OUT IN SEPTEMBER

Amstrad is due to launch three new games machines – including a console – based around its popular CPC micro later in September. The console is expected to sell for around £100.

The advanced CPC's exact specifications and price details are unknown at present – no-one will officially confirm these new machines – but their existence has been revealed to ACE in off the record conversations with various software developers. Amstrad itself was unavailable for comment as ACE went to press.

The CPC464 Plus, CPC6128 Plus and CPC console will replace the versions of the CPC currently on sale. These technically improved models should contain a faster main processor, hardware support for graphics – including sprites and hardware-scrolling, increased colour palette and six-channel stereo audio.

The CPC Plus machines will be compatible with all existing CPC software – they'll also use cartridge-based games software. These carts will have a storage capacity of two-megabits (256K), priced in the region of £20-£30. Several titles are currently being developed, and a selection of CPC games cartridges should be simultaneously released with the machines in September.

TITUS PRODUCES CDI GAME

Although no Philips/Sony CDI player will be commercially available before '91, Titus – the French games developer that wrote *Crazy Cars* – has produced one of the first games for this new multi-media device.

Titan, an arcade puzzle game, was first released on all major micro formats last year. The CDI version was started last summer and took four months to develop using the original Macintosh game source-code as a basic foundation. The CDI version includes audio-visual enhancements over its micro cousins and a new intro sequence. You even have the choice of CD-quality classical or rock soundtracks during play.

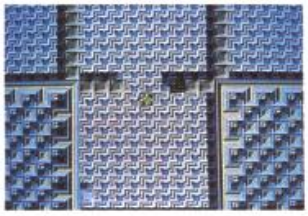
The game cost a hefty £250000 to develop – Titus used Interactive Support Group's (ISG) $30000 Macintosh-based CDI Workstation. In fact, Titus exclusively distributes the ISG CDI emulator in Japan. Its only rival system is Vax-based and costs over $100000. Eric Caen, Director of Development at Titus told ACE, "Many see the ISG product as the perfect CDI emulator". Japanese companies like Panasonic, Technics and Toshiba may use the ISG system to develop their CDI products in the near future.

Titus has also produced a version of *Titan* for Fujitsu's FM Towns 32-bit CD-ROM computer (for further FM Towns information – and a chance to win a machine – turn to page 44) which sells for around £40 in Japanese stores.

On CD-based interactive entertainment, Caen laments: "it's important to be first. This is the market for the future. There are currently no games designers or engineers in this field. Small companies will find it hard to fund the huge development costs".

Now Titus has started work on a new CD game project which will take about 15-18 months to develop. The as yet unnamed game will be written for most CD decks including FM Towns, PC Engine, and the forthcoming CDI

Light and Magic – who both produce computer graphic images and special effects for movies and television. The hires graphics will be rendered on a Cray mainframe system and transferred to micro format or recorded straight onto CDV (Compact Disc Video) in the CDI version. Caen enthuses, "it will be one of the most exciting games on CD..."



MIDI MUSIC SHOW

Eager MIDI musicians should check out The MIDI Music Show at London's Novotel in Hammersmith on 7th and 8th April. The exhibition will include over 60 companies showing off the latest MIDI hard and soft wares from the UK, Europe and USA. There will also be special seminars, demonstrations and conferences covering such subjects as sampling, creative editing and sequencing. For further details contact the show's organisers, Westminster Exhibitions, on 01 549 3444.

FLY A DRAGON

SSI, the leading American strategy software developer, is releasing the world's first Dragon flight simulator next month. *Dragon Strike* is being distributed over here by US Gold. Good old USG isn't saying that much about the game yet, except that it's another SSI's *Advanced Dungeons & Dragons* (AD&D) release, giving you the viewpoint of sitting on the back of a Dragon. Like other SSI products, *Dragon Strike* will be released on PC first – closely followed by C64 – with an Amiga version due later in September.

SSI is also working on another TSR-licensed product. *Buck Rogers the 25th Century* role-playing game is due out on PC and C64 this Christmas and uses the same game structure as *Pool of Radiance*. An Amiga version is scheduled for release in early '91. Unfortunately there are currently no plans for an ST version, although *Pool of Radiance* may eventually come out on the ST sometime this summer.

Dragon Strike: the world's first Dragon flight-sim

interfACE AMERICA

ATP flight-sim from Sublogic

- Konami, a major Japanese coin-op manufacturer and official Nintendo licensee, has enlisted the help of a real-life mum to promote video games. Charlyne Robinson, a mother of two Nintendo gamesters and holder of a Master's Degree in educational psychology, is touring America on behalf of Konami, offering video game advice to parents worried about the type of games their kids are playing and the amount of time they spend playing video games.
- Meldac is releasing a Gameboy game featuring 'powerful person-eating aliens in the feudal Japanese city of Heiankyo'. *Heiankyo Alien* is due out in May.
- In the ever growing range of Nintendo-licensed products and entertainments, lucky American's can go and see the 'Super Mario Bros. on Ice' ice-skating extravaganza.
- FCI has launched *Heroes of the Lance* AD&D RPG for the Nintendo NES.
- Sublogic's *ATP* (Airline Transport Pilot) lets you fly a Boeing 737, 747, 767, or Airbus A300 jet airliner. *Flight Simulator: ATP* includes over 350 US cities with service to 25 major city airports, automatic weather generation, Air Traffic Control feedback and six types of airborne traffic. The PC version costs $49.95.
- Ocean's classic C64 shoot'em-up, *Wizball*, is due to be released on the Nintendo NES.

TITAN CDI TECHNOIR

Titan on CDI was developed entirely on a ISG Macintosh CDI workstation in four months. It was written using a Macintosh IIcx under MPW support with 600Mb hard-disk, and test run on Macintosh JNMS SCSI connections for quick load on Philips JNMS. CDI *Titan's* game code is less than 100K, plus 5Mb of graphics and a massive 120Mb of sound data. The flying ship in the intro sequence was designed using several 3D graphics packages on a Macintosh IIcx. *Studio/8* files were converted to DYUV and CLUT formats. The music tracks were composed on a W.30 Roland keyboard and digitised on a Macintosh IIcx using the *Digidesign* board. The mixing of the sound was done using *Sound Designer*. PCM data was converted to ADPCM on Macintosh IIcx. The sound in the game is Level B stereo. The game's compact disc was compiled and emulated on Macintosh IIcx using the ISG CDI board and *Disc Builder* software. All the tools used were developed by ISG and are based on either original or green book algorithms. You can use both the CDI remote control or mouse for game-control, and the game is compatible with any 625-line monitor and runs on current versions of the Philips JNMS player. The project director was Regis Bridon with software by Lee Chidgey, CDI emulation software by Jim Bumgardner and CDI hardware board by Vincent Le Chevalier.

ARE YOU A EUROPEAN SOFTWARE DEVELOPER?

ACE will be featuring an article on European Advanced Computer Entertainment in a future issue of the magazine. We want to contact West and East European software developers – games designers, programmers, graphics artists, musicians and software companies. If you wish to be included in the article then write (including your details) to: **ACE EUROPE, Priory Court, 30-32 Farringdon Lane, London EC1R 3AU.** Alternatively fax us on **01 490 0991**.

THE PRESENCE OF THE FUTURE

The next time you walk down the Champselyseé in Paris check out a sci-fi store called Dune: The Presence of the Future. Among the cordless telephones, Rock 'n' Flowers and Sony Discmen you can pick up a electro-stun gun able to pump out 48000 volts, and surveillance and counter-surveillance equipment for industrial espionage!

ACE APRIL BYGONES

1982
Atari Games' *Battlezone* vector-graphics coin-op hits UK arcades.
1983
Milton Bradley brings out the Vectrex video games console complete with its own vector-display monitor.
1984
Amstrad enters into micro market with the CPC464.
1985
EMAP-owned software company, Beyond, claims *Shadowfire* is the first icon-driven adventure to be released.
1986
Amstrad buys the worldwide manufacturing, marketing and brand-name rights to all Sinclair computer products for £5 million.
1987
System Three finally releases *The Last Ninja* some two years after first announcing the game.
1988
ACE exclusively reveals the first transputer game.
1989
ACE exclusively interviews Alex Blok about his Bit Bopper multi-media audio-visual entertainments deck.

MIGHTIER THAN THE SWORD!

Yup, that's the power of your pen. By making a few marks on the form below (a photocopy or postcard will do just as well), you can cast software houses, programmers, game designers, and graphics designers into deepest hell – or raise them up to the pinnacles of glory. We're talking, of course, about the annual Golden Joystick awards – in which we (along with our sister magazines C&VG, The One, Sinclair User, and Commodore User) dig into our pockets and reward deserving chaps and chappesses with medals of value and distinction. But we can only do it if you let us know who you think deserves to win...and what. Pay particular attention to the simulation category (8-bit AND 16-bit) since that is the award that ACE will be specifically presenting. Make sure you get your votes off to us ASAP, and by March 28th at the very latest. As an incentive, the first form out of the pack will receive £100 of free software for their machine and an ACE T-shirt.

BEST COIN-OP CONVERSION .....

BEST NON COIN-OP LICENSE .....
(EG. FILM, CHARACTER, TV)

BEST 8-BIT SIMULATION .....

BEST 16-BIT SIMULATION .....

BEST ORIGINAL GAME .....

PROGRAMMER OF THE YEAR .....

SOFTWARE HOUSE OF THE YEAR .....

GAME OF THE YEAR .....

NAME.....
ADDRESS.....
.....
.....
COMPUTER.....

NEW ON NINTENDO

• In a shock admission, chart-topping pop group and teenybopper heartthrobs, Bros have owned up to playing Nintendo games. So the next time you go to a Bros. concert look out for Matt Goss playing with his Gameboy!

A whole new meaning to Super Mario Bros...

• In fact, Nintendo gamesters include a Who's Who of Hollywood stars: Tom Cruise, Robin Williams, Tom Hanks, Michael J Fox, Kurt Russell, Jeff Goldblum, Goldie Hawn, Matthew Broderick, Whoopi Goldberg, Don Johnson, Robin Givens (Tyson's ex), Henry Winkler ('hey' remember the Fonz?) and Bruce Willis.

• Unfortunately for mobile UK gameplayers, Nintendo isn't officially releasing the eagerly-awaited Gameboy handheld console in this country before September.

• 91% of all children in the Granada region watched the Nintendo TV commercials an average of 6.6 times over the pre-Christmas period.

• Quickshot is selling a sighting scope add-on for the Nintendo NES Zapper gun. The deluxe sighting scope has an extra large eyepiece for fast, accurate aiming and a precision range adjustment.

• Do you need some tips on your latest Nintendo NES game? Then give the Nintendo Helpline a call on 0626 65500. They'll be able to give you advice on all games officially released in the UK. The Helpine is open on weekdays from 3pm to 9pm (closed on Wednesday and Sunday), and from 9am to 5pm on Saturday.

This Quickshot Sighting Scope can help blow your head clean off – do you feel lucky punk?

TOYS 'R' ACE

At the recent British International Toy & Hobby Fair at Earls Court some 500 exhibitors showcased their toy and hobby products for Christmas '90...

WOOOPERS
from Tonka

"Just arrived from outer space! Soft and silky, adorable and appealing aliens who love talking to little children in their funny, happy 'wooopy alien language'. These innovative and imaginative voice operated 'space visitors' produce delightful random chirps, chatterings, whoops and whistles in response to human voices. Young children will find Wooopers simply out of this world. 'Swhooop' down to your local toy shop and befriend one of these little critters today."

COUCH POTATOES
from Potato Creations

"They took America by storm! Now they're set to invade Britain! You are going to see them everywhere – anywhere there's a TV set! You're going to hear about them from the most unlikely people! Couch Potatoes need special care! Never feed them quiche! Always make sure they're seated upright for their favourite programmes. Only talk to them during commercial breaks."

COMPUTRAIN
from Battat

"The smart train of the future is here for play! Computrain combines the sophistication of up-to-the-minute technology with the simplicity of child's play. Easily assembled and operated, Computrain is a battery-operated train with a computerised control car. Using simple bar-code tiles that easily attach to the track, the child is able to program Computrain's direction, sounds and lights. Computrain responds instantly to the commands the child programs into the track, giving immediate feedback. Fun to plan, program and play, Computrain is tomorrow's toy – today!"

HITMAN
from Matchbox Toys

"Get hip with Hitman! Nothing amuses children more than weird, unexpected and sometimes vulgar noises! With the new Hitman from Universal Matchbox, children can deliver all kinds of crazy sounds simply by pushing a button. For Hitman presents a breakthrough in electronic sound chips which makes the reproduction of noises sound amazingly real – be it a burp or a snore! Compact-sized Hitman fits neatly into most pockets so it's well-hidden and children can carry it with them ready to deliver their surprise noises – creating a few laughs, or even raised eyebrows! Hitman comes in three versions: Outrageous Hitman which makes six humours sounds such as a burp or a snore. Spooky Hitman – ghoulish noises to try to scare brothers, sisters and friends. And Movie Sound Effects – which with its screeching tyres and other action sounds mean endless amusement! Hip Hop eat your heart out – Hitman is here!"

DEENIE DINO AND DUDLEY DUCK
from Bondwell

"Deenie Dino and Dudley Duck, Quickshot's new radio controlled toys, move forward, left and right at the touch of one of three respective arrow-shaped buttons on the remote control unit. When speaking into the microphone of the unit, both toys transmit the speaker's voice within a range of 20 feet. Each toy also features a synchronised sound effect, built-in receiver and amplifier, and three interchangeable eyes that give both Deenie and Dudley three distinct expressions."

TECHNO-rACE

"The first affordable cyberspace technology will be user-interface units – from people like Nintendo – for more intense video games."
William Gibson, award-winning cyberpunk author

Hughes Aircraft is licensing its IC (integrated circuit) sound system – capable of reproducing the original ambience and dynamic range of a music studio or live performance – to several electronics manufacturers. The system accomplishes this by recording and playing-back spatial sound – giving the listener a more realistic sound sensation. The Sound Retrieval System is already in use in a new range of Sony televisions, and is likely to be incorporated into other electrical products, including games consoles and computers, in the near future.

JVC is working on a CD video system able to record a full-length movie on just two 12" disks. This is achieved by converting the analogue video signal into compressed digital code. The clever part of the system is the way it uses a computer to analyse the original video image and record only the changes that occur to that picture once every six frames – the system retains one 'key' frame and sends only image change data to the other five frames. This new JVC product enters the ever growing number of competing CD systems – including JVC's rival Sony/Philips' CDI and IBM/Intel's DVI systems. Perhaps it is a significant factor that JVC's parent company, Matsushita, recently bought an Edinburgh-based company that specialises in hypertext – a software technology needed in the next generation of interactive CD products.

Iterated Systems has invented a Video Modem that can transmit still and moving video pictures over ordinary telephone-lines. Iterated's current system uses applied fractal geometry to compress and transmit digitally-coded images, with an 8-bit colour or grey-scale palette and resolution of 256x256, at a rate of 30 frames per second. Once the images have been transmitted they can be reconstructed to any resolution.

Toshiba and Fuji have jointly-developed a digital still video camera using Toshiba's IC memory card technology. IC cards are a new credit card-sized storage medium powered by their own battery supply, thus they can be plugged in and out of a computer while retaining their data intact for a matter of months rather than milliseconds. The IC Memory Card camera cards each contain 18 one-megabit chips capable of storing two million characters at a resolution of 400 horizontal lines – that translates into 12 digitally-coded still video pictures per card. Once captured, these images can be transferred to computer or digital tape – an ordinary 120 minute audio tape could store over 1000 pictures. Toshiba and Fuji eventually hope to develop a system capable of storing over 50 pictures on a single slice of plastic.

Philips' Megane concept car includes many of the features expected to be incorporated in the average family car of the 21st C: rear windscreen replaced by dual back-pointing video cameras, Atlas navigation aid including details of local hotels and tourist attractions, car manual on ROM, built-in colour LCD screen with remote control TV, VHS video and CD player, and the obligatory stick-on Garfield toy.

Matsushita has launched a new audio-visual entertainments system for the home. Capable of cinema-quality picture and sounds, The Panasonic Home Theatre utilises both enhanced definition processing and digital compression technologies on a wide-screen, digital scan converting, video system. The catch? The £22000 asking price!

NEW ! FROM ENCORE...

DRAGONS LAIR
Spec. Cass. 2.99
CBM 64 Cass. 2.99
Ams. Cass. 2.99

Release Date - 2nd April

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HOPPING MAD
Spec. Cass. 2.99
CBM 64 Cass. 2.99
Ams. Cass. 2.99

Release Date - 9th April

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OVERLANDER
Spec. Cass. 2.99
CBM 64 Cass. 2.99
Ams. Cass. 2.99

Release Date - 16th April

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ACE LETTERS

YOUR RIGHT TO REPLY...

HYPERCONFUSED

Reading your brilliant magazine one day as an avid reader (and Archimedes owner) I noticed that the hypergame *Psycho Killer* (ACE 30) was running on an Archie monitor – however, I couldn't quite tell whether it was actually running on one!

James Goodchild, Crigglestone, Wakefield

• *Sorry James, our Amiga monitor collapsed so we were forced to temporarily use the Archie monitor.*

SIERRA-ON-LINE HELP

I have decided to set up a hint service for most Sierra-On-Line adventures. I have completed *Leisure Suit Larry 1, 2 & 3, Police Quest 1 & 2, Space Quest 1 & 3*, and more. If you want hints write to me – this is, of course free, but please send an unused stamp in your envelope to cover postage. That's it for now, keep up the great work.

Lawrence Etchells, 22 Seton Terrace, Skelmorlie, Ayrshire, Scotland PA17 5AR.

GOLDEN OLDIES

I miss the 'golden oldies' such as *Jet Set Willy* and is there such a thing anymore as a simple shoot'em-up? *Xenon 2* is admittedly, brilliant, but I look back happily on the days when my best friend and I used to stay up all night playing *Zalaga* on his BBC. Come on you software houses let's see games like *Jet Set Willy, Spindizzy, Zalaga, Repton, Galaforce, Stryker's Run, Space Pilot*, etc on the ST!

John Haworth, Holly Walk, London

GOLDEN OLDIES 2

Please could you tell me where I could obtain decent versions of the cult arcade games: *Defender, Galaxians* and *Phoenix* on the C64. Now I'm a regular reader of *ACE* I must congratulate everyone involved for producing quite an outstanding publication.

DA Edge, Great Barr, Birmingham

• *Alligata had brilliant 'interpretations' of* Defender *and* Phoenix *called* Guardian *and* Eagle Empire, *and Kingsoft brought out* Galaxy, *a great version of* Galaga *– a souped-up* Galaxians. *Unfortunately, all these games are old (around 1983) and very hard to find, perhaps other readers could help...*

DOUBLE THE FUN!

THIS TIP WILL ENABLE READERS WHO OWN THE JAPANESE VERSION OF THE SEGA MEGADRIVE TO USE EITHER JAPANESE **OR AMERICAN** SOFTWARE! EFFECTIVELY DOUBLING THE AVAILABILITY OF SOFTWARE IN THIS COUNTRY.

I am the owner of a brand new Sega Megadrive, (Japanese model). As I am sure you know, this system is known as the Sega Genesis in the U.S.A. I ordered two games, and when they arrived they were marked 'Genesis system only', these games fitted into the cartridge slot but the machine would not switched on.

After examining the Japanese cartridges (these did work) against those that would not work I found that the difference was that the Japanese machine has a cartridge lock to stop the cartridge being withdrawn when the machine is on, the American machine (Genesis) does not!

So one cartridge (JAPANESE) has a slot cut in the left hand side of the cartridge about half way up to allow the lock to activate, and the Genesis does not.

REMEDY: Put both cartridges side by side and then, carefully, mark where the missing slot should be and slowly file a similar slot on the American/Genesis cartridge with the **thin side** of a woodworkers flat file. **Take your time** is the watchword here – you don't want to go into the side of the printed circuit board inside the cartridge!

You will find that if you have added the slot in the right place, and to the correct depth, the machine will now switch on AND WORK PERFECTLY!!!!

Chris Norris, Blackley, Manchester

• *We have printed this excellent tip because we believe it will be of much use to Megadrive owners. We must point out, however, that making any modification to equipment will invalidate your warrenty (on both the cartridge and the Megadrive). Please do not make these modifications unless you are absolutely sure of what you are doing. Any modifications you decide to undertake are made at your own risk. Have fun!*

SOFTWARE STEREOTYPING

I've read lots of letters in the past year or two about how sexism is killing the software market for women. I beg to differ! Sexism is not the correct term for the phenomenon which is causing so much dissent – it's really down to stereotyping.

I wander into a software retailer and, after purusing the available range, ask if 'game x' is available for 'machine y' – it has been reviewed but doesn't seem to be on the shelf. "Afraid not Madam," comes the response, "how old is your son? I'm sure I can find something else for him!" "I'm sure you can't," is my reply, "because my sons are only six and five and you have nothing suitable for them! I'm buying for myself!"

Am I alone in thinking that the vast range of software stocked by local retailers is intended for the adolescent boy, and that even they (the lads) become pretty fed up after a while with the lack of variety in the final gameplay of the titles pushed down their throats? Instead of the 'Women's Rights' campaigners complaining about the sex and violence which form the core of the gameplay of most software, why don't they complain to Mills & Boon who run a successful business dealing in this kind of material but are respected by a good proportion of women and men?

Let's have more originality of gameplay, not plot. Shoot/kick/blast 'em-up's are fine when you want to take your frustrations out on the world, but they soon become tedious as an unrelenting diet. I will believe stereotyping is dead when men stop being astonished because a woman is helping them out of their technical difficulties over the phone!

Pat Winstanley (Mrs), Wigan

• *Yes, you are probably correct in thinking that what is often seen as 'sexism' in the software industry does not really arise from any deliberately malicious exclusion of female interests, but merely lack of thought. No one has really bothered to sit down and consider that the ratio of male to female games players is being steadily evened out with each passing month. The other problem is, of course, that the majority of programmers, games designers, and graphic artists in the industry are male, but this to, is something that may well be cured in time.*

WHAT A BARGAIN

Either *ACE* is very kind or perhaps you just need to sharpen your maths. If you hadn't noticed, the price of *ACE* is now £1.60, so the subscription charge per annum should be £19.20 not £17.95 (ever considered buying a calculator?)

J Kershaw, Harrogate, N.Yorks

• *It just goes to prove what a bargain subscribing to* ACE *is: 13 issues of* ACE *for just £17.95 and exclusive offers like* ACE Conferences *preferential placement and the* InterfACE *quarterly newsletter.*

LEARNING LANGUAGES

I am a student at Swindon College, studying for a BTEC National Diploma in Computer Studies. I am learning Pascal at the moment

and wish to purchase an Atari ST compatible Pascal language translator and compiler like *Turbo Pascal 5*.

I would also be interested in purchasing the same in Cobol and C. Could you please tell me which are the best Cobol and C translators and compilers and where I could get them from.

Last of all I must congratulate you on your production of an excellent magazine with up-to-date information on the computer scene.

Mr. M. Brown, Swindon, Wilts.

• Unfortunately there is not room here to give a detailed break down of the qualities and features of individual compilers. However, we suggest that you try either Hisoft (0525) 718181 or Prospero Software 01-741 8531.

Both of these companies can supply a full range of compilers. The Prospero range are intended for professional use, and are more expensive, but very well supported. Hisoft's compilers are cheaper, and they also produce a C interpreter, which is an ideal tool for learning the language.

ARTISTIC ENDEAVOURS

I am an 'A' Level Art student currently researching the theme 'Computer Graphics and the Graphic Artist' for my personal study project.

I would be most grateful if you could send me details of how to get in touch with notable computer artists, as I feel that they could be of great help, and make a valuable contribution to my project.

I would be interested to hear the views of the staff at *ACE* magazine on the subject of computer graphics. Do you think that computer graphics are an art-form in their own right? Is there any reason for the 'conventional' (i.e. non-computer) graphic artist to feel threatened by the existence and development of computer graphics?

Full acknowledgement will be given in the final project, and any contribution, no matter how small, will be of great use to me.

Ben Heywood,
21 Denbury Avenue,
Stockton Heath, Warrington,
Cheshire. WA4 2BL.

IN BRIEF...

I'm a potential Cracker and I would like to find out more on cracking.

Jimmy Brayshaw, Barrow-in-Furness, Cumbria

• Then have a word with Bob Hay of FAST (Federation Against Software Theft)...

Please have you got any vacancies for games reviewers. If not, shoot Laurence Scotland.

Spencer Hart, Orton Brimbles, Peterborough

• The answer is NO. He's practically brain-dead anyway, and the name is Scotford.

My name is not Sandy Ladette as your quoted in your magazine (ACE 29).

Snardy Cadette, Walthamstow, London

ACE is cool, *ACE* is wicked, if you don't like it, you're a ****'ed.

Josh Key, London

• Quite!

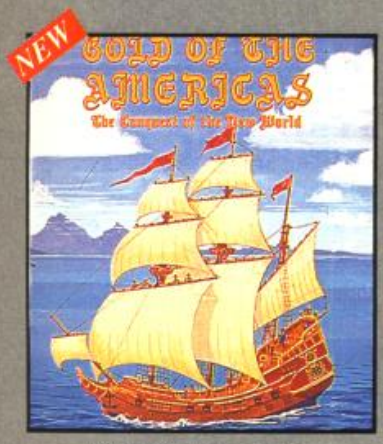
• We've printed your full address Ben so that any graphic artists who feel inclined can contact you directly with their views.

With regard to the computer being used in art, it is nothing more than an extremely flexible and adaptable tool for graphic artist. A bad artist won't produce good art just because he is using a computer. The computer is gradually coming to be accepted as an artistic medium in it's own right, but I doubt if conventional artists are any more threatened by it, than painters who use traditionally mixed oils are threatened by the existence of acrylics. The computer is just another medium. Nothing more or less. What do other ACE readers think?

DO YOU WANT £25?

We want to hear your views on Advanced Computer Entertainment... What do you think about the *Batman: Digital Justice* hypercomic, NEO-GEO console, FM Towns 32-bit CD-ROM computer, *Ultima 6*, Atari Lynx, Nintendo Gameboy, NEC portable, PC Engine, *Cosmic Osmo, It Came from the Desert* using live-action, Sony's CD-ROM book, Amtrad's console? Tell us your views on any subject connected with Advanced Computer Entertainment and you could win yourself a prize of £25! WRITE NOW to: **ACE LETTERS, Priory Court, 30-32 Farringdon Lane, London. EC1R 3AU.**

SSG - THE CHOICE IS YOURS.....



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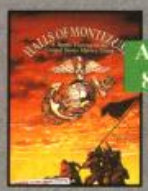

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I know I'll be completely bonkers not to join the Mean Machines Megaclub, so I've enclosed a cheque/postal order made payable to **COMPUTER AND VIDEO GAMES** for **£14.95**!

NOTE: A year's membership for **overseas EEC** readers costs **£18.00** (payment **MUST be cash sterling**).
The **rest of the world** costs **£20.00** (again, payment **MUST be cash sterling**). **Send cheque to: C+VG MEGACLUB, PRIORY COURT, 30 - 32 FARRINGDON LANE, LONDON EC1R 3AU**

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LAST NAME .....

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I understand that I'll receive the Complete Guide to Consoles Vol II and all my other Megaclub goodies when they're ready at the end of March.

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Citizen U.S.A.

FM Towns everywhere. That's the first thing you notice as you wander in and out of plush carpeted, air-conditioned, open-plan American software houses.

With the Philips CD-I machine delayed until April 1991, there is still no machine on the market for the boffins to practise their interactive CD skills upon. Hence the popularity of the Towns machine, which – while not exactly CD-I – still offers them the chance of developing CD-ROM expertise and selling their games into Japan at the same time.

Everyone we spoke to was agreed that CD was the entertainment medium of the future. For this reason, the NEC PC Engine family was regarded by all as

HOWDY PARDNER,

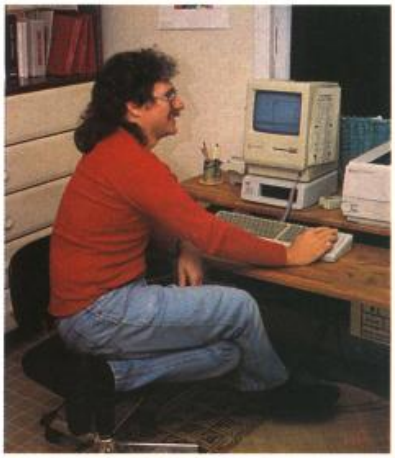
Welcome to ACE's 1990 American issue. We scoured Silicon Valley, prising the secrets of the latest games development, out of companies large and small – then we got down to the grassroots, checking out the computing habits of Citizen USA.

We gathered so much material that we've had to spread it between two issues. This month you can check out the latest developments at Cinemaware, Electronic Arts, FTL, Lucasfilms, and Origin. We've also got more news for you on the current revolution in hand-held games computers that is currently sweeping the States and due to hit the UK later this year.

But we didn't just check out the big boys. We visited the arcades, met programmers, and kept our ears to the ground for all the latest grassroots developments. We've given you a quick whistle-stop tour of our discoveries on the next two pages.

Don't miss next month, when we check out Cyan (creators of Cosmic Osmo) and American Interactive Media.

Oh yes – one last tidbit for your all. On our trip we gathered a mind-numbing selection of American current affairs trivia. You'll find these little nuggets spread throughout the issue. Bon voyage.



Brian Crawford was our host in Marin County, California while we visited Lucasfilms and Electronic Arts. However, Brian's a pretty mean programmer himself. He's just finishing off his first game, which is in some respects similar to Lucasfilm's Pipemania. Very simple to play, but very addictive, it uses the concept of moveable puzzle blocks as you attempt to build a railroad across the screen from one designated point to another. We'll be getting the first full Mac version for ACE to review in the next couple of months. When he's not writing games, Brian's either programming IBM mainframes or luxuriating in his 'hot tub'. This is a jacuzzi style outdoor bath, big enough for four people, that enables you to stretch out in hot water in the middle of the night and count the stars. Yup, these Californians know how to take things easy...

being particularly significant, since it's the first entertainment module to offer a CD-ROM attachment that's actually sold in reasonable numbers. Most companies were either developing or keen to develop programs for the unit.

When it came to CD-I, however, there was a lot of confusion and disillusionment. CD-I itself (as defined by Philips and Sony) had initially created a lot of interest, but after repeated delays most companies had lost interest – at least for the time being. Electronic Arts, who were busy developing CD-I titles when we last visited them (over a year ago) have since closed down the CD-I division until the machines get onto the market.

Further confusion was caused by the emergence of DV-I and the prospect of CD-ROM XA with full motion video. In general, everyone agreed that had CD-I been released as originally planned, two years ago, it would have been a big hit. As it is, we will now have to wait to see which system will be first to achieve a reasonable user base.

In the meantime, everyone was busy developing game systems that could, one day, be upgraded to work with CD technology. You can read about these systems elsewhere in this issue.

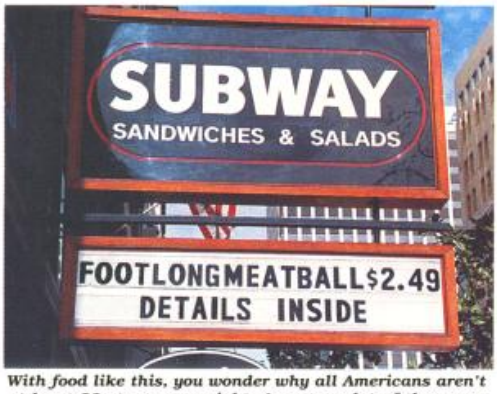
HYPERSTATES

Hypermedia (again, check out last month's ACE) is also making a big impact in the States. Many games companies have developed game design systems based on Hypercard. The most complex was that produced by Cinemaware, which allows the game designers to store all dialogue and other information in the system and then download it onto any target machine in a form immediately usable by the program code for the game.

This means that, for example, if the designer suddenly changes his mind about the third sequence in *It Came From The Desert*, he no longer has to get the programmer to change the code. All he does is boot up his Mac, make a quick alteration to the relevant scene, then download the new scenario into the programmer's environment. Special utilities 'massage' the data en route to ensure that it is compatible with the target machine and the program code.

In fact, Macintoshes were being used for game development in ALL the companies we visited. One consequence of this is a growing degree of Mac skills amongst programmers and designers, which could – if Apple ever produced a low-end Macintosh – make the machine the number one games unit of all time! If only...

American arcades often feature older games than we see here in the UK. In this one we found original Frogger, Tempest, and Super PacMan consoles.



With food like this, you wonder why all Americans aren't at least 30 stone overweight. Answer: a lot of them are, and the rest are obsessed with dieting.

A man in Georgetown, Arkansas, was so upset when he found his son sniffing gasoline that he slapped him. Hours later, having taken his son to hospital for treatment, nurses noted the boy's bruised cheek and reported it to the police. The father was promptly sentenced to four years in jail.

Don't forget! You can win an FM Towns machine by entering this month's special competition. Check out the instructions on pages 42 and 43, then fill in the card on the cover.

Americans don't just shoot aliens, as this No Shooting notice amply demonstrates. On closer inspection, we found it full of bullet holes.

See last month's issue for explanations of CD-I, IDVI, and other techno-terms. CD-I is a Philips/Sony standard, reviewed in ACE issue 24, and offering different levels of complexity, ranging from simple interactive video to IV with full motion video, computer animation, and CD stereo simultaneously. The first unit is due for release in Spring 1991 (after a three year delay). DVI is a more powerful technology currently associated with PC technology and owned by Intel.

FTL are just one of many companies using the FM Towns to refine their CD-ROM programming skills. This is Wayne Holder, founder of FTL, with just one of several Towns machines owned by the company. Dungeon Master has already been converted to Towns format: see page 35.

HOME FRONT

Macintoshes were also, despite the long-standing superiority of the PC in America, very popular at home. Most of the users we visited had either got Macs or were planning to get one as soon as finances permitted. What was interesting was that many people with Macs didn't have much expertise on them (though users like Brian Crawford – see pic – are obviously an exception!).

PC's were everywhere, but again we were intrigued to see how many users still possessed low-

Although many people still use the old standard PC's, 386 machines are far cheaper in the States than here in the UK. In this cash-and-carry we found well-built VGA 386 systems ready to wheel out to your car – for only $1999.99 (£1180).

VIP's in San Francisco have been plagued by dirty underpants. Someone has been posting soiled underwear, complete with accompanying porn pictures, to the city's leading citizens. 'It's the most repulsive case we've ever worked on,' declared a post office spokesman.

Tough, burly, bearded L.A.Bowie was alleged to have robbed a 7-11 store in Maryland. On his arrest, he was given a strip search and police were somewhat disturbed by what they found – or rather what they didn't find. Mr Bowie was apparently a Mrs Bowie. His two sons were arrested with him, but despite Bowie's claims that he was their father, police are trying to find out whether he may, in fact, be their mother.

end PC's rather than the more recent 286 and 386 machines. Although VGA is becoming more and more popular, many users still have standard EGA models. CGA, however, despite its popularity in the UK, was more or less defunct.

Finally, we noticed that despite the vast number of games available, most Americans still used their machines primarily for more serious tasks: writing letters, composing music, keeping their accounts, and so on. Here in the UK the success of the Spectrum as a games machine more or less shaped the future of the British computer user and ensured that a goodly proportion of his time was spent blasting aliens. In the US, the prevalence of the PC has encouraged a more serious user. Down at the cash and carry, the only games we saw were bargain bundles of Sierra titles and a couple of old space trading game sims. Word processors and accounting packages, however, were piled high.

Jay Sachs is 35 years old and owns a beaten-up PC which he uses as part of a MIDI set-up with a Yamaha DX synth. When he's not hitting the ivories, however, he's knocking the stuffing out of the Huns in Lucasfilms' Their Finest Hour. 'It's a mind-blowing experience,' he says, '..by around midnight I've gone into another state of consciousness. All there is in the world is the cockpit, the firing button, and the Hun.' Take their games seriously, these boys. Down at the arcade, Jay knocks up vast scores on Tetris (two player version, high score 995468).

INTO HYPERSPACE

One of the most extraordinary developments we came across in the States was Subjective Technologies' Video Room. It's a weird mixture of technical inspiration and mystic invention that could soon be revolutionising the way we interface with computers.

In basic terms, the system – called IMME or Interactive Multi Media Engine – was designed to take the user interface beyond the traditional mouse, keyboard, or touchscreen into more complex areas of physical interaction.

The IMME hardware is capable of handling and integrating visual (video and computer graphics) data, audio data (CD quality stereo), and standard program data simultaneously. Most importantly, it can also handle up to 8000 separate inputs which can be configured by a system designer into any format he chooses.

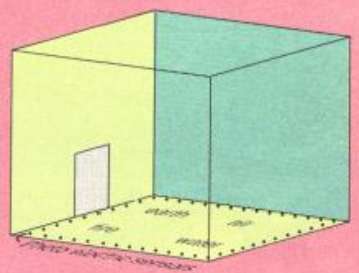
To show off this beast, Subjective Technologies have designed a Video Room in which photo-electric sensors monitor up to 8000 locations within the room on a 3D basis. This means that you can enter the room and control the system by moving any part of your body.

Dancing, walking, jumping, or even lying still in the room trigger off the relevant sensors which in turn trigger off software events within the system. When we saw it in operation, the prototype software was manipulating abstract and digitised images together with both computer generated and digitised sound. The results varied from the impressively extraordinary to the simply weird juxtaposition of meaningless images, but there was no doubt that such a system could, with careful programming and data selection, present some unusual possibilities. ACE reckons it could go down a bomb in nightclubs, where it could be linked into a computer driven laser installation. It could also provide the ultimate interface for *Yie Ar Kung Fu*!

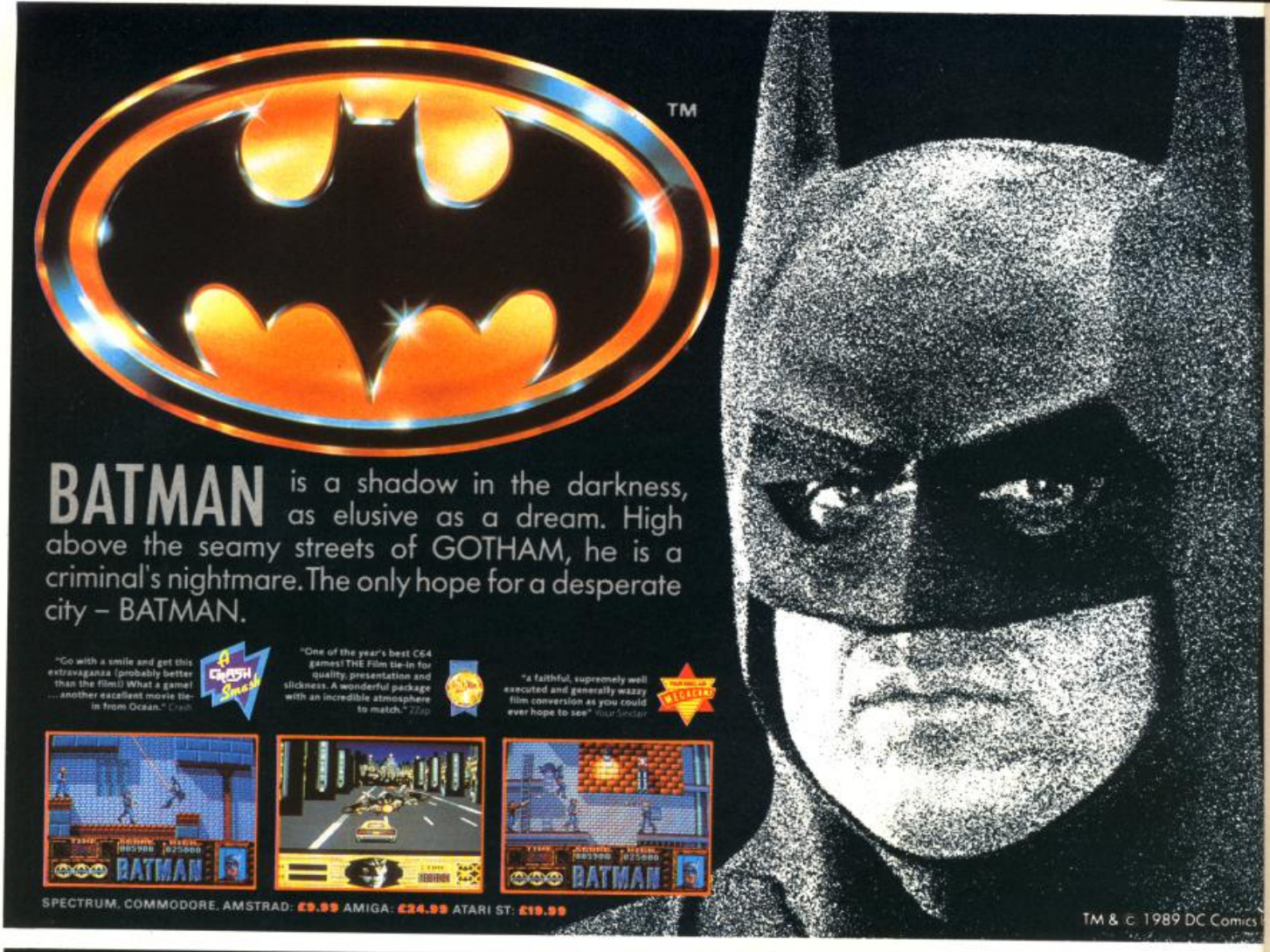
One of the images appearing on the screen during the demonstration of the Video Room prototype.

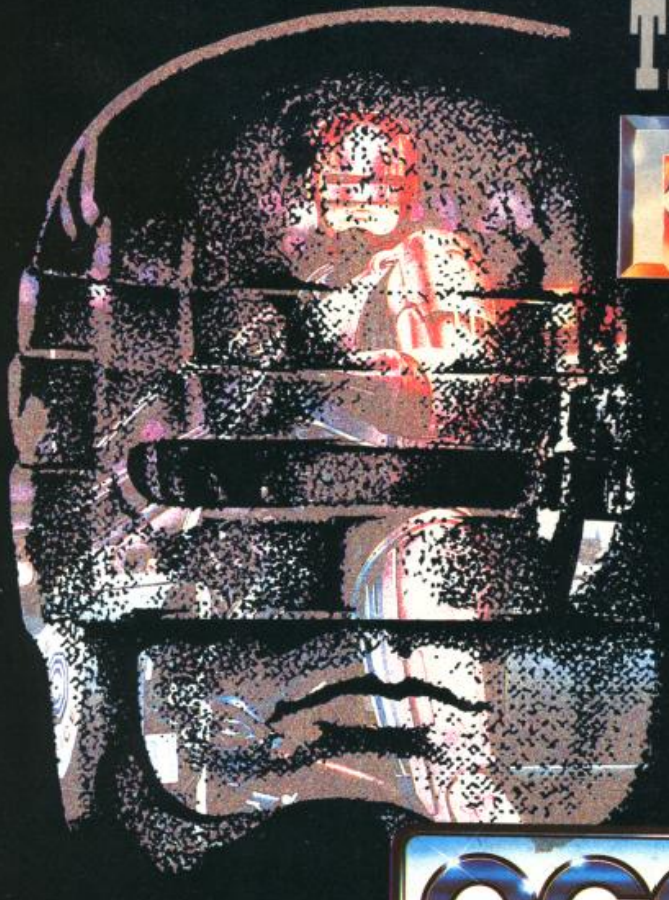
Washington da Silva, technical whizz-kid, and (right) Jack Lampl (president) of Subjective Technologies. And why are they smiling, you may well ask? Well, perhaps it's got something to with the fact that, in common with many American businesses, they can get a visiting masseuse (legitimate – not your typical Soho sweat session) to relieve the tensions of new technology. That's Nicola Groves of Essential Touch corporate massage services in the middle. ACE naturally wanted a freebie, but we didn't have time...

This was part of a swirling abstract sequence, generated by traditional video methods. It's accompanied by vocal and musical effects.



The Video Room: sensor monitor your position, then the IMME sends sound and video data to four large monitors suspended in each corner of the room. The system we saw was set up to translate physical movements based on the ancient alchemical principles of Earth, Air, Fire, and Water. Weird, man!





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At The Court of Lord British

When Richard Garriott first sold *Ultima I* by mail order, he probably would have laughed (or giggled – he was of very tender years) if you'd told him that a few years later his games would be selling literally millions of copies and he'd be rich and successful beyond most people's wildest dreams. But they do...and he is.

The nice thing about Origin is its origin. Having started small, the company retains a friendly, intimate atmosphere that makes a refreshing change after the larger software companies of the West coast. 'We're a very author oriented company,' confirms Dallas Snell, in charge of product development, and this is certainly the impression you get as you wander along the narrow corridors – there's a software designer/programmer coding away behind each door, in his own little world of creativity.

This is completely against all the tenets of the larger companies, who now put together programs in teams. Origin is one of the few companies where you can still see a single name on the credit list for a new game. This doesn't mean that teamwork isn't involved – every title benefits from the input of the excellent Origin graphics department and is controlled by a producer – but it is still the case that Origin games tend to be the brainchildren of single creative minds.

WORLDS UNDER WRAPS

Right now there are three main titles under development (or just released) at Origin. The first is the long awaited *Ultima VI* (see later in this article), programmed by Lord British (a.k.a. Richard Garriott). ACE reckons this is probably the game that will finally prove to the world that role-playing games can be every bit as exciting and satisfying as arcade action.

The second is *Bad Blood*, programmed by Chris Roberts, who last year brought us *Times of Lore*. You can find out more about this later in this article.

Finally there's a vast RPG scenario for D&D addicts – *Knights of Legend*, which is reviewed in this issue on page 52. We've also included a review of *Omega* (see page 62) although this was actually released late in 1989.

High in the hills, outside Austin, Texas; the drawbridge thunders down and grants us passage into Castle Origin. Six-foot-tall Texan overlords, brought up on a diet of steak, sausage and ribs, drag us into the presence of Lord British – the creator of Ultima...

Lord British (a.k.a. Richard Garriott) masters time and space with the aid of one of his unique collection of antique horaries.

CD RPG

The company that brought you Knights of Legend and Ultima ought to be a safe bet for those wondering who will be the first to produce the definitive CD-ROM RPG, but game designer Todd Porter has some sensible caveats to make...

'One of the problems with CD-ROM,' he points out, 'is access time. Knights of Legend, for example, needs lots of data but doesn't need immediate access to it, so a CD-ROM version would offer lots of possibilities. In Ultima, however, the program is very disk-intensive and would need a lot of work to operate satisfactorily with a CD-ROM system. There's no doubt, however, that optical storage will be tremendously useful for fantasy RPG or large world simulations.'

As a result, the best Origin games are unlike anything from anywhere else. As producer Jeff Johannigman points out, 'The variety of our products released in 89 is a tribute to what the authors can do.' Other companies are often quick to copy Origin products: 'My friends send me a new Ultima clone practically every week,' says Richard, 'it must be one of the most copied gamestyles ever.' Bad Blood and Times of Lore are also highly original game styles, and even Knights of Legend, although containing many traditional RPG elements, is different simply in terms of sheer scale.

'We tell people to come to us with their ideas and we'll help bring out the best in them,' says company spokesman Greg Malone – but unlike other companies, the ideas will remain a personal challenge rather than a team production. 'On the other hand,' says Dallas, 'we don't have the luxury of being experimental. What I mean by being author oriented,' he jokes, ' is that we try not to screw authors! It's true that as at other companies our authors are no longer self managing – now they have to get things done on time!'

INTO NEW WORLDS

Origin are moving rapidly with the times. Not only are they producing more games than ever, but they are also moving into the console market, having become a licensed developer for Nintendo games. There is already a version of Ultima on the Nintendo in Japan, which is proving extremely popular. Now Richard Garriott is planning a Nintendo version of *Ultima V* and even a 'generic *Ultima*' for the Gameboy.

'Meanwhile,' says Greg Malone, 'we're all salivating for CD-ROM. The new consoles are pretty impressive too: the Sega Genesis is technically a very sexy machine. By 1991 we hope to have a selection of original titles on the Genesis and Turbographx (NEC) machines.'

Much depends, they feel, on the current congressional investigation into the restrictive practises of Japanese console manufacturers. Most console companies forbid software companies to develop games and manufacture cartridges without special – very expensive – licenses. However, Electronic Arts are believed to have recently 'reverse engineered' a Nintendo compatible games cartridge for release in the US, and the American courts will have to decide whether such a flouting of Nintendo's strict control of the software supply is legal. If it is, it will open the way for a flood of ambitious, varied console titles – and Origin hope to be up near the top.

Meanwhile, Origin will continue to support gifted authors and game designers in the production of new games. If they're anything like Ultima VI and Knights of Legend, this company is set to head right into the very big time indeed. Let's hope it doesn't spoil them.

"We always program for the top flight machines – so we can say 'This is the dream...' and then realise it on other formats."

Greg Malone, Origin

BAD BLOOD

Just as *Ultima VI* is a quantum leap beyond *Ultima V*, so *Bad Blood* is a quantum leap from *Times of Lore*. '*TOL* had 256 world blocks,' says programmer Chris Roberts, 'but in *Bad Blood* we've got a world built of 3800 different cells.' The resulting world is a nightmare of post-holocaust mutation as humanity struggles for survival on a barren, blasted plain.

Gameplay involves exploration of ruined cities and interaction with other bizarre mutants in a quick-to-learn menu command system.

'All the graphics routines are in assembler,' points out Chris, which helps combine detail with high speed. 'We coded the intelligence routines in C – it means a tiny decrease in performance but it's in a part of the program where you won't notice it, and it triples our productivity.'

Watch out for a full preview (and review, of course) of *Bad Blood* in a forthcoming issue of ACE.

Having a conversation inside a building: note the vastly increased graphical detail over Times of Lore.

Origin producers get together: Dallas Snell tells his colleagues about the one that got away.

The Bad Blood team: that's Lord British on the left, and Chris Roberts centre.

A LEGEND IN THE MAKING

David Todd Porter began the design for *Knights of Legend* over eight years ago and has never looked back. The objective was quite simply to create the ultimate RPG system for players who demanded all the complexity of a traditional board-game RPG like *Dungeons and Dragons* but also wanted the opportunities and convenience of a computer version.

'*KOL* is the first FRPG (fantasy role playing game) to do things in extreme depth,' claims Todd, and once you've played the game it's difficult to disagree – you can get some feeling for the adventure in our review on page 52.

The game was put together by Todd, but he also had the help of his role-playing friends, who were in at the start of the project when they first discussed it over a pint all those years ago. When Todd came to Origin, the first thing he did was to get in touch with his old companions and involve them in the game development.

Todd himself took the research for the game to almost pedantic extremes. 'I even went to England,' he recalls, 'to study mediaeval weaponry and castles. I read just about everything I could about contemporary armour, for example. I love it in other games when you can simply plonk on a suit of plate armour – that stuff weighs a ton! Most normal characters who might attempt to wear it would simply pass out from exhaustion. In KOL you really have to have the muscle to carry that stuff. All the details are there...'

This level of detail involves, for example, no less than forty algorithms to decide whether a creature whould back off during combat. 'The artificial intelligence is the main cornerstone of the game,' says Todd, 'your enemies are highly intelligent. For example, *KOL* also introduces limb damage, and if you hurt an arm or a leg during combat other creatures will soon 'learn' to attack it specifically.'

One reason why RPG's are so popular is the degree of identification you can build up with your characters. Sadly, many computer RPG's completely fail to capitalise on this, but Todd has really caught on here, allowing you not only to customise the appearance of your characters, but also to name your own weapons and spells. The level of detail is tremendous – you can even change the coats of arms on your fighters' shields! Check out the full review on page 52.

Todd Porter:, designer and programmer of Knights of Legend in his Origin programmer's dungeon.

BUILDING A WORLD

Lord British's guide to Ultima design...

Origin have produced the ultimate game design package for the *Ultima* programs, programmed by in-house genius Herman Miller. Here Lord British (Richard Garriott) and Greg Malone take you through the various functions of the package, showing how the game scenario is edited and defined: including objects, monsters, and map features.

This is where you start in Ultima VI – in the Throne Room of Lord British's castle. The left window scrolls in four directions and the right window up and down. The upper two boxes in the right window show what would be placed on the map by pushing the left and right mouse buttons. Using these buttons, you can select which tile to use from the right window and plop down the tile repeatedly as needed, thus constructing the world and the people in it.

Every object in the world has a mass of data associated with it. In this part of the utility, various object attributes can be defined. In this case, we're telling the game whether a spinning wheel should be impassable, how heavy it is, whether it emits light, its name, and so on.

There are 2048 unique tiles in Ultima VI and the Master Tile List shows 256 tiles at one time. You can select tiles here for map plotting as well.

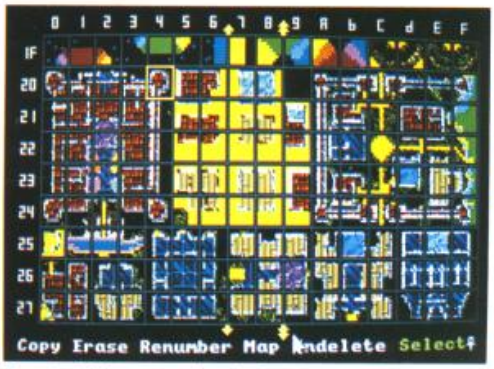
Once a tile has been placed in the world, it can be given further attributes specific to that one object, thus differentiating it from other similar objects elsewhere inthe world. Such attributes include whether or not the object is cursed, owned, asleep, how many hit points it possesses, etc.

> *"The Ultima games are about morality: the decisions your character makes are significant for you personally.*
> **Richard Garriott**

Previous Ultima objects were all single tile characters, and therefore limited in graphic complexity. A master tile list of some of the multi-tile creatures. Seen here: Dragon, cyclops, giant snake, boats, etc.

An algorithmically reduced view of part of the world. 1 pixel=256 pixels. This allows the designer to get an overall view of his creation, and also allows him to build up the world using large predefined 'chunks'. Here you can see Lord British's castle.

A 'monster generating egg' has been placed near the altar, which is surrounded by a ring of stones. Monsters generate from these predefined 'encounter eggs', sort of like Gauntlet monster generators. But the player can neither see or destroy the eggs because, as he/she approaches their location, they hatch before they come into view on the screen. The game designer places whichever monster types he wished into each individual egg. Eggs can hold a number of monster types simultaneously (embryos) and has a percentage probability of hatching at all. It can even hatch two differently aligned creatures (e.g. good and evil, chaotic and neutral) from the same egg, which would create the curious spectacle of two monsters appearing and suddenly attacking each other before the player's eyes.



A part of the master list of 'chunks' containing a total of 4096 unique chunks which can be used as macro building blocks to construct large portions of the world.

THE ULTIMATE ULTIMA

The Origin graphic design team, responsible for many of the visual delights in Ultima VI. From left to right: Keith Burdak, Denis Loubet, Daniel Bourbonnais, and Glyn Johnson.

There's no doubt about it – *Ultima VI* has to be one of THE games of 1990, if not Game of The Year itself. *Ultima V* wasn't exactly lacklustre, but *UVI* takes the fantasy game into a whole new dimension.

First, it's extremely easy to play. One of the problems with early RPG's (including *Ultimas*) was the learning curve the player had to endure before he could really settle into the game. Menus had to be mastered, commands remembered, key-strokes noted. In *UVI*, everything is mouse-driven, but without in any way limiting the options open to the player.

Movement in the game is mouse-controlled – a small arrow on-screen shows the current direction of travel and you simply move it in the direction you want to go and click. Quite apart from the enormously increased graphical presentation, there are other major refinements including having all your characters visible all the time, rather than a single 'party symbol'. Your characters follow each other about intelligently as you move from one place to another or between obstacles.

Character creation involves a similar set of moral decisions as in Ultima V – a lot more interesting than simply juggling numbers about.

Mouse control has also been extended to object manipulation, so you can now pick up an object just by clicking on it. Clicking on character names also gets you character attributes and status. There are also graphic screens for your inventory, rather than the old lists, and for the clothes you are wearing as well.

All the combat routines have been dramatically improved – which is saying something since *Ultima V* had one of the best combat routines of any RPG to date already. In addition to the usual individual control of each character, you can now issue more complex tactical orders that include commands to flank the enemy, retreat, go berserk, assault the nearest opponent, change position, and so on. Going berserk, by the way, involves singling out the most dangerous opponent and heading for them, attempting to kill everyone who stands in your way.

Ultima VI – all spells are now in English, but Ultima afficionadoes can still use the old-style Britannic language if they wish.

SILICON UNIVERSE

The statistics of *Ultima VI* are pretty awesome. There are 2000 types of object, and 16000 objects in the game itself. There are 2000 different graphic tiles. Every single object has its own attributes, every one of the 224 characters in the game has its own personal history and dialogue, and the game only just squeezes onto seven disks – that's after heavy compression. The map itself is composed of 1048576 tiles – and that's only the upper level! In addition there are another five underlying dungeon levels.

On the magic side, there are 100 spells – and unlike most computer RPG's these are genuine, unique spells rather than a whole load of 'destroy monster' routines. Other nice touches include seeing invisible characters in faint outlines, and spell mixing is automatic.

Ultima fans will also be pleased to hear that invisible doors are now rather harder to spot. Mapping is more of a challenge too, since the large scale overhead view is no longer used: you are at close range (as you used to be in towns only) all the time.

And the story line....One of *Ultima's* strengths has always been the plots Richard Garriott comes up with and UVI is no exception. This time (after a superb opening sequence) you're summoned back to Britannia, to find that the world is under attack by an evil race of gargoyles. The twist in the tale, however, is that all is not as it seems. 'Ultima VI,' says Richard, 'was inspired by so many elements of our society. Take Jim Bakker, for example, the TV evangelist recently disgraced after revelations about his private life. The world is full of people pretending to be one thing but in fact they're hiding something quite different. That's what *Ultima VI: The False Prophet* is all about...'

From the opening sequence: there's a storm outside and you're about to be catapulted back to Britannia...

AND YET MORE IMPROVEMENTS!

Check out these other features of *UVI*:

- Waterways (rivers, oceans etc) are tidal – they flow in particular directions and at particular rates;
- You can check out the battle statistics of opposing monsters during combat;
- There's a help command for dialogue that highlights keywords in a character's speech for further interrogation (you can turn this facility off if you wish);
- You get your own room in Lord British's castle!
- Hierarchical object directories/icons: you can put items inside other items etc.
- The whole world is in constant scale and perspective.

Pipe Mania!!

ADDICTION BEYOND BELIEF!!

C and VG Feb 1990 94%

Pipe Mania is "a classic puzzle arcade game that is so addictive, it should come with a Government Health Warning!

Pipe Mania is a game of great ingenuity, simple in concept and friendishly challenging to play.

You'll need to act instinctively, but think strategically!

One wrong move, one brief hesitation or mis-placed pipe section, and you'll drown in a sea of slime!

ST Action

"Pipe Mania is a conceptually simple and cheeky game which is incredibly addictive"

Commodore User Screenstar

"Terrifically addictive... outlasts any arcade conversion"

Zero March 1990 92%

"Buy this game and you may never sleep again"

The Games Machine Star Player Award 83%

"A puzzle game of great ingenuity and addictivity, Pipe Mania is simple in concept, fiendishly challenging in play, and attractive to look at"

Zzap Sizzler

"Absolutely guaranteed to drive you round the bend"

Amiga Computing Excellence Award 95%

"A game with a game play that shines"

Game Players Award USA

"Best PC strategy game of 1989"

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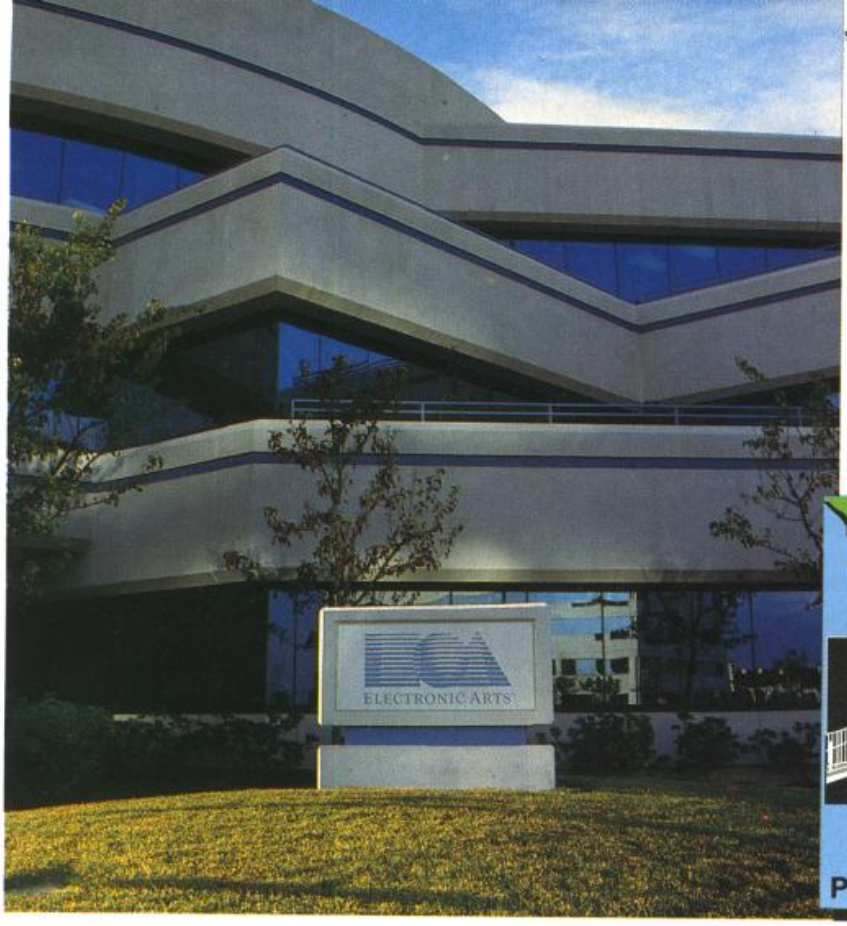


ACE in the USA

Numerous gold disks and other awards decorate EA's reception. EA has won over 200 awards in the last seven years.

When in Rome...

ACE infiltrates the techno-castle of Electronic Arts outside San Francisco and discovers a company moving from CD-I to Ancient Rome...

EA are making big progress – by going back in time. Two years ago, they were at the forefront of CD-I research and development, headed up by CD genius Greg Ryker. Today, they've closed down their CD-I division, Ryker has left to work for Microsoft's CD division, and EA are producing a string of excellent, but conventional titles. What's going on? Is this a retreat from new technology? Or simply a different approach?

The company was the first into the CD-I development race, and the first out of it. 'We've really scaled down the whole thing,' says Senior Vice President Tim Mott. 'Four years back, when we saw the audio CD, we were really excited. We were involved with Sony and Philips in the CD-I specification, and very hopeful. But after a year we wound it down.'

The problem lay with the constant delays in actually producing a user base for the new technology. Philips and Sony have consistently postponed the launch date for CD-I, originally planned for two years ago but now not expected until Spring 1991. It's just too long to wait. But EA aren't retreating: behind the apparent inaction lies a company who, while maintaining a strong base of conventional products, are still one of the most informed about optical game storage and its possibilities.

CONSOLES FIRST

'Did you know,' asks Tim, 'that over half the world's installed base of CD-ROM units is for the NEC PC Engine? It's not the high-tech CD technology that's going to really put CD-ROM and (eventually) CD-I on the map, it's the console market. Games machines are going to lead the way into optical technology – you'll soon be able to get a complete CD Turbographx system for around $500.'

EA's view is that the heavyweight CD units – the Headstart $1999 PC CD-ROM machine, for example – have little future, at least as far as the games market is concerned. 'Big business is really only interested in writeable media,' asserts Tim, 'and what's more, machines like the Headstart simply aren't targetted properly. But read-only technology is ideal for games.' The real advances in CD-ROM programming, then, are going to be made on the games front, and that means at low prices. Low prices require high volumes, and only the console market can deliver those high sales. Us computer freaks may soon have cause to be very thankful to the likes of NEC and Sega, whose consoles may well be the most important hardware base for early CD-ROM research.

Despite their back-pedalling on CD-I, EA are obviously casting sideways glances at the console market. However, as Stewart Bonn points out, 'A genuine cause of concern is the cost of entering into the video game business...'. Companies wanting to publish on Nintendo and NEC have to put forward considerable sums of money or see their titles controlled by other distributors. But with so much expertise to be gained from producing CDR titles under the console umbrella, it seems unlikely that EA will wait on the sidelines for very long.

CDR would also suit some of EA's gamestyles. 'I'm personally particularly interested in RPG technology,' says Tim, 'The idea of creating an environment and a character is very powerful. I think we'll soon be seeing the combination of RPG and simulation technologies – and the realism that comes from video processing and the storage capacity of CD-ROM is going to make products much more viable. We'll definitely be shipping our first volume CD-ROM product within five years.'

ROB'S DEN

Rob Hubbard, once the toast of UK connoisseurs of game sound tracks, is now to be found deep inside the EA mansion, shut away in a sound-proof room with no windows and hundreds of thousands of pounds worth of equipment. But the music, you'll be pleased to hear, sounds better than ever.

'We're getting MIDI and wringing its neck here,' grins Rob. 'Even the sound effects get the five star treatment. The engine noises on Indianapolis 500, for example, are all based on complex formulae that determing the pitch of the engine for a different speed – and it's different for every type of engine.'

Ski or Die: you can't hear the music – more's the pity. Acrobatic ski-ing action set to a scorching Rob Hubbard sound track.

Rob Hubbard in his den: two years Stateside and no intention of returning. With all that kit, who can blame him?

The biggest difference between the US and the UK, for Rob, has been the changing musical tastes across the Atlantic. 'I've watched an awful lot of NBC and CBS out here,' he admits, 'and it's taken me a long time to get used to writing in the American style.

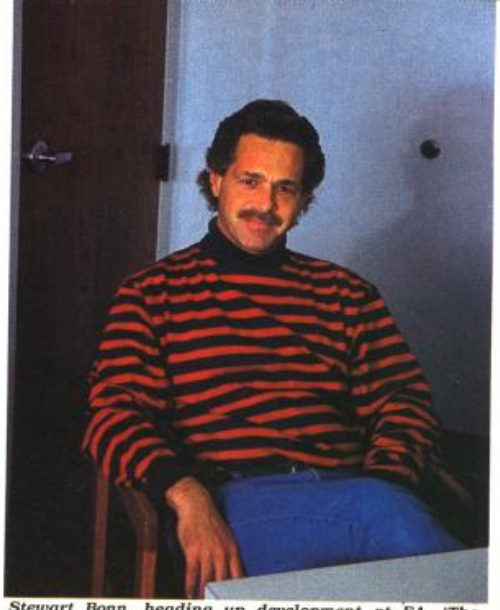
Rob's attention to detail in his music is quite extraordinary for a computer musician. That, coupled with a tremendous flare for composition, makes the tracks he puts out something very special. On Ski or Die, for example, there's a scorching guitar solo which, when played over an MT32, practically bestows hit status on the game all by itself.

'We got a guitarist in with a Korg MIDI guitar. After he'd done the solo, the instrument had output six channels and it took two days to edit it down to one. It's basically designed for a young audience: a rock-style tune with a few little hooks on it.' After listening to it, we began yearning for the LP.

> ***'We're getting MIDI and wringing its neck here...'***
>
> **Rob Hubbard, ex-patriate British computer music genius, now full-time at EA.**

Rob's inherited some very potent kit from the EA CD-I development division (now wound down), including multi-track tape decks ('useful for sampling'), mixers, CD sound libraries, and more. Most of his composing is done on a keyoard, then processed using a Voyetra sequencer. Rob's constructed several music utilities that enable him to massage MIDI data into such a form that it is acceptable to the programmer's game code. He also provides drivers for the many different sound formats (AdLib, MT32 etc) supported by the EA games. MIDI code and drivers are handed to the programmer who can then call them up at any time during the game.

Looking ahead to the future of game soundtracks, Rob sees a time when well-known artists will contribute special tracks – just as composers like Jarre and Vangelis currently produce film scores. If there's any justice in the world, by the time Eric Clapton and David Bowie are knocking out game tracks, Rob Hubbard should be just as famous.



Stewart Bonn, heading up development at EA. 'The most important skill here is the management of multi-person projects. The days of the programmer/designer are over.'

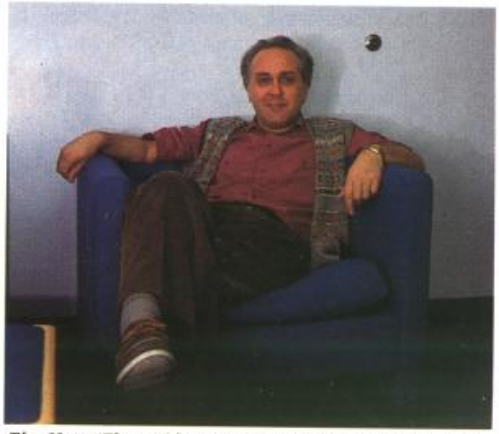
Five years! Surely not. After all, other companies (as you can see elsewhere in this issue) are already shipping CD-ROM titles – but you can see EA's point. Almost all current CDR titles are simply enhancements of existing ROM/RAM-based games. FTL's *Dungeon Master* on the FM Towns, for example, is not a bit different from DM on the ST (with the exception of an enhanced sound track).

The fact is that almost anyone can produce a CD-ROM version of their game, but EA are one of the few companies who, because of their previous work in the area, know what's involved in writing a full-scale title that makes proper and complete use of CD-ROM's added features.

'We have a very strong technical base here,' explains Vice President Stewart Bonn, 'and the good news is that that enables us to push existing hardware to the limits. But the bad news is that it also means we know what we can and can't do. And with respect to CD-ROM it's especially what we can't do.'

This means, essentially, taking things slowly. 'It's fun to think about giant leaps in technology,' agrees Stewart, 'but in reality the market is not going to move that way. It'll move in a lot of small steps. The cost of producing a fully-fledged CD-ROM product is measured in millions of dollars, not tens of thousands, and until the market opens up you're going to see incremental improvements rather than huge advances.'

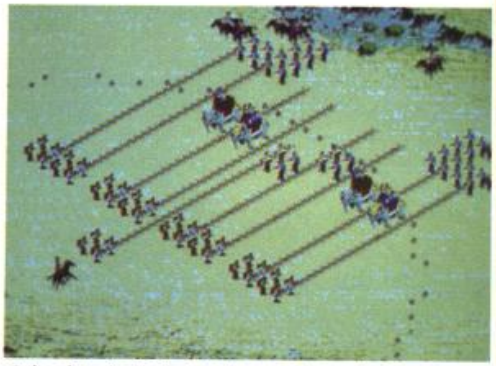
Meanwhile, with games like *Indianapolis 500*, *Centurion*, and *LHX* on the way, who's complaining if EA don't give us CD-I products until we've got something to play them on? Seems like good old-fashioned common-sense to us.



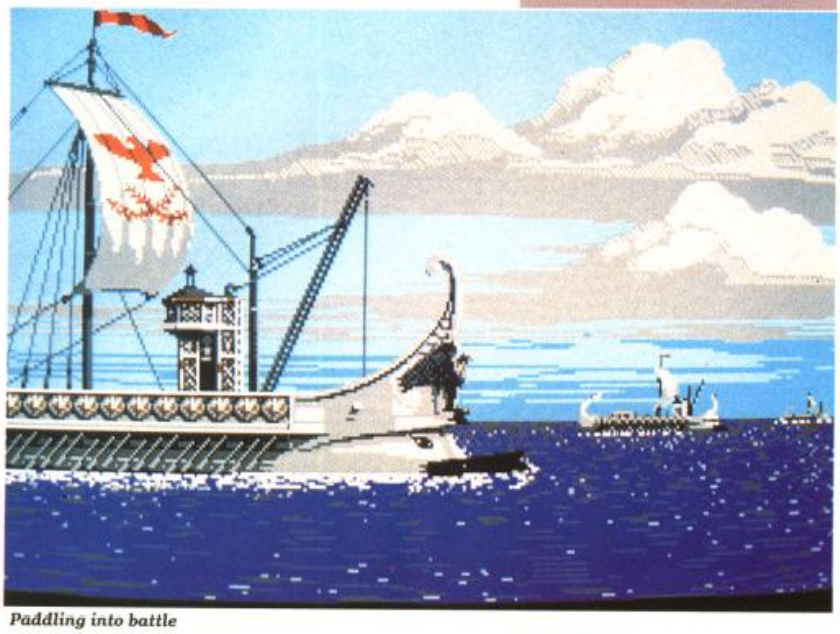
Tim Mott: 'The 16-bit consoles are far better for games than the PC's. The Genesis is a very sophisticated machine...'

ET TU, BRUTÉ!

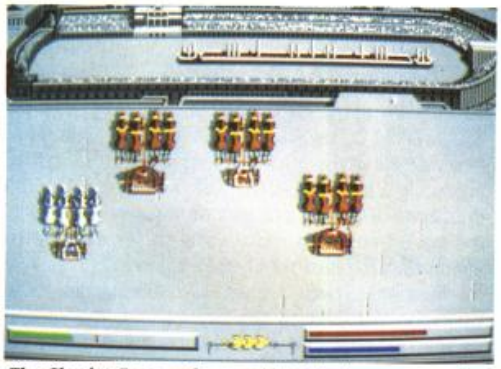
Dolores Pritzl of Warrenville, Illinois, is reported by the Weekly World News to have revived her daughter from a coma by playing an Elvis record. This is only one of a series of reported incidents in which Elvis fans claim to have received good luck, health, and marriage by praying to their patron saint, St King.



Going into battle in Centurion. The semi-circle of dots indicates your General's sphere of influence. Outside that, units are not under your direct control. The lines indicate troop movements under present orders. Watch out for the elephants!



Paddling into battle



The Chariot Race underway. Note the long-range radar screen at the top, which enables you to pinpoint your position on the course

$32 will buy you a 30-day course of The Primary Pill for weight loss. According to the manufacturers: "...Observing how 211 patients were put on this Pill plan rapidly lost huge amounts of weight, doctors studied what they called a 'fat evaporation' effect on users." Call 1-800-444-5881 (within the US, toll-free) and ask for Norma.

Kellyn Beeck, designer of *Defender of the Crown*, sat back and looked at the game and saw that it was good.

But it could have been a teensy bit better if it had a spot more (some would say a sackful more) gameplay. So he sat down and started on *Centurion*. Still under development, it already looks as if Kellyn (pronounced Kellen) and EA are on to a winner.

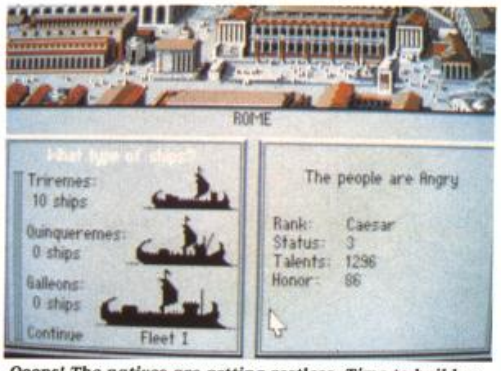
Centurion is a multi-level strategy scenario with some very attractive battle sequences. Your role is as an officer in the Roman army and your objective is to spread the imperial influence as far across Europe as possible. Objectives include recruiting Cleopatra (yup, there's another seduction scene somewhere in here), keeping the natives happy, and, of course, waging successful military campaigns.

Central to the game is the *Defender of the Crown*-style map display, showing the various territories available for conquest. Unlike *DOC*, however, there's far more to do when you enter into a campaign. Political, military, and economic forces all have to be balanced.

Conflict takes place on land and sea and is also far more complex in execution than *DOC*. On land, for example, you have many different battle manoeuvres available to you, as well as different fighting units (including elephants!). One nice touch is that commands issued by your general are not effective outside his sphere of influence – no radio contact in those days – and lines of attack are shown on screen for battle analysis and tactical planning. Both naval and land battles are shown in overhead view.

In addition, there are several sub-games within *Centurion*. One of the most attractive is the chariot race, held as part of the games which, in an effort to keep the natives occupied (and therefore happy), you have the option to organise. There's also a gladiator event for beat-em-up fans. One final improvement over *DOC* is the inclusion of a SAVE GAME option – which is just as well because you aren't going to finish this one in a hurry.

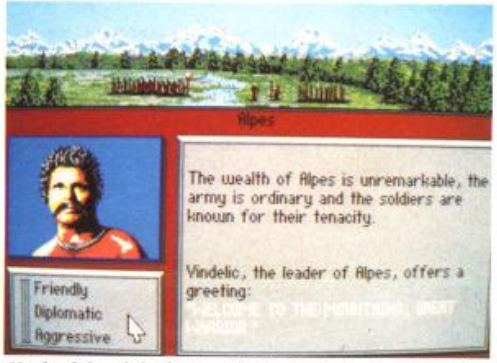
Centurion should be available in the UK, on PC first, within the next two months (price to be announced). Watch out for the full ACE review as soon as it's finished.



Ooops! The natives are getting restless. Time to build up your naval strength

Stewart Bonn sees CD storage as a means of boosting 3D performance, with highly complex 3D images being generated off-line during game development, then finally stored as a set of reference frames on CD. You can therefore combine richly coloured, high definition pixel images in the foreground with a detailed 3D background. This technique is already being used in some games (Cinemaware's Wings, for example) but today the 3D background still has to be generated 'on the fly' and is therefore very limited in detail due to processing restraints.

Cinemaware's Wings: 2D foreground, 3D backgrounds.



Much of the plahy interest in Centurion derives from the old Dictator style of game. The natives tend to start off fairly friendly, but unless you get your tribute and tax levels right, things are going to turn sour rapidly.

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Out of the Dungeon

High on the Mira Mesa, just outside San Diego, California, lurks a small company with some big, big games: FTL, creators of *Dungeon Master*, *Chaos Strikes Back*, and *Oids*....

It all started with spellcheckers. Not just one, or two, but twenty of the blighters, in eleven different languages. 'After all,' says FTL's Russ Boelhauf, '...when you've written one spellchecker, where do you go from there?' More spellcheckers, that's what. Oh yes, and *Dungeon Master*, *Oids*, *Chaos Strikes Back*, CD-ROM games, and beyond...

Right now, FTL are scratching their heads wondering where to go after *Chaos*, which in itself went one step beyond *Dungeon Master*. 'Perhaps it should be easier?' wonders founder Wayne Holder. 'We've toyed with the idea of doing a beginners' version of the game – a sort of *Dungeon Master Junior*. We've also considered producing a Super Expert construction kit.'

Whatever happens, it has to be something that goes way beyond *Chaos Strikes Back*. 'What's important,' says Russ, '...is that a company with a winning formula should still realise that it has room for improvement.' *Chaos* was certainly an improvement, but *DM3* looks like being a greater challenge still. As Wayne points out, 'Even though we used some of the original *Dungeon Master* code for *Chaos*, we were really pushing the limits. In putting together new projects, it's not the coding that causes the problems, it's getting everything to work together.'

FTL's basic objective is to give the player total control not only over the games he plays but also over the stories that spring from those games. 'We're working towards a point where the story is scripted entirely by the player,' says Wayne. 'We take you to the starting point, and from then on it's up to you. It's confused a lot of players because when they confer with each other they discover that they've reached entirely different situations.

'One of the problems with the *Dungeon Master* system and its later development (e.g. in *Chaos*) is that soon you find so many people are really getting into the game that it's almost impossible to keep putting in little scenarios for them all to discover. But we keep trying...'

The sun goes down on Software Heaven – FTL's headquarters in Mira Mesa, San Diego.

CD DUNGEONS

The storage capacity of CD-ROM could provide some part of the answer – and also new problems. 'With storage like that,' warns Russ, 'you can be positively flagrant in your use of space – and that can be really dangerous in game development.' Nevertheless, FTL are already producing games using CD-ROM technology. Like many US companies, they've agreed to produce titles for the FM Towns '...because it gave us an opportunity both to get into the Japanese market and, at the same time, give us more experience in writing for CD-ROM technology,' explains Russ.

The Towns version of *Dungeon Master* is pretty similar to all the others, with one big exception: the music. Once that CD starts spinning, the atmosphere of the game is hugely enhanced by CD-quality stereo sound.

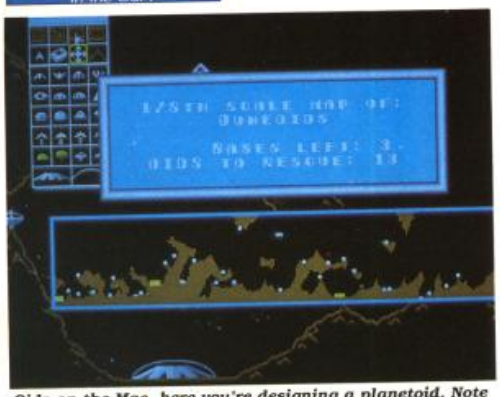
'When I first looked at the FM Towns,' Russ recalls, 'I kept looking at the specifications and feeling it was all so disjointed: the machine seems to do absolutely everything: video editing and control, music/audio, CD player, computer graphics – they've tried to provide a link to every bit of hardware we normally use in the home. The hi-res monitor even has a TV tuner, so you can type your school essay on the screen, right over Benny Hill. I would like to think that ultimately all the entertainment technologies will merge into one. And when they do, FTL will be ready.'

In the meantime, FTL have yet to decide on a follow-up to *Dungeon Master* and *Chaos Strikes Back*. In the near future, you'll see conversions of existing FTL games (*DM*, *Chaos*, and *Oids* in particular) on the Mac, PC, FM Towns, Sharp 68000, and others. Until all 16-bit users have been given the chance to share the *DM* experience, we'll have to wait for *DMIII*. 'We're going to stick to the first person adventure. Like *Dungeon Master*, it'll mean you're there, you're in control.' Stand by your joysticks...

MAC-N-OIDS

You're looking at the man who gave the world a bad case of *Oids*. 23 year old Dan Hewitt brought together the strong points of all his favourite games, ranging from *Defender* to *Xevious*, to combine that unique *Oids* playability with an original scenario by Wayne Holder. '..and apart from that little task, I guess I blew most of my life away playing *Loderunner*,' he confesses.

Right now, Dan's working on a Mac version of *Oids* that looks set to be the best conversion yet. He's attempted to use as many of the Mac's familiar user interface tools as possible – especially in the *Oids* construction utility.

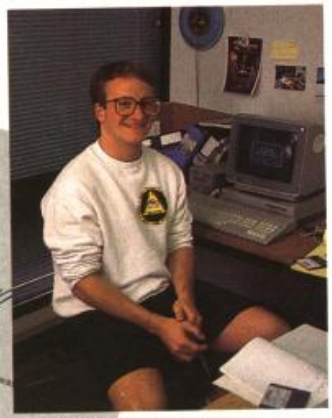


Olds on the Mac here you're designing a planetoid. Note the large icon menu top left, providing many conventional Mac editing tools.

◀ Russ Boelhauf – Wayne Holder's right-hand man – is responsible for just about everything from packaging the goods to project management. 'There are lots of companies who go for putting together simulations. We view ourselves as doing the same thing, but instead of simulating devices, we're simulating an environment.'

Sylvester Stallone is reported to have commissioned a 12-foot bronze statue of himself – in the nude. 'This thing is a monster, ' said the New York Post, '...and it's green.'

◀ Joe's development is done in C on the Mac – here's a section of code from the original Utility disk program that's executed every 60th of a second (on the US system). Joe was so shy we decided to get him to autograph it for us! If any readers out there would like a chance to pin it on their walls, just send us a postcard with your name and address: first one out of the hat gets it!



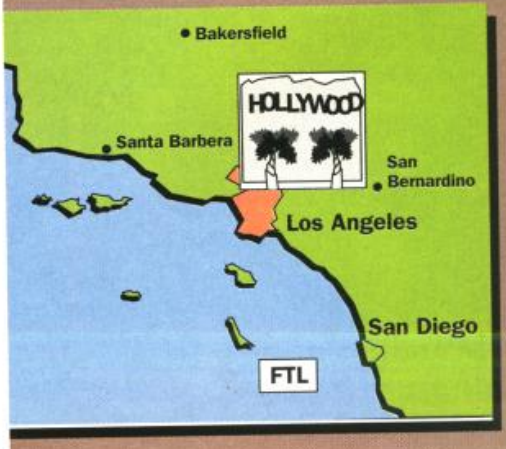
▲ 22 year old Joe Linhoff programmed the Utility Disk for Chaos Strikes Back. Like many young American programmers, he combines work at FTL with college studies. When we asked him what the biggest problem was in coding Chaos, he replied with a smile: 'I don't have ANY problems!'. Boss Wayne Holder remarked that the real difficulty wasn't in the coding, but keeping him at school.

◀ Dave Simon and Bill Kelly: FTL programmers involved in the Chaos project. 18 year old Bill is working on the Amiga conversion of Chaos. When he's not struggling away with that, he's relaxing with a game of Stunt Car – or Jez San's Starglider II. Nice to know that there are some British programmers making the grade out their for a change... Dave is using the Dungeon Master Creation utility (see The DM Story box) to put together some game demos. He's also hot on designing hostiles: 'When people ask me what I do, I tell them I spend the day designing monsters!'

(left to right) Russ Boelhauf, Doug Bell, and FTL founder Wayne Holder. Doug Bell was the chief designer/programmer on the DM project.

FTL have pulled off a neat trick with the PC version of *DM*. Packaged free with the program is a plug-in sound and joystick adaptor that uses the PC parallel printer port as a joystick/sound interface. Users will be able to get full joystick control without having to splash out on IBM's stick adaptor – and they can also get much improved sound quality by connecting the Sound Adapter to their hi-fi. PC *DM* uses 8-bit digital sound that makes a huge difference to the atmosphere in the game – but it would have been largely wasted if you had had to rely on the PC's pathetic internal speaker.

Even better, FTL are placing the code required to drive the Sound Adapter into the public domain, so hopefully other software companies will support this cheap, simple solution to PC sound. Other alternatives (AdLib boards, MT32 etc) are obviously more powerful – but they cost £100 upwards.



DUNGEON MASTER
FROM BIRTH TO FM TOWNS...

Dungeon Master on the Sharp 68000 – there's another Japanese version currently being developed for the FM Towns.

"I seriously tdoubt whether the FM Towns will still be a competitive machine by the time they're ready to release it in the UK – there are many other CD-based computers preparing to make their debut."

Russ Boelhauf

The Dungeon Master creation utility. Using this, you can knock together a spot of tunnel torture in a few minutes. The program is menu/mouse driven and very fast, providing the programmer with comprehensive features and objects that can be placed anywhere on the map, drawn instantly using the mouse pointer on a grid.

Up on the Mira Mesa, we took a time capsule right back to the beginning of the *Dungeon Master* development. Here's how one of today's most popular games evolved – from the very beginning to its recent conversion to the PC and FM Towns.

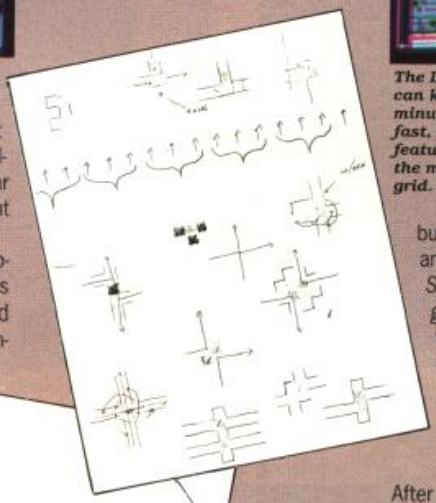
It all started with Wayne Holder's desire to produce a game in which players could experience, as nearly as possible, an individual journey. 'I wanted people to have a lot of tall tales to tell when they'd finished a game – and I wanted those tales to be unique.'

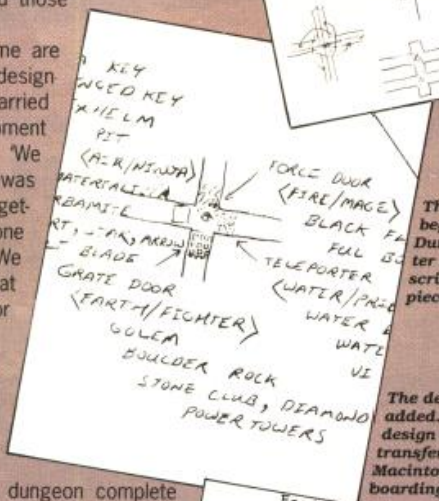
All the puzzles in the game are worked out individually. Early design is very basic (see pic A) and carried out on paper. Later on development was transferred to Macs. 'We knew,' said Wayne, 'that there was absolutely no chance of our getting our money back with just one version of *Dungeon Master*. We had to set up a system that would serve as a foundation for later games.'

Part of this system involved the development of a *Dungeon Master* construction utility (see pic B). Using this utility, a game designer can almost instantly create a DM dungeon complete with all wall, floor, and ceiling features, monsters, and traps.

The actual scenario was developed through group discussions within the company and Wayne's wife (who is a professional writer) later put together the prologue to the game. But in many ways, FTL concentrated on keeping the story as loose as possible. 'We are working towards a point where the story is scripted entirely by the player,' says Wayne, 'We take you to the starting point, but from then on it's up to you.'

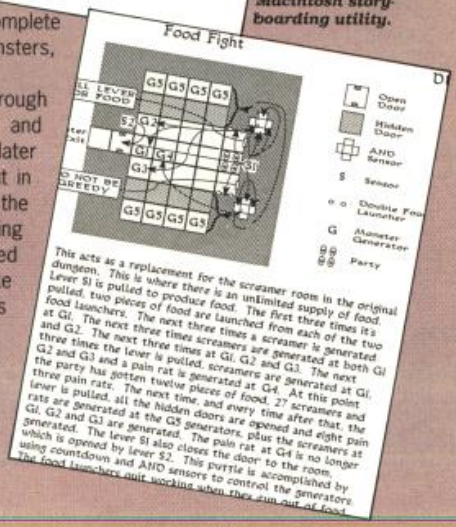
One effect of this has been to confuse a lot of people in the States who communicate about the program using bulletin boards. In America you can dial up a local bulletin board and download DM characters, tips, and even player-persona designs for *Chaos Strikes Back*. But the random nature of the *Dungeon Master* system has caused a few hiccups. 'People leave a message saying they're stuck in such and such a place, and are having a certain experience, and others dial in and say there's no such thing!.'





The very beginnings of Dungeon Master – a few scribbles on a piece of paper...

The details are added...Later the design work was transferred to a Macintosh storyboarding utility.



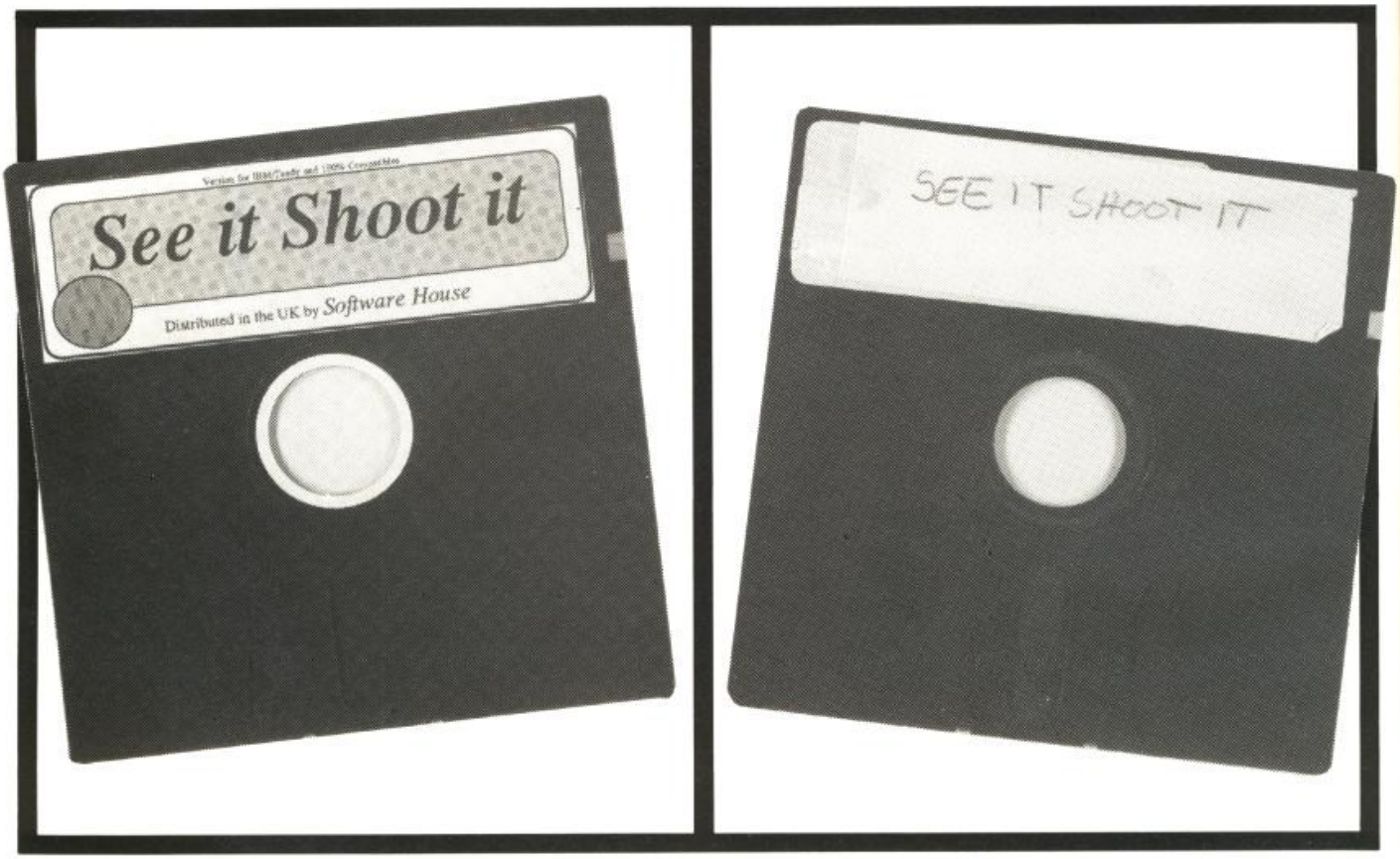
PC DM

After the success of *Chaos Strikes Back*, FTL are currently working on conversions of the original *Dungeon Master* for the PC and Macintosh. The PC version posed a few problems – 'We started off with a mono display, but soon found that the game really demands colour. Your perception of things on the floor, for example, was seriously degraded using a mono screen. The EGA/VGA version will now appear in April/May of this year.

● Robert Brewster of Longmont, Colorado is mounting a legal claim to ownership of the entire Northern USA – on the grounds that the territory was granted to his family by King Charles I. If successful, he intends to grant citizenship only to those people with blue and green eyes. Such people are, he claims, genetically superior to other humans.

● According to the Boston Herald, Paul Newman's contributions to charity over the last seven years have totalled at least $22 million, mostly earned from commercials.

WARNING



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PIRACY IS THEFT

Looking down the front steps from the main ranch building. That's the Tech building (see pic overleaf) in the distance on the right

Just north of San Francisco lies Marin County (pronounced Merinn, with the accent on the second syllable, chaps). After the dry, parched streets of LA and 'Cisco, Marin is a paradise of rolling hills and green grass, with narrow country lanes twisting past small ranches that house some of the best horse-breeding facilities on the West Coast – and some of the richest, most genteel Americans you're likely to meet.

Life here is laid-back and luxurious. During the day, businessmen roar off down the driveway to spend the working hours in San Francisco; come the evening, they slip into their 'hot tubs' (heated jacuzzis) and let the pressurised jets bubble the water around them, easing away the tensions of the office, while they make a mental note to call their stockbrokers first thing in the morning.

Skywalker Ranch

Into this refined locality plunged George Lucas. He bought up 5000 acres of real estate, put a fence around it and an electronic gate at the end of the drive, created his own security force (two of whom are on permanent duty at a guard station just inside the gate) and a fire-brigade to boot, and – in the midst of this idyllic setting – brought a film to life. Literally.

Skywalker Ranch is fantasy come true. In the beginning was a script, detailing the life history of a fictitious Marin family. According to the story, this family settled upon the land purchased by Lucas and built a beautiful colonial mansion. In 1990 the mansion still

'There will be major cinematic releases based on computer titles within two years,'

A.J. Redmer, in charge of game development at Lucasfilm.

INTERACTIVE MOVIES ON CD

Lucasfilm are another company keeping very close tabs on CD-I. When the system finally emerges, they'll have some very strong advantages over other companies. One of the big problems with CD development is generating all the data to feed those giga-byte hungry disks. No problem there for Lucasfilm. They'll have access to all the property rights and creativity of the Lucasfilm empire, not to mention the thousands of feet of film from the cutting room floors and extensive sound libraries.

'The real problem with CD-I,' says Noah Falstein, 'is the installed user base. To do justice to the budgets concerned, the user base is going to have to be very, very big. The money involved in any sort of film footage is enormous. To give you an example, a single special effects shot from ILM (Industrial Light and Magic, the sfx branch of the Lucas organisation) could cost as much as one million dollars!'

Brian Moriarty has the same sinking feelings about finances. 'What about the data generation cost?' he asks, 'How on earth do you fill a CD with equivalent of 2000 PC disks?? It takes us a year to fill six!'

Difficulties apart, Lucasfilm are joining the band of US publishers who are developing FM Towns products to refine their CD skills. *Loom* is currently being converted for the Towns along with *Indiana Jones – The Graphic Adventure* and *ZakMcKracken*. It's unlikely that any of these games will be significantly different on CD-ROM than in their floppy disk originals, but *Loom* is bound to do something special on the music side.

Once upon a time, George Lucas, the man behind Starwars and a string of other movie blockbusters, checked his bank account and noted that it was struggling under the burden of an enormous credit balance. He therefore decided to lighten its load – and at the same time create a paradise on earth, a paradise in which numerous creative people would be protected from the rigours of the outside world. There they would be encouraged by higher-than-average salaries to pursue excellence in the arts of computer game design, film production, and other worthy pastimes. ACE entered this Maniac Mansion of creativity: and here's what we found...

FROM SCREEN TO SILICON

Despite the movie connections, Lucasfilm do not, and have never claimed to be in the 'computer movie' business. 'Lots of companies boast about how they produce computer movies,' Noah Falstein, project leader of behind the latest Indiana Jones game, told us, 'but here we're close enough to the real movie world to know just how sophisticated the film industry really is compared to your average computer title.'

What Noah and his colleagues do is take movie scripts and turn them into games. The first computer movie is likely to happen when they take a game and turn it into a movie – something that development manager A.J. Redmer (known to everyone as 'A-J') reckons will happen within the next two years.

Indy in glorious 256 colour mode on the PC. Like many other US companies, Lucasfilm are designing more and more for high end machine formats rather than the lowest common denominator.

'Our questions always concern what we can do in the game that couldn't happen in the movie.' says Noah, 'We have to build on our own strength – interactivity – and at the same time do justice to the cinema original. We're lucky that we have direct access to George Lucas and Steven Spielberg and both of them have been very helpful in the past. This was especially true of *Indy*, where George was very supportive about plot divergence and made several suggestions that we incorporated in the game. Our ultimate objective is to allow the player to script the movie himself, by finding his own natural alternatives within the plot.'

When Noah wants to think, he heads off for the Ranch's luxurious conservatory and meditates amidst the foliage. At lunch-time, the lads and lasses bring their cordon bleu lunch here...

stands, historically correct in every finest detail, but actually constructed about six years ago.

Into this incredible historical environment (every window is composed of hand-finished panes and mosaics, every painting a contemporary original) the 20th century subtly pokes its technological head. In the recesses of the mansion there is a small 30-seat cinema, with wide leather seats and a ceiling constructed entirely out of polished oak casks. There are offices housing besuited marketing executives, fax machines, computers. There's a dining room where Lucasfilms employees gather at midday (all food prepared by the in-house cordon bleu chef) and outside there are yet more buildings, all in period style, housing different departments of the Lucas empire.

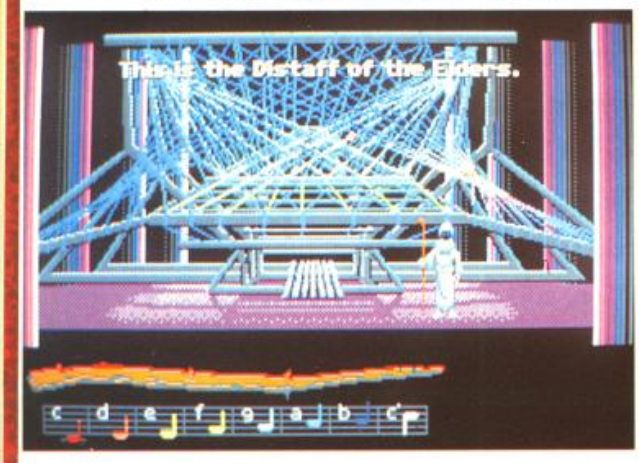
Our destination was the stable building, home of the Lucasfilms programming team...

'The CD-I specifications look great, but where are the machines? If they'd come out four years ago, they'd have been hot, but now they're behind the times.'

Ron Gilbert, SCUMM programmer

MEET MORIARTY

First on the schedule was a visit to the office of one of the company's newer recruits: Brian Moriarty, the ex-Infocom creative genius who brought you *Wishbringer*, *Trinity*, and *Beyond Zork*. Right now, he's putting the finishing touches to the long awaited *Loom*.



Loom has a complex storyline – this shot shows the loom itself in the Guild of Weavers from which the game gets its name.

Brian joined Lucasfilm because, he says, 'I saw they had a lot of potential. They don't rely entirely on games and they've got lots of multi-media resources.' Brian brings to the company a touch of the true computer veteran. He's been involved in games from the year dot and manages to combine technical excellence with other, more aesthetic considerations.

'Music is my first love,' says Brian, 'and *Loom* was actually inspired by Swan Lake, which also contributes

Brian Moriarty, ex-Infocom, now weaving new spells at Lucasfilm. Coming soon: musical fantasy extravaganzas on CD-ROM.

HIS FINEST HOUR

Larry Holland is the man behind *Their Finest Hour*, prior to which he was able to claim responsibility for *Battlehawks*, *Strike Fleet*, and *P.H.M Pegasus*. His game design career began in 1983 when he converted arcade games (including Super Zaxxon) for home micros. He works in C and assembler, using the latter for graphics routines. 'All the maths calculations for the 3D worlds are done in assembler: those are the routines you really pore over for hours to get them as quick as possible. The secret is never the maths, of course, it's to make it fast.'

Rigorous academic disciplines gained in the unlikely pursuit of a degree in Archaeology and Anthropology paid off while developing the Battle of Britain scenario for *TFH*. 'I tackled it like any other research project,' he recalls, 'and saturated myself in the literature of the day. I must have waded through at least 30 books on the subject, of which my favourite was probably First and Last by Adolf Galland, the German ace.'

Larry's long term aim is to take the techniques developed in *TFH* and produce a multi-player game. 'I'd like to start with a direct non modem link between two PC's, then work my way onto the modem side.' Until then, his challenge '...is to put a 'human' at the other end of every game. The biggest difficulty is always the artificial intelligence side. I don't just want the player to have good opponents, I want him to have a variety of opponents also. I shall remain committed to simulations: I think that story games are always a closed system, whereas in a simulation you've got 3D space and everything's much more open.'

SCUMM

***Ron Gilbert – this is the man that programmed the system that coded the games, from* Maniac Mansion *to* Loom.**

SCUMM is the programming secret behind all Lucasfilm's graphic adventure titles, including *Loom*, *Indy*, and *ZakMcKracken*. The letters stand for Script Creation Utility for Maniac Mansion and it was written in C for the PC, Amiga, and ST versions and in assembler on the C64.

SCUMM was developed by Ron Gilbert, programmer of *Maniac Mansion*. The central concept is a graphic adventure creation language that is particularly notable for its control over a central animated character.

Once the game design has been storyboarded and scripted, the programmer can code the game using a simple text processor. This source code file is then compiled into a compact, tokenised form that is interpreted during run-time. In this respect, *SCUMM* operates like many interpreted BASICs. According to Ron, '...the tokenisation results in an execution speed as fast as assembler. It's also extremely compact: it only takes 3 bytes to walk a character from one side of the screen to another.

'The *SCUMM* language also gives you high level abilities to manipulate objects and characters. To do all this, the *SCUMM* module as a whole actually comprises of an interpreter, a compiler, an animation package, and various utilities. In all, there are ten programs in the suite, but it's very easy to use. If you can program in BASIC, you can program in *SCUMM*.'

the much of the musical score for the game. In fact, I think sound is generally very underrated in games and is destined to become much more important. That's one of the things about CD development – the main thing about it is that it gives you great sound.' Since *Loom* is currently being converted for the FM Towns, this is a clear pointer towards one the strengths of that version.

As for *Loom* itself, Brian has clearly had his time cut out producing the game, which has been delayed several times during development. 'If *Beyond Zork* was different, Loom is different[2]. It's by far the hardest game I've ever done. I believe it raises the stakes for everyone.'

'One of my goals in the game was to avoid the Tolkien style of dwarves and little people which are really Hobbits but no-one dares call them that! The problem is that those stereotypes are useful if you want to avoid having to provide lots of background detail. All these gnomes, elves, and 'halflings' are useful conventions.'

The lack of stereotypes in the game is made up for by including a 30 minute Dolby stereo cassette which tells the background story of *Loom* in glorious audio technicolour. 'It was produced here by the Lucasfilms technical guys,' says Brian proudly, 'This is NOT a rinky-dink production!'

You can meet other members of the team elsewhere on these pages. One thing's for certain: no-one ever found a more beautiful place to work.

RETURN TO FRACTALUS?

Lucasfilm were one of the first companies to put out a fractal based game – *Rescue on Fractalus* involved flying over a fractal-based landscape that generated convincing landscapes using compact algorithms. Since then we've seen two other fractal engines in operation: *Koronis Rift*, which involved driving across a fractal landscape and *Eidolon*, which allowed you to go inside one.

Lucasfilm are now working on a new fractal game, which could possibly tie in all three types of fractal landscape (flying over, driving along, and going into) in a single game. Fractalus seems a likely scenario and although the company aren't giving much away the title of *Return to Fractalus* isn't out of the question.

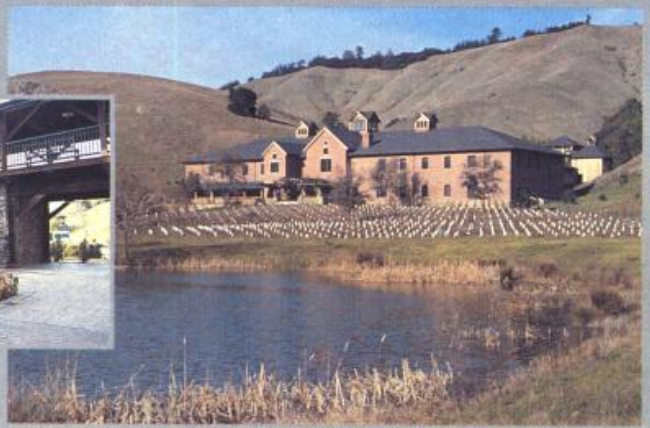
PHOTOGRAPHY NOT ALLOWED

You've never seen a picture of Skywalker Ranch, for the simple reason that photography of the main building is not allowed and the rule is strictly maintained for security reasons. You'd be surprised how many people out there think they're descended from Darth Vader and should destroy all Lucasfilm employees on sight. Check out these exclusive ACE security-conscious pics...

Having an office just outside San Francisco has its disadvantages. This split beam is just one small sign of the devastation caused by the recent earthquake.

Thanks to Betsy Irion for help getting these pics.

Inside the stables, home of the Lucasfilm programming team.



The Tech building. Pretty impressive, eh? And this is just one of the outbuildings! It houses film editing and post-production departments for Lucas' movie projects.

One of the stained glass windows: each one individually crafted by an expert.

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Defending the Crown

Cinemaware are perhaps the only company who are seriously attempting to produce 'computer movies'. Their latest game, *It Came From the Desert*, even features live actors on the CD version (see elsewhere in this article) and the company have also done pioneering work with interactive video tape technology (see Videomaster box).

'Our aim,' says development manager Dave Riordan, 'is to open up a whole new market of interactive entertainment. We already have three CD-I titles under development for release in 1991 when the machines appear. We've converted *Rocket Ranger* for release on CD on the FM Towns, and we'll support DVI if it ever makes sense from an entertainment standpoint.'

Dave Riordan thinks along much the same lines as Brian Moriarty at Lucasfilms when it comes to the implications of CD for games. 'Anything goes with CD-I – anything that we've seen on film or TV – and obviously the more full motion video capability we have the better. But in fact it's the audio that's the key. Take someone talking, for example, the intonation in their voice is what really gives the words meaning. Reading text is nothing – but you can say 'I hate you' in so many different ways and even make it sound like 'I love you'. Or, to take another example, imagine watching a scary movie without music. The music tells you so much about what's going on; without it, it's just not scary at all – and when it comes to our games I want people to really back off from the screen!'

Dave has had a long involvement with the entertainment industry. He started with a laser disk project at MIT and co-designed Ballblazer. '...But it was such a programmer's medium in those days that as a director I got totally frustrated. I went to Atari and worked on coin ops for a while, but then I saw Defender of the Crown. It had all the movie attributes and approaches that I had been trying to get George Lucas interested in back in 1980.'

THE CREATIVE PROCESS

Producing games like Defender of the Crown and It Came From the Desert involves Dave in very similar work to producing real movies. 'We work like a regular production company here,' he says, 'we have a core group of people and when a new project comes along we enlarge the team, then it shrinks back down again afterwards.'

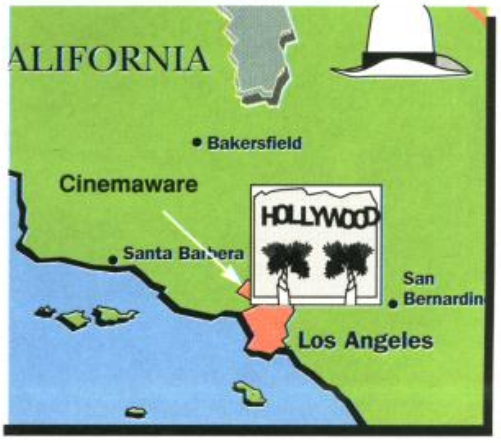
'One thing that's really changing is the money involved. The days of the $1 million dollar game are rapidly approaching. Take sound tracks for example – we used to think in terms of $1500 to $3000 for a track, now we have to pay at least $10000.'

Producing a game for the Amiga, for example, involves first story-boarding the project, then working out the internal logic and structure of the game design using Cinemaware's development utility, Masterplan (seebox). 'We're most interested in forming a good team for a game,' says DT, 'around seven or eight people. The role of the individual is not as great as it used to be. One of the advantages is that when you're on your own you don't design beyond your own technical abilities, but in a team you're always being pushed: programmers are challenged by designers, designers by producers, and so on.'

Once the game design has been laid out in Masterplan, the screenwriter writes the descriptive text and speech for the game. Even at this stage the design, although in a form ultimately usable by the core program code, is still machine independent. 'On CD, for example, you have speech facility, ' says Todd, 'and in Masterplan text can be speech or simply text depending on the hardware platform the game will be produced on.'

During the coding stage, one of the most important tools Cinemaware have developed is called BOLT. 'BOLT allows us to define data consistently from one machine to another – it identifies sound, music, and text in a way that is machine independent. So, for example, a picture in 256 colour mode on a VGA IBM will display perfectly in 32 colours on an Amiga. The position, the timing, the animation remain essentially the same. We do

Cinemaware's Defender of the Crown was one of the first programs to convincingly demonstrate the powers of 16-bit technology. At their offices in Los Angeles, they're now pushing the boundaries of entertainment technology even further..



Cinemaware's offices are only a short drive from Hollywood.

BEAN EATING BUDDY BLOWN AWAY!

Mexican Eduardo Valdez is reported to have shot his best friend – for farting. Valdez claimed 23-year old Hector Barrera had eaten two quarts of spicy beans. 'He stank up the whole apartment,' Valdez said, 'and still kept cutting loose.' US newspapers reported the story under the headline 'Gone with the wind...'

GETTING IT TAPED

Cinemaware won an award for their interactive tape game, based on Walt Disney's characters and already reported on in ACE. At their offices, we were able to get a closer look at the system and the results the company achieved.

The biggest challenge was to put together a whole interactive movie based on existing footage. All this had to be cut together to produce the final version, which consists of a single video track and two audio tracks. And the audio was even more tricky...

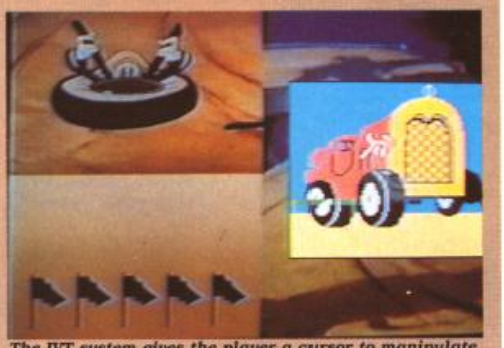
'The first thing,' remembers Dave, 'was simply that all the people who did the previous generation of Disney voices were dead. There's a whole second generation of voice-over actors doing the work. We had to over-dub every single sequence – just doing Ludwig's voice took us over five days.'

The result is a series of sequences, each of which sets up a situation (e.g. Donald getting a flat tyre) that the player – the games are targetted at young children – has to resolve by solving a puzzle. The computer graphic puzzles are overlaid against the cartoon background and the user has cursor control to manipulate the graphic objects, shoot at ghosts, or whatever.

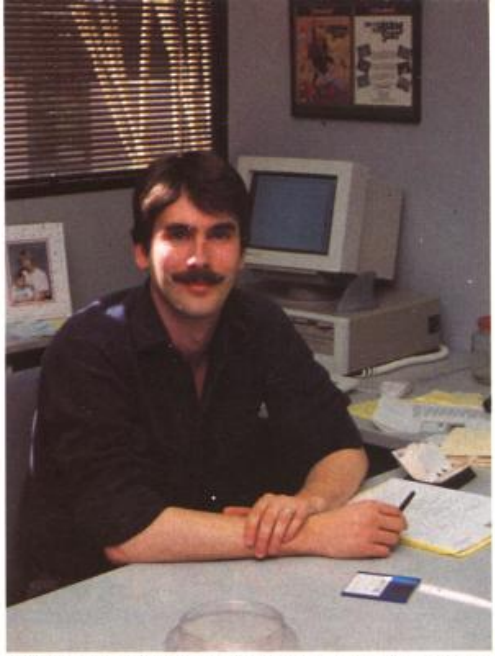
'The trouble with the Videomaster system,' explains Dave Riordan, 'was that it was sold as a toy. It got lost on the shelves amongst the racing cars and the dolls.' In the end, however, the project helped Cinemaware further refine its skills at combining movies and computers – now being tested to the full in the development of the CD ROM version of *It Came From the Desert.*

All the footage in the Cinemaware interactive video tape game was taken from existing Disney cartoons, then re-edited to produce an entirely new storyline.

Dubbing a new sound track for Ludwig's voice took five days.



The IVT system gives the player a cursor to manipulate the computer graphics and interact with the game. Here you're trying to rearrange puzzle blocks in the window on the right to put Donald back on the road again.



Dave Todd: the man who designed Defender of the Crown, and has now overseen the coding of some of the industry's most powerful programming tools for computer games.

sometimes do separate artwork, but the data description doesn't change.'

CODING FOR SPEED

It's obvious that Cinemaware have made an enormous investment in programming tools – probably more than any other software house we've visited. This not only speeds up development, leaving more time to refine the game designs, but the programs themselves have become more compact and faster in execution as a result.

BOLT, for example, ties all the data for a game together into a single file structure, compressing the data. As a result, loading times are enormously reduced – one section of code in Lords of The Rising Sun took seven minutes to load into the Amiga in the original version. After being BOLT'ed it took six seconds. This development is even more important when you remember how much data there is in a typical Cinemaware product that relies so heavily on hi-res colour graphics and sampled sound.

Finally, like many other American companies, Cinemaware now target much of their development at the new 256-colour VGA PC systems rather than the Amiga. They use several different animation tools, and when the project is completed the graphics are ported over from the PC onto the Amiga, rather than the other way round, as used to happen. Combine this striving for the best result on the best systems with the startling experimental work you can see elsewhere on these pages, and you can see why Cinemaware are – despite occasional criticisms about the playability factor – still very much at the forefront of games technology. If we ever get a real computer movie, this is where it's going to come from.

"I've always wanted to produce a game with really BIG bugs!"

Dave Riordan
(on *It Came From The Desert*)

◀ *Dave Riordan, creative director of a new generation of computer movies. Note the Philips CD-I unit on the left. The equipment on the right is part of an interactive tape system that was never released – despite offering a powerful 4-track branching facility for complex games (see ACE issue 26).*

LIVE ANTS

Cinemaware are taking a giant leap with the CD-ROM version of *It Came From the Desert* – they're actually including live actors in the game.

Scenes involving live action are shot against a green background that allows the actors to be 'chromakeyed' into the final image against a computer generated landscape. The production involves 22 actors, recruited in the traditional way using casting agencies – not difficult when your office is close to Hollywood!

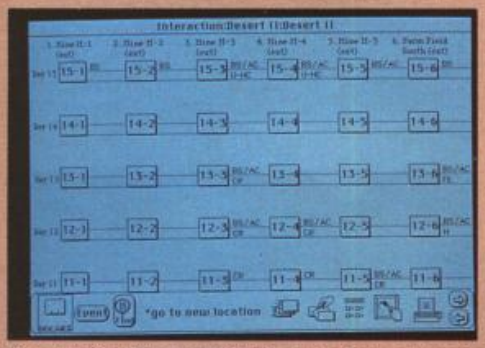
'This market needs to appeal to a lot of people who have never picked up a computer – teenage girls and women, for example. These people don't want to shoot bugs – that's boys' stuff,' says Dave, 'We're opening up whole new genres with ICFTD. Not only that, but in future we have the possibility of using big name actors.'

The celebrities are curious, it seems, and have shown a lot of interest in this new game form. 'They saw what happened with VCR's,' says Dave, 'and how they made more money from the video releases than they did from the original movies. Now they're watching out closely to see what happens with computer games. We may get big names very soon for games: there are some particularly interesting possibilities for sports games which we're looking into.'

▲ *Live actors rehearsing for ICFTD on CD-ROM – the green background is replaced by a computer generated landscape in the final game.*

Alternatively, of course, you can run computer generated images against a live video background – this technique has been seen several times before, notably in the old video disk coin-ops. ▼

The finished product: a live actor in a composite digital scene. It's expensive: actors charge around $500 a day – that's just a teensy bit more than the average programmer! ►



Cinemaware's Hypercard based game design system: Masterplan. The games designer lays out the flow of the game using a flowchart approach. Buttons and fields within the system enable all the control logic to be defined, together with animation strips, backgrounds, and dialogue boxes. In It Came From the Desert, the system was used to design a scenario covering 15 days, each composed of 24 1-hour slots and covering 37 locations. Finally, the Masterplan stack is simply exported to an Amiga. To make design changes, you simply alter the Masterplan file and re-export it.

'Programmers love the FM Towns – it's got all the bells and whistles..."

Dave Riordan

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A new storyboard utility under development, which will enable designers to 'cut and paste' scenario elements.

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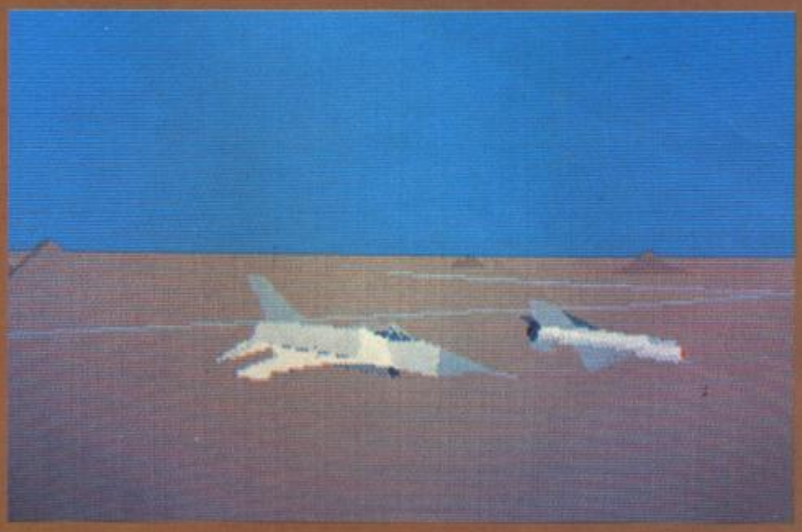
PICTURE A
"As far as presentation is concerned [redacted] STRIKES BACK looks much the same as the original Dungeon Master. The similarity, however, is only superficial – in terms of challenge and atmosphere, [redacted] is streets ahead of its prequel."



PICTURE B
"For a game that's so very combat-orientated [redacted] is definitely for fighters rather than just flying fans – there's an encouraging lack of Microprose-style jingoism. You'll find so much to learn and do with this one."

PICTURE C
"Taken as a whole, [redacted] is probably the best yet from Cinemaware – with special merit going to an atmospheric soundtrack – and anyone who enjoyed previous efforts are certain to enjoy this one."

PICTURE D
"[redacted] has had two years of intensive effort spent on it. Graphics are 'State-of-the-art' 3D and the gameplay and plot have been thoroughly worked through to provide an entertaining, lasting challenge."

NS COMPETITION

FUJITSU FM TOWNS 32-bit CD-ROM COMPUTER WORTH OVER £1500...

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STORAGE (FM2)	CD-ROM (540Mb) + 2x1.2Mb 3.5" FDs
VISUAL	640x480: 256 out of 16,770,000 colours 640x480: 16 out of 4096 colours / 2 screens 320x240: 16 out of 32768 colours /2 screens 640x400: 16 out of 4096 colours / 2 screens
AUDIO	PCM sounds: stereo 8-channel FM sounds: stereo 6-channel sampling: 8-bit, 19.2Hz CD-ROM works as an ordinary CD player
SIZE	328mmx150mmx400mm
WEIGHT	11kg
OPTIONAL XTRAs	Keyboard • 80387 processor • video card modem card • SCSI card • 14" display • RAM

TEN STEPS TO WINNING YOURSELF A FUJITSU FM TOWNS

(1) Buy this issue of ACE that you're reading in the newsagent, round a friends house, etc.

(2) Carefully unpeel the postcard on the front cover of ACE.

(3) Take a look at the sexy snaps of five great games lettered A-E on the opposite page.

(4) Do you know the titles of these five games? To help you we've included a snippet from each one's ACE review.

(5) All we want from you are the names of the five games.

(6) Write [IN BLOCK CAPITALS] the game's titles on the back of the ACE postcard. You must use the post card provided on the front of this issue of ACE – all other entries are void.

(7) Now write your name, address, telephone and com puter details on the back of the postcard.

(8) Stick a first or second class stamp on the postcard.

(9) Send the postcard to ACE – your postcard must reach us before the competition closing date of 9th April, 1990.

(10) Sit back. Relax.

THE COMPETITION RULES

- Rule Number One: Break any of these rules and your entry is void.
- Entries must be on the postcard provided with this issue of ACE – all other entries are void.
- Multiple entries are allowed.
- The closing date for entries is 9th April, 1990.
- Employees of EMAP, MIRRORSOFT and FUJITSU are not eli gible for entry.
- The Fujitsu FM Towns will be awarded to the first entry – drawn at random – giving the correct names to the five games.
- The winner will be announced in the June 1990 issue of ACE.
- The editors decision is final and no correspondence will be entered into.

PICTURE E

really is a great attempt to recreate the battle while putting you in control – though the game is easy to play it's also challenging. If you're at all serious about wargamming you should search this out."

IF WAR IS HELL... DRIVE THE DEVIL'S MACHINE

CONQUEROR™

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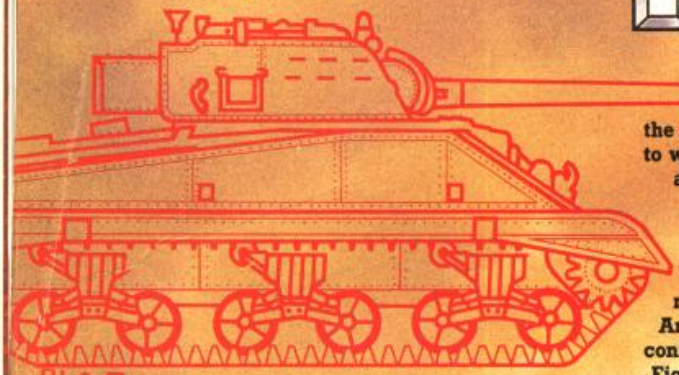

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Screen shots from various formats.

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ALL NEW PIC CURVE POWER

The PIC – Predicted Interest Curve – is the most sophisticated reviewing tool around. And now it's entered the 90's...

We on ACE know you don't just **play** a game – you **experience** it. The newly upgraded Predicted Interest Curve is the **only** review system that takes this all-important factor into account.

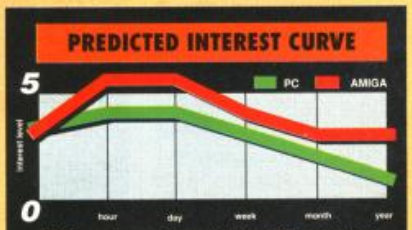
The PIC Curve has been redesigned to immediately **give you** the info **you need** at just a glance. To back up our instant appraisal there is an expanded, in-depth comment at each stage of the game's playlife. The curve is divided into six sections, indicating the player's adrenalin level after one minute, one hour, one day, one week, one month, and one year. But this tells you an awful lot than just what your interest level will be at any given time (although that's obviously important in itself)...

For example, a high one minute rating means that the game must look fantastic and get you all excited from the word go. That means it's probably a good game to show off to the neighbours – after all, they probably aren't going to pay attention for much more than a minute, after which they'll go back to drinking coffee and making rude remarks about 'those awful hostile games the boys play these days'.

The minute, hour, and day ratings can tell you a lot about a game too. If there's a dip here, followed by a rise, you've got a game that may take a bit of getting into – not recommended if you like to get down to something quick and easy. Alternatively, the graphics may put you off for a while until the gameplay starts to grip. Check out the PIC comment for more details.

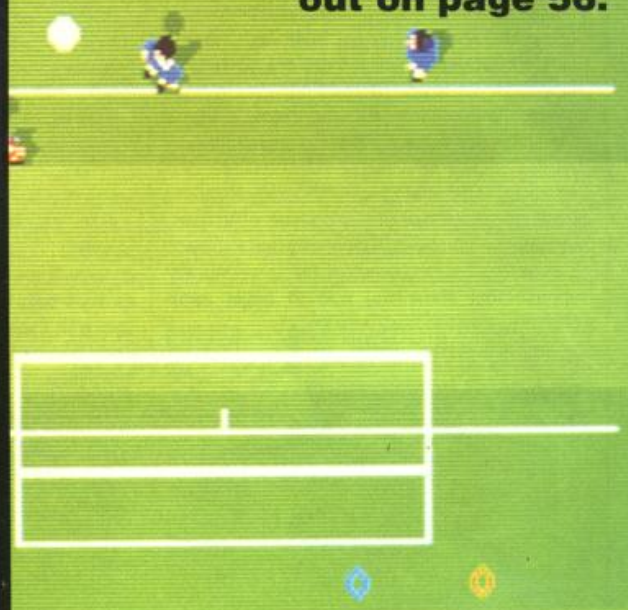
Finally, you've got the month and year ratings. The better a game holds up here the more deserving it is of your hard earned cash.

PIC curve construction takes a lot of playing on the part of ACE reviewers. PIC curve analysis is an art in itself. The reward is knowing just what you're getting when you make the decision to splash out on *Mutant Macdonald Gettysburgers*....or *Player Manager* – one of this month's ACE rated ballblazers.



We've also enlarged the PIC commentary section beneath it. This gives us more space to tell you exactly what it's like to unwrap your game, load it up, and play it – giving you those essential snippets of information and reaction that determine whether or not this is a game you have to buy. the New PIC Curve – going straight to the heart of the Games Experience.

***Player Manager* gives *Kick Off* fans a chance to reach yet further heights of ecstacy. But can anything be as good as the original *K.O.*? Find out on page 56.**



THE ACE REVIEWING SYSTEM

PIC CURVES
This unique feature to the ACE reviewing system charts the interest level that a game stimulates over a period of time. The curve is accompanied by a comment to explain why it's the shape it is. Find out more in the Pic Curve Power panel on this page...

Each review also carries special 'Version Boxes' that give you details of the game's implementation on a specific machine. These boxes include ratings for...

GRAPHICS
All aspects of the game's graphics with the limitations of each machine taken into account. A good-looking Spectrum game will therefore score higher than an average-looking Amiga one.

AUDIO
The music and sound effects are rated here. A high rating is possible on even limited machines like the Spectrum and PC if the computer's shortcomings are cleverly sidestepped.

IQ FACTOR
Yes, sometimes you have to use your brain. This rating evaluates the risk of mental effort – which some people actually enjoy...Note that ACE readers are generally reckoned to be more intelligent than other human beings, so the ratings may be lower than you expect...

FUN FACTOR
Basically a measure of mindless addictiveness. Games like *Arkanoid* and *Flying Shark* require virtually zero brain power but are still remarkably addictive. Most coin-ops score well here because they are designed for instant satisfaction. Games don't have to be *either* fun *or* intelligent – they can be both.

ACE RATING
This is not just plucked out of the air but is calculated from the area under the PIC Curve. To get a really high rating a game will not only have to be very addictive but stand the test of time as well. Just because a game does not get over 900 does not mean we are not recommending it – the following is a general guide to what the ratings mean.

900+ A classic game, recommended without reservation.

800-899 A superb game, but perhaps lacking the long-term depth to last into the month and year categories.

700-799 Still highly recommended, but probably has a couple of aspects to the gameplay that take the edge off it.

600-699 The 'fair' zone, where it tends to be very good 'if you like that sort of thing'.

500-599 This still has good things going for it, but the game clearly has some noticeable problems.

400-499 Problems with gameplay and programming make this an inferior game.

300-399 Not only is the gameplay bad but the design was probably flawed in the first place.

200-299 Things are getting really serious now...

100-199 ZX81 games running on an Amiga.

Under 100 Nothing has ever achieved this appalling level of rating. If anything ever does, it wouldn't even be worth having it for free.

VERSION BOXES
This covers version-specific information on graphics, audio, loading problems etc. If there's no box for your machine but a version is planned, it'll be covered as an update in a later issue.

THE TEAM
Laurence Scotford is ACE's ever busy Reviews Editor – Laurence has been playing games since he was a nipper, but some of them we probably ought not to mention. There was hot competition for the ACE Reviews Editor position from gamesters all over the country, but Laurence pipped them all at the post by showing that he could not only push a game to its limit, but he could push a pen too and tell you all about it.
Steve Cooke, one of the original editors of this award-winning magazine, is known to thousands through his many other previous identities, including Zzaps!'s White Wizard, The Pilgrim and Old Baldy. When he's not borrowing money and 'popping off to the States' Steve is often found playing *Ultima V* and other 'narrative computer games.
Rik Haynes was Reviews Editor on Britain's biggest selling computer weekly and has been hooked on electronic entertainment since spotting a *Space Invaders* machine in the corner of a Southend-on-Sea pub back in '78. Rik's reviews are renowned for being hard-hitting and often outspoken...
Eugene Lacey is one of Britain's most experienced games journalists.

We don't review anything until we are 100% certain that we've got it right. We've checked them out thoroughly – now you can too.

You can adjust aspects of the missiles used to suit your mode of combat (yet another feature you will want to experiment with over a couple of games).

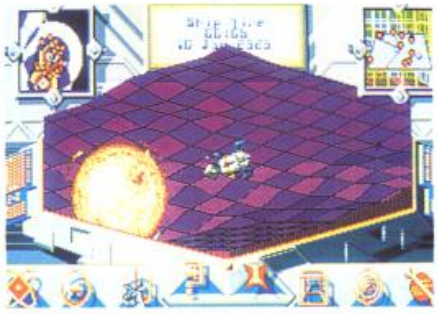
A rotating 3D display of your ship shows areas of damage (useful after a heavy battle). ►

OUTIES are nasty little critters. While the civilised universe is happy minding its own business, all these extra-terrestrial types want to do is spoil the party, and here's why. Mankind has a problem – there are too many people, and not enough planets suitable for supporting life. Answer: get out there and find new planets to colonise, and if there are no suitable planets, create them. There is, however, a slight complication – before you can create a planet to colonise you require a star for it to orbit.

This requirement might not seem too difficult to arrange – after all, the universe has a countless number of stars, doesn't it? It does, but suppose something previously unknown was to arrive from a far corner of the universe, and suppose that something was to begin transforming stars into singularities (that's black holes to you and me) which they require for continued existence? What happens? You end up with a lot of singularities, a lot of happy extra-terrestrials, but no suns, and no more Homo Sapiens. Not, I'm sure you will agree, a particularly joyful state of affairs.

The central display, showing your craft in space, also shows the gravitational lines of force. Here in deep space they are flat, but near massive bodies they distort greatly. Incidentally, the star-field will only be seen on 1 meg machines!

The distorted lines of force are clearly shown by the alternative rendering of the main display.



Unfortunately, this is exactly what has happened in *Gravity*. The Outies as they have become known are slowly but surely turning the galaxy's suns into black holes. The only way to deal with these horrible ETs is to wipe out their fleet, and turn the singularity in their home system into a sun, while at the same time creating and colonising newly explored systems. Of course, while you are attempting to do this, the Outies are trying to turn the sun in your home system into a huge great black hole, so you haven't got time to hang about.

Ironically, mankind also has a use for black holes. They are means of quick transport between distant parts of the galaxy. By setting a destination and plunging into a singularity, craft can be made to emerge at another singularity in the target system. So while it is imperative to prevent too many singularities from being formed by the Outies, one or two of them dotted strategically about.

To perform your task you have sixteen UN Scoutcraft. These can be given orders to explore systems, engage in combat with Outie craft, prepare systems for colonisation, and then set up the colony. The nice thing about

IMAGEWORKS launch a highly original deep space strategy game with a basis in modern physics

GRAVITY

ACE RATED 930

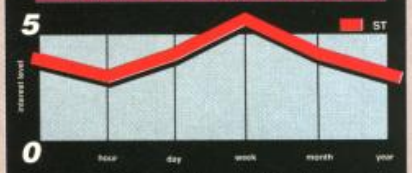
ADVANCED COMPUTER ENTERTAINMENT

ATARI ST

'The graphics in *Gravity* make the most of the unusual theme, and manage to convey well the sense of gravity wells. The menus and various screens are all quite nicely presented, if a little slow. There is not too much sound, other than a few spot effects and a rather unusual title sound track. Most control is from the mouse, apart from piloting individual craft which is achieved with simple keyboard control. Definitely a value for money buy.

GRAPHICS	8	IQ FACTOR	8	ACE RATING 930
AUDIO	6	FUN FACTOR	9	

PREDICTED INTEREST CURVE



You will initially be impressed by how much there is to do in *Gravity*. There is then a learning period in which you have to become accustomed to all of the options and the best way of going about things. The nice thing about this game is that your interest is not likely to drop significantly because their are so many skills (e.g. programming drones) which will require improvement that each time you play there will be something new to do. This game will definitely rival *Elite* in the staying power stakes.

RELEASE BOX

ATARI ST	£24.95dk	OUT NOW
AMIGA	£24.95dk	IMMINENT
PC	TBA	

No other versions planned.

EINSTEIN-MINKOWSKI WHAT?

Gravity makes use of something known as Einstein-Minkowski Four-Space. What's that? OK, here goes. As you probably know, Newton purportedly discovered gravity when an apple conveniently fell on his head. As well as being struck by the apple, old Isaac was also struck by an idea – that being, that bodies in space attract each other. The size of that force of attraction, he concluded, was proportional to the mass, density, and velocity of each of the bodies involved. As simplistic as they seem, Newton's theorems provided the basis for Einstein's (now slightly wobbly) General and Special theories of Relativity.

We are all very well aware of the three spatial dimensions (after all, we exist in them). Now imagine time as being a fourth dimension which, for simplicity's sake can be tacked onto the other three to form, as it were, a fourth plane (You'll really have to use your imagination here). Suppose that we can form a spongy supercube (that is, a four dimensional cube). This supercube represents space and time. Now suppose we take a weighty ball bearing (which represents any body existing in time and space) and drop it onto the supercube. What happens? At the point in which the ball bearing comes to land, the cube, because it is flexible, will become distorted.

Now suppose that we drop a smaller ball bearing onto the supercube. Providing that it lands far enough away from the larger ball bearing, it will form it's own indentation and come to rest there. If, however, it falls close to the larger ball bearing it will roll down into the indentation caused by the more massive body, inevitably colliding with its larger partner.

This is exactly what happens with time and space. The normally linear lines of force (which we of course know as the force of gravity) become distorted by the presence of a body. The more massive, denser, and faster that body is, the more the lines of force are distorted, forming a sort of four-dimensional well around the body. When two bodies pass within each others wells, they become attracted to each other.

Now imagine a body so dense that it stretches the space-time fabric infinitely (i.e. the well never bottoms out). This creates a distortion of such a degree that even photons cannot escape it's pull. This theoretical manifestation is what is popularly known as a Black Hole.

Enlightened now? Good.

A GOODLEY FELLOW

Perhaps it was inevitable that programmer, Ross Goodley would end up tinkering with micros, since his passion for both machines and games inspired him to 'borrow' an access code to one of the computer terminals at University (even though he was actually reading German and Linguistics), and spent many hours at the keyboard.

After graduating, Ross was introduced to the relatively new personal micros when a friend bought a ZX81. Even on such a limited machine the flair Ross had for programming soon became apparent. He managed to achieve a version of *Space Invaders* in 1K, amongst other things.

After applying to a newspaper advert he joined Alligata as a programmer. Here his fruitful career began in earnest. His past successes have included more *Blagger* conversions than he cares to remember, *Challenge of the Gobots* on the CPC, and *Meltdown* (which was something of a pre-cursor to *Gravity*). *Gravity* is his first major 16-bit project. When Ross is not juggling with op-codes he is doing much the same with balls and similar thingies, or alternatively playing some mean guitar.

Gravity, so Ross tells us, came about from a layman's interest in physics. The 'rubber sheet' idea of the universe has always intrigued him, and the challenge of trying to model that system in real-time spurred him into writing the code that eventually became one of the more original games of the past year.

Now that *Gravity* has appeared Ross plans to further exploit the fascinating universe that the game is set in. The next game, which is called *Drop Soldier* at the moment will be a planet based game dealing with small unit combat. If *Gravity* is anything to go by it should certainly be a game to look forward too.

Entering a black hole. Provided you set your destination on the cube correctly, you should emerge at another hole near to the target system.

Programming the drones is done by a series of flow charts, so you don't have to be too technically minded to use this feature.

Gravity is that you can set the ratio of orders given directly by HQ to the orders given manually by yourself. This effectively means being able to swing the game from requiring almost total arcade type skills to total strategic skills or whatever combination of the two you require.

The game is controlled from an attractive looking front panel, from which you access the various functions of the game with the mouse. Since most aspects are controlled via menus it doesn't take too long to get used to the way the game works, although learning about everything that there is to do will take a lot longer.

The most unusual thing about *Gravity* is the central display which shows your craft in space. Here space is represented by a grid of lines showing local gravitational force. These become distorted around planets and suns, and are stretched to infinity by black holes. Obviously if your ship falls into one of these distorted areas you will have to fight against the gravitic pull to escape. This means that you are constantly having to adjust the attitude of your craft to counteract the effects of gravity, but it is possible, with a bit of careful manoeuvring, to maintain a reasonably stable orbit around a planet or sun.

As you succeed in missions you accumulate more credit which can be used to upgrade the weaponry and drives on your craft, and purchase more tools to allow you to terraform dead planets for instance. Your opening strategy should then be to complete as many missions as possible to build up equipment to allow for more long term planning.

Gravity is one of the most unusual games I've seen over the past year. In scope it is absolutely vast (with the ability to program drones, for instance, adding to the possibilities). Undoubtedly the game will not appeal to die-hard shoot-anything-that-moves addicts, but for anybody who likes an involved game which exercises the old grey matter, it's a must!

● **Laurence Scotford**

EXCLUSIVE REVIEWS!!

Crackdown, the Gauntlet of the 90's

QUIDS IN!!!

Over a £1000's worth of goodies up for grabs!

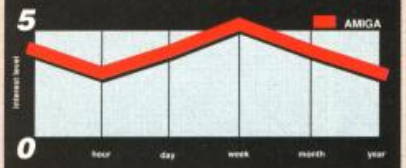
ON THE MEGATAPE!!

DEMO - Space Harrier II
DEATH ZONE - a previously unreleased game!

DRAGON'S BREATH

Dragons rule OK in a stunning strategy game from PALACE

PREDICTED INTEREST CURVE



You will initially be attracted by the superb audio-visual aspects of the game. Once you start to play you may find the game a little limiting until you become accustomed to some of the more difficult aspects like spell-casting. After several games you will begin to build up a recipe book of spells, which should make the game a lot more interesting. Because of this variable aspect you are likely to keep coming back to this one for some time.

RELEASE BOX		
ATARI ST	£29.99dk	IMMINENT
AMIGA	£29.99dk	OUT NOW
PC	TBA	
No other versions planned.		

AMIGA

There's only so much you can do on the graphics front for a strategy game and Palace seem to have done. There are several animated sequences which spice it up a bit, and the static screens are equally attractive. The soundtrack manages to convey all the atmosphere of the game without imposing itself too much.

GRAPHICS	9	IQ FACTOR	8	ACE RATING 850
AUDIO	8	FUN FACTOR	7	

STRATEGY games have always been limited by one vital factor – strategic decisions made within a computer game are always part of a closed system, as opposed to real-life decisions which are subject to an infinite number of unpredictable external influences. The answer is to devise a system which, rather than presenting the player with a set menu of choices at each stage of the game, allows him to continually alter the parameters that effect play in some way – in other words, experiment.

Palace have managed to do just that in *Dragon's Breath*. The basic idea behind the game is to find the three parts of a Talisman that allows entry to the throne room of the Great Castle on Dwarf Mountain at the centre of the land of Anrea (phew!). The reason that this talisman is so important to you is that within the throne room lies the secret of immortality. Not a bad prize, eh?

There are three characters competing for eternal life: Bachim the Alchemist; Quered the She-Vampire; and Ametrin the Green Beast. Each can be controlled by the computer or a human player. This means that you can view a demo game by making the computer control all three.

Initially there are all the sort of options you expect in strategy type games: the ability to read up on recent happenings (mostly battles in this case), and view your accounts, as well as dealing with any traders who happen to call. Most of your dirty work, which in this game involves conquering as many towns as you can, is done by your collection of dragons.

Each player begins with one dragon but may breed more. You require at least three to win the game, since you must use one dragon to guard each piece of talisman as it is found. The dragon's have three main tasks: conquering local towns and villages for taxes, attacking enemy dragons and strongholds, and searching for and guarding the pieces of the talisman. Obviously in the later stages of the game you will want to do all three of these tasks concurrently, so it helps to have as many dragons as possible.

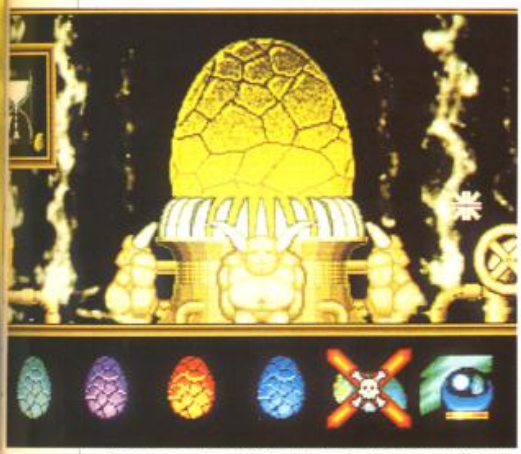
Breeding dragons is achieved by heating eggs from your stock. The hotter an egg is kept, the quicker it will hatch, but slow cooked eggs tend to produce stronger dragons. So if you are desperate for more of the creatures you can produce them swiftly, but at the cost of having a less effective force.

The major part of the game, and the most interesting, is spellcasting. Unlike a lot of other games involving spells, you are not simply presented with a list of predefined spells to choose from – that would be too easy. Instead you have to produce them yourself. This is done by mixing a number of elements in different ways to produce the final potion. This means, of course, that you will have to do a lot of experimenting to gradually build up your own recipe book of spells.

The spells can be directed at almost anything in the game from towns to dragons, and obviously they can have either harmful or good effects. The nice thing about *Dragon's Breath* is that it is not essential to master spellcasting in order to enjoy the game. You can begin playing without spells and then start to use them as soon as you feel confident enough with the basic game.

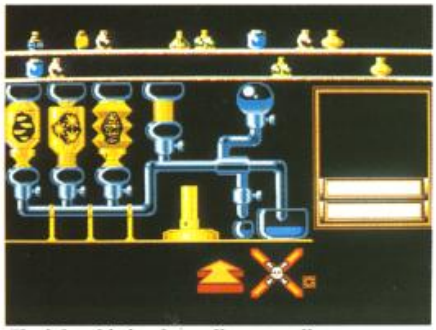
Dragon's Breath is probably the most accomplished strategy game I've seen for some time, and combined as it is with attractive graphics and an atmospheric soundtrack, should please most people who enjoy a more cerebral type of game than the standard fare. The ability to concoct your own magic brews provides endless possibilities and should keep you playing, even after you've managed to achieve the game's objective.

● Laurence Scotford



An egg on the boil. The timer in the corner is not to arrange hard or soft boiled, but counts down the time to hatching.

◄ *Using the relief map of the land you can zoom in on possible locations of the pieces of talisman.*



The lab – this is where all your spells are concocted, for better, or for worse!

KNIGHTS OF LEGEND

ACCORDING to programmer Todd Porter, "This is the first fantasy role playing game to do things in extreme depth". We didn't take his word for it, but several hours of intensive play proved that he certainly wasn't joking.

The game is set in the medieval land of Ashtalarea, a very wild place in which adventure is to be found anywhere and everywhere. There are no less than twenty-four quests to be undertaken in the game (although if you wish you may ignore any or all of them, and simply enjoy exploring the land).

Before you can begin playing you must generate some characters, choosing from the thirty-nine possible classes. Up to six can be in play at any one time, selected from those you have stored on your character disk. It is also possible to save your characters during play by staying the night at an appropriate inn. This way you won't loose any gained possessions and experience points when you next play.

ORIGIN/MINDSCAPE stun us with the most detailed and exciting computer-based Role Playing Game yet produced

Movement is achieved by steering a cursor either around the town or city you are in, or alternatively through the wilderness. When it is necessary to interact with a character you are presented with a dialogue screen and a strip of icons which allow you to engage in conversation, buy and sell supplies and equipment, and so on. Each of the NPC characters has a distinctive personality, and encounters can sometimes be quite humorous (the medieval joke shop assistant being a fine example).

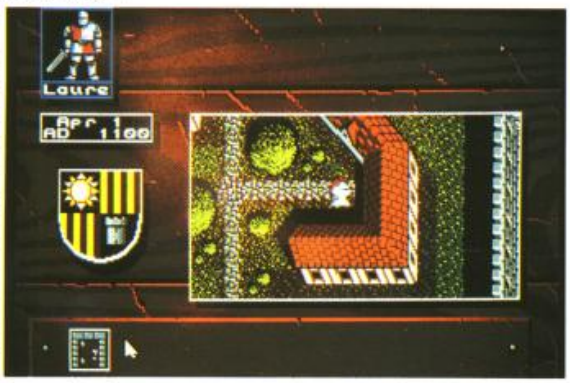
Where the detail in Knights of Legend is really apparent is in the combat and spell-casting systems. Because combat is not handled in real time (as in Dungeon Master), but in melee rounds, there is time to consider all the strategic elements of each battle, rather than just madly hacking away at things. At the beginning of each round every surviving member of the part is allocated their offensive and defensive tactics for that round. Once this is done, the whole round is played through and any damage assessed. The beauty of this system is that you only need to reset tactics when you require them to change. If you wish to a character to repeat his or her action from the previous round then you simply select OK.

Todd Porter told us that 'the key buzzword in this program is Artificial Intelligence', and this really shows in the way that your enemies react. They will, intelligently, repeatedly attack limbs that have already been damaged, and there are no less than forty different algorithms to decide when and how an enemy retreats.

Similar attention to detail can be seen in the magic system (which is superficially similar to the element construction used in Dungeon Master). It is possible to create your own spells by combining various elements of the Elven language – so, as in real life, experimentation can pay off.

When you add details like an art package for redesigning character icons and shields, the ability to name your own weapons and spells, individual damage status for limbs, and accurately modelled fatigue, then it is not easy to see that Knights of Legend offers game players a whole lot more than any similar game. Further good news is, that because the system is 100% data driven, it is only limited by the programmer's imagination. The first module for the game will be, believe it or not, a science fiction scenario! Knights of Legend has impressed us, and it will impress you – buy it!

● Laurence Scotford



While exploring the town your party is represented with a helmet icon. Entering buildings allows you to interact with NPCs.

You can view your party (in this case just a single character), and check their kit. ►

PC

The game looks very attractive indeed if you have a machine capable of supporting it's EGA graphics. If not, it is possible to install a CGA or monochrome version instead. Sound is kept to a minimum (thank heavens), so you will only have to suffer the occasional bleep. The program supports standard joystick and mouse drivers, although keyboard control is perfectly acceptable if you have neither of these.

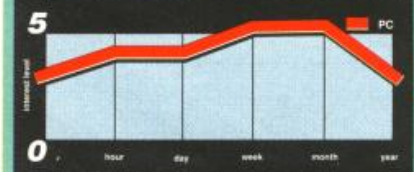
GRAPHICS	9	IQ FACTOR	7	ACE RATING	945
AUDIO	2	FUN FACTOR	8		

RELEASE BOX

PC	price T.B.A	IMMINENT

Other versions yet to be announced

PREDICTED INTEREST CURVE



It will take you quite a while to set up your first characters and wade through the informative (and large) manual. Even when you have done that you will want some time to become accustomed to the way the game works and things like combat and magic. Then you can begin to explore and take on quests in earnest, and I suspect it will be at this point that people will begin to burn the midnight oil. Because there is so much to do in Knights of Legend it is certainly not a game you are going to complete in a hurry, and even when you do, there's the planned modules to look forward to.

Comprehensive character definition and status screens are all part of the tremendous attention to detail within the game.

5th GEAR

HEWSON's beat-the-clock race game takes us all for a rather bumpy ride

AMIGA

An impressive soundtrack from Jochen Hippel is probably the best part of the game. The graphics are ok, but not overly impressive by Amiga standards. Fortunately the controls are a little less sensitive than those on the ST making this version a lot more playable.

GRAPHICS	7	IQ FACTOR	5	ACE RATING 625
AUDIO	8	FUN FACTOR	7	

ATARI ST

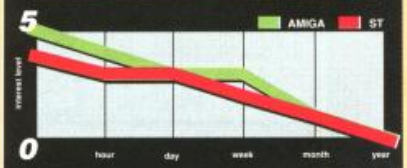
This version is the worst offender for over-sensitive controls. They are not quite so bad as to make the game unplayable, but still likely to prove frustrating to players who don't want to spend lots of time just getting accustomed to manoeuvring. Graphics are much the same as those on the Amiga, but the sound is, not surprisingly, a little less palatable.

GRAPHICS	7	IQ FACTOR	5	ACE RATING 590
AUDIO	7	FUN FACTOR	6	

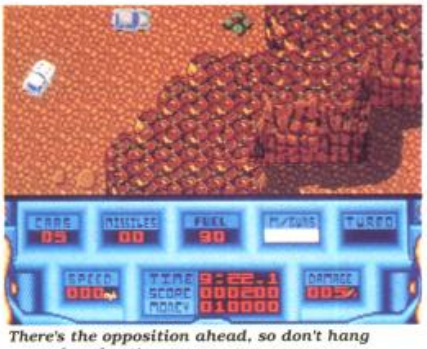
RELEASE BOX

ATARI ST	£19.99dk	OUT NOW
AMIGA	£19.99dk	OUT NOW

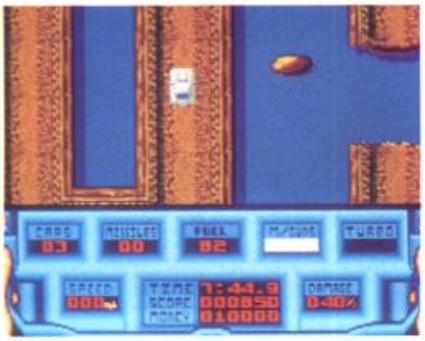
PREDICTED INTEREST CURVE



Initially the game looks and sounds reasonably good, but you will soon become frustrated by the unreasonably tricky controls. If you are prepared to persevere then there might be some more fun to be had from this game, but I suspect that most people will simply be put off by the unforgiving level of difficulty at the beginning of the game.



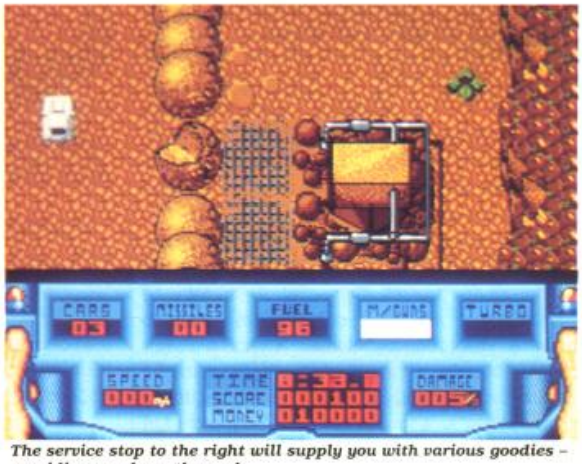
There's the opposition ahead, so don't hang around – shoot!



Pick the wrong route here and you could be heading for a very wet end

IF there are certain games that initially seem disappointing and then grow on you, there are also those that make a good first impression and then fail to deliver the goods. I have more than a sneaky impression that *Fifth Gear* falls into the latter category.

The game has you taking part in an illegal race in which the only rule is that there are no rules. You must get from the start line to the turning point and back to the line again within a set amount of time. But the route is far from easy. There are obstacles and other cars to be avoided and collision with any of them can cause serious damage or the loss of your car. Fortunately you have five cars to play with, so a little erratic driving is tolerable as long as you don't overdo it.



The service stop to the right will supply you with various goodies – providing you have the cash

Initially your car is equipped with a simple slow-firing machine gun, but you can stop off at service points to buy extra weaponry and add-ons. These include a missile launcher and missiles, helium tyres to enable you to perform *Dukes of Hazzard* type leaps, and a rapid fire option. The weaponry, should your imagination not be up to it, is for blowing away other vehicles that happen to get in your way, as well as removing tricky static obstacles.

The money you need to pay for such luxuries is awarded for every kill you make and for the time you survive. You already have 10,000 dollars when you start the game which is enough to buy you a couple of goodies, but it is generally best to save some cash to pay for refuelling and repairs. This is especially necessary since the other cars have a nasty habit of firing back, occasionally with pretty good accuracy.

The game utilises a birds eye view of the course with a status panel beneath this. The graphics are pretty enough and the vertical scrolling is quite smooth. The real problem comes when you begin to attempt manoeuvring the car. It is so sensitive that even players with the lightest touch will find themselves running into walls and obstacles a little too frequently for comfort.

I am all in favour of a challenging game but the difficulty of Fifth Gear is set at such a level as to make learning the game more of a chore than a pleasure. Naturally it becomes much easier when you know what is round each corner, but crashes are still too frequent an occurrence nevertheless. The problem is compounded by the requirement for some very tight and careful steering at certain parts of the game. Having said all that, if you are prepared to persevere with the controls you will no doubt in time managed to overcome this difficulty. But be prepared to run the first part of the course several times if you want to achieve this.

It is a shame that this aspect of *Fifth Gear* is so tricky because it mars two otherwise good 16-bit conversions. Still, if you enjoy driving games and are looking for a particularly hairy challenge then *Fifth Gear* might be worth a look.

● Laurence Scotford

SHERMAN M4

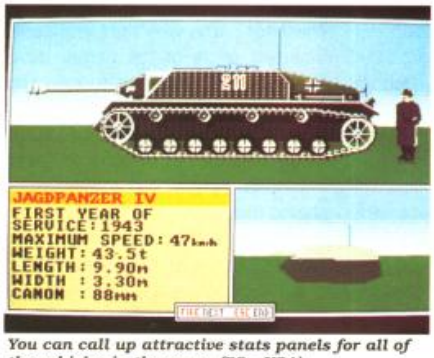
TANK simulations seem to be the flavour of the day at the moment. A couple of issues back we looked at the impressive *M1 Tank Platoon* from Microprose. In last month's issue we reviewed the Zarch based game, *Conqueror*, from Rainbow Arts, which, like *Sherman M4*, simulates battle scenarios from World War II. This month also sees reviews of Origin/Mindscape's *Omega*, and *Dark Century* from Titus – both futuristic tank simulations which allow you to adapt your own battle logic by using the built-in programming languages.

Sherman M4 is something of a tribute to the vehicle of the title, which played a significant role in many WWII campaigns. This simulation allows you to play three scenarios with the tank: Normandy, Ardennes, and North Africa. Each is characterised by distinctive background graphics, although the filled vectors that are used to create objects like tanks, trees, buildings, and bunkers remain the same throughout (bar the changes to camouflage of course).

Each of the campaigns is split into several missions, all of which must be undertaken successfully by your squadron (which comprises four Shermans and two jeeps). You are given the option of playing each of the campaign mission separately, which is obviously easier, and therefore a good choice for beginning players.

One thing that becomes immediately apparent with this simulation is the possibility for determining yourself the ratio of strategy to arcade type play. It is not only very easy to switch your control between any of the four tanks, but also a simple matter to flip between manual control and 'automatic pilot'. Admittedly this facility is also available in *Conqueror*, but here it has been particularly well implemented. The advantage of having the controls arranged in this way is that you can choose to play almost entirely with the map (just giving battle orders to your vehicles as and when necessary) or you can become actively involved in each offensive or defensive action by taking manual control of one of the four Shermans.

Orders are given via the radio and in conjunction with the map, which shows the locations of enemy and allied vehicles, bunkers and emplacements, and all the other normal cartographic features. You give movement orders to your vehicles by placing a cross-hair on the destination. Tanks under automatic control will do their best to follow your orders but may be sidetracked, if they come under attack for instance.



You can call up attractive stats panels for all of the vehicles in the game. (PC – VGA)

Got one – one of the opposition goes up in smoke on the ST.

The Desert Campaign on the ST, viewed from the interior of one of the Shermans.

Yet another tank sim enters the fray as LORICIEL/U.S.GOLD show their appreciation for the allied workhorse of World War II

At all times the individual vehicles and your HQ report back to you via a scrolling message window at the bottom of the screen. This is very useful when you are in the map mode for warning you of ambush as well as new directives.

As well as all the essential bits and pieces, the game also boasts a few gimicky features. You can select between interior view (which is best for shelling because its the only mode in which you get sights) and an exterior view. While the exterior view is called up you can switch between four different viewing angles. There is also a telescope mode, in which you can only see a small section of the forward view, but each object that comes into sight is identified.

Sherman M4 is certainly a very attractive game, and all the bits are in the right places (which will please hardened sim fans). The missions are a little too easy to begin with, but you can alter the parameters for both allied and enemy forces to even up the stakes a bit. My only criticism of the game is that it is almost totally lacking in atmosphere. The game does not manage to conjour up any sense of really being there. It is this factor alone that stops me from unreservedly recommending this game.

● Laurence Scotford

PC

Absolutely no complaints on the graphics front (VGA). The backgrounds are distinctive in each campaign, and superbly evocative of each location. Speedwise the game is fine too (even a 286 PC seems to run faster than the ST version). The only problem is the complete lack of atmosphere, not helped at all by the usual drippy PC sound. Even so, there is still some satisfaction to be had out of the game.

GRAPHICS	9	IQ FACTOR	7	ACE RATING	825
AUDIO	3	FUN FACTOR	7		

ATARI ST

The background and vector graphics are absolutely fine, although they don't run particularly quickly on this machine. Loriciel have not done too badly sound-wise considering that the frequency/noise generator in the ST is so limited. As with the PC version, however, this simulation is completely devoid of atmosphere, making it very dry to play.

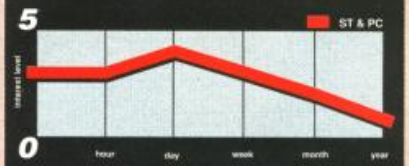
GRAPHICS	9	IQ FACTOR	7	ACE RATING	820
AUDIO	7	FUN FACTOR	6		

RELEASE BOX

ATARI ST	£19.99dk	OUT NOW
AMIGA	£24.99dk	IMMINENT
PC	£24.99dk	OUT NOW

No other versions planned.

PREDICTED INTEREST CURVE



Unlike *M1 Tank Platoon* there are not so many controls to have to become accustomed to and memorise. This means that you can get straight down to playing (after a pause to admire the graphics of course).

Your level of interest should climb slightly once you have played a few single missions and become accustomed to giving orders, but once you have played through all of the campaigns you probably won't want to come back to it, unless you are a real Sherman fan.

The frozen wastes – as you can see this game outcutes a lot of similar product (aren't those pengies sweet? No? OK)

KID GLOVES

LOGOTRON double the stakes in the super-cute jump-'n'-collect platform market

SUPER *Mario Brothers*, *Bubble Bobble*, *Verminator*, *New Zealand Story*, and *Rainbow Islands* are just a few of the titles to exploit the recent rise of cutesie games. You know the sort of thing – sprites that look like they've just walked out of the sickliest Hanna Barbera cartoon you can think of, and sound effects to match. Now Logotron have upped the stakes with the release of *Kid Gloves*, which is so cute it brings tears to your eyes.

The idea behind this one is that, being tired of listening to his uncle Indiana Stallone (sounds familiar) rattling on about his adventures, young Kid (that's you matey) wanders off into uncle Indy's study where he finds a pair of old red leather boxing gloves. Trying them on he finds himself magically transported to a primeval forest. And then the fun begins.

Kid Gloves is a fairly traditional platform game. Your aim is to get from the left to the right side of each screen by jumping from one platform to another. Unlike some recent similar releases, Kid Gloves does not scroll, but flips from one screen to another. This system actually does not really detract from the game, but adds to the challenge because sometimes you will have to double back to an earlier screen to solve a later one.

There are five levels to complete including Somewhere in the Frozen Wastes (with extra-cute penguins), London: Industrial Revolution (which features various animated machine parts), and Psychedelia (which is not at all recommended to readers who suffer from epilepsy). Each level consists of ten screens. Once you reach the right hand side of the tenth screen the gloves will transport you to the next level.

Like all good platform games there are a number of alternative weapons to use against the bad guys. You begin with the death coins which bounce around the screen hitting enemies, but require several hits to destroy large creatures. Other weapons to be had are Flames, Deathstar, and Megalaser. These can be obtained in the occasional shops (again something to be found in most good platform cuties).

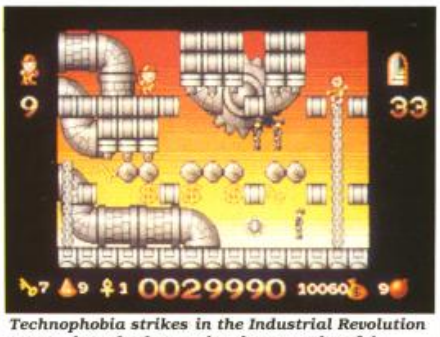
What is a little more unusual are the spells that are available to you. There are six different spells, one of which can be used on each screen providing you have the magic. Unfortunately you can never predict which spell will be used or how effective it will be, so they are obviously intended as something of a last resort.

Unlike many similar games, *Kid Gloves* involves a lot more than timing your jumps correctly and doing away with various nasties. There are particular ways to solve each screen and maximise your gains (which in this case are fruit for points, and cash for shopping). Some events, like disappearing walls and extra monsters are controlled by time-outs so if you hang around for long enough on a screen this can have either beneficial or detrimental effects, depending on the stage.

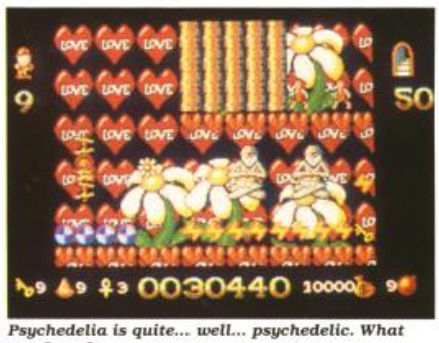
You will also have to collect keys en route to get you past certain obstacles. Even if you have the keys, a lot of careful thinking is required. A very useful feature if you do foul up a screen is 'back in time'. This allows you to go back three screens and re-run them (a far better option than having to replay the whole game).

On the whole *Kid Gloves* doesn't really offer anything that you can't get in other platform games, with the possible exception of the magic feature and the 'back in time' feature. Having said that this sort of game is fairly timeless, and cutie fans will probably not be disappointed to see another one on the shelves. Definitely one of the most attractive platform games to be released for some time.

● **Laurence Scotford**



Technophobia strikes in the Industrial Revolution stage – how do they make glum so colourful.



Psychedelia is quite... well... psychedelic. What can I say?

You will be captivated by this game from the moment it first loads. The appeal will of course gradually die after a few games. You will probably pick it up again after a while, perhaps to try and complete it. Once you've gone right the way through it's unlikely that you will want to play it again.

RELEASE BOX		
ATARI ST	£24.99dk	OUT NOW
AMIGA	£24.99dk	IMMINENT

ATARI ST

Kid Gloves immediately makes an impact on the audio-visual front. The sprites are all very appealing and there is lots of variety across the levels. The sound has also been done very well and includes extremely cute digitzed speech as well as a suitably fluffy soundtrack. A very well presented and highly playable game, even if the theme is a bit hackneyed.

GRAPHICS	8	IQ FACTOR	7	ACE RATING 825
AUDIO	8	FUN FACTOR	9	

PLAYER MANAGER

ANCO get into the footy big-time with a *Kick Off* sequel that gives you the chance to hire and fire as well as get the goals in

IMAGINE all the fun of Kick Off with a strategic management game bolted on. That is exactly what Dino Dini of *Kick Off* fame has dreamt up for Anco.

Player Manager offers a wealth of management options in an easy to implement, icon-driven play system.

You start by picking your team. A squad of thirteen players have to be chosen to take part in a full league and cup programme.

There are many weighty managerial decisions to be made. You can study the form of all the players in the list, check out their transfer fee asking price, and even improve on their performance by selecting appropriate training.

To limit the length of championship campaigns the divisions have been restricted to five or six of the most famous teams in that league. Right liberties have been taken here. Take Division Three, for example. One of the teams present is called "Bristol". But Bristol what ? City or Rovers? Surely it would have been better to opt for Bristol City if there was not room for both – not only to add realism, but also because City are the biggest and historically most successful team from the west country.

After the game options - do you really want to know what that dark blue window will reveal.

But this is a minor gripe and the overall decision to limit the number of teams is a sensible one.

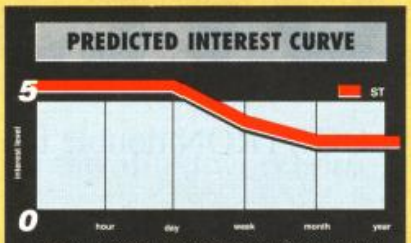
You begin your managerial career as Player/Manager in the Third Division. Your impressive international career fills the fans and club officials with hope that you will provide the spark that will end their residence in the lowly Third. But its a funny old game football and a manager's existence is a precarious one, as you will soon discover if the goals don't start going in.

When you have set up your team, checked the transfer list, club finances , carried out all pre-match training and practised tactics its time for the Kick Off. Fans of the original will recognise the hit soccer game immediately.

On Match Day you have a decision to make. Are you going to select your self and join in the frantic end to end action of *Kick Off*, or are you going to stay on the bench where you have a number of match monitoring devices at you finger tips.

The best of these is the camera which you can instruct to follow the ball or train it on a player who you want to keep a closer eye on. Matches can be played at normal *Kick Off* speed or fast mode, viewed from above in a rectangle which shows the whole pitch in miniature – your team scrambling around like bugs.

If you decide to play then you have to choose to play in position (the best option) or as a team, where you control all of the players in your team. Once the the match is in progress it plays just like *Kick Off*, with the same unique pace and variety of set piece moves that made the game such a hit.



Makes a good strong first impression thanks to the well presented strategy screens, with their various icons and windows. From the very start *Player Manager* avoids the most common mistake of management games – lists of boring tables of statistics. You are never more than a couple of mouse clicks away from the action, and that action is a modified version of *Kick Off* – the state of the art in computer arcade soccer. *Player Manger* has strong long term appeal with its save game options and potential to take part in a full league and cup season, match by match. Coded by Dino Dini (the author of *Kick Off*), the boy done well.

ATARI ST

Full marks to Anco for getting it all onto one disk. It would have been easy for them to put it on two – strategy on one, Kick Off on the other, necessitating interminable disk swapping. The ST also boasts an advantage over other versions with a white dot indicator to aid shooting and passing. One of the ST's finest.

GRAPHICS	7	IQ FACTOR	8	ACE RATING 920
AUDIO	7	FUN FACTOR	9	

RELEASE BOX

ATARI ST	£19.95dk	OUT NOW
AMIGA	£19.95dk	IMMINENT
SPECTRUM	£9.95cs £14.95dk	IMMINENT
C64/128	£9.95cs £14.95dk	IMMINENT
AMSTRAD	£9.95cs £14.95dk	IMMINENT

No other versions planned.

ACE RATED 920 – ADVANCED COMPUTER ENTERTAINMENT

After each match you get a results service of all the other league games or cup ties. Depending on the performance of your side you may wish to go back to the main menu to select Training, Transfers, or have a look at the League Placings. One option that may not wish to select is the Club Information - where you are given the Board verdict on your performance.

Even if you avoid the views of your board there is no way of missing the news updates that appear after the game on Match Day. These reports provide useful snippets of information about rival clubs. Things like players on the move, manager sackings,and sending offs.

The Coach Report is another vital information source for the manager that wants to keep in touch. The coach provides updates on individual and team morale, both of which directly effect team performances.

Of the management scenes, the Tactical Training window is the best. This enables you to set up a number moves that you can execute on match day, as well as selecting and experimenting with different formations.

The player statistics are sufficiently comprehensive to satisfy the most pernickity of arm chair managers, with ratings in all of the vital skill categories. The save option also enables you to play a full league championship if you have a whole season to spare.

The beauty of *Player Manager* is that it successfully blends a challenging soccer management game with all of the frantic end to end arcade action of Kick Off. Designers have been trying to marry arcade footy with management games for years - almost always failing abysmally. *Player Manager* brings it off in style.

Eugene Lacey

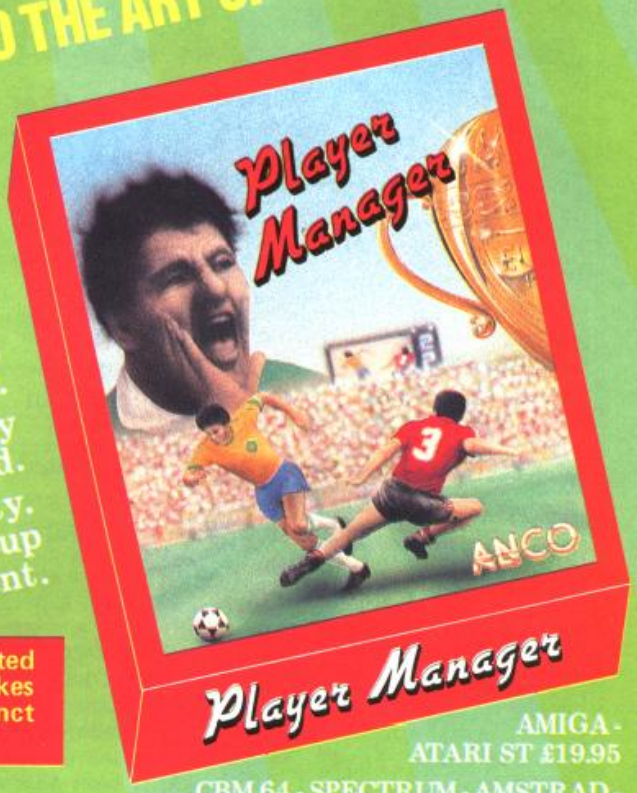
Looks familiar - match day action is refined version of Kick Off. You can look on from the bench or put your boots on and join in.

Player Manager

BY DINO DINI

BRINGS THE QUALITY OF 'KICK OFF' TO THE ART OF MANAGEMENT

* Play the BEST soccer simulation. Blistering Pace - Pixel Perfect Passing.
* Unique facility to design your own TACTICS.
* Over 1000 individual players each with a unique combination of attributes.
* A lively transfer market. Haggle for the best deal.
* Focus camera on the ball or any player on the field.
* Load and Save game facility. League and Cup tournament.



Bring Back The Glory Days, the brief of the newly appointed PLAYER MANAGER, an International class player, as he takes charge of a third division club. His success depends on four distinct aspects of the game.

AMIGA - ATARI ST £19.95

CBM 64 - SPECTRUM - AMSTRAD - ATARI 800 £9.95(Cassette) £14.95 (Disc)

PLAYING SKILLS OF THE MANAGER

This part of the game is a refined version of the KICK OFF, retaining it's pace, flavour and the universally acclaimed game play. Play in your position or control the nearest player. The first option combined with a tailor made tactics can play havoc in the opposition goal mouth.

MANAGERIAL SKILLS

Devising winning tactics, acquiring players with right skills from the Transfer market and selecting a well balanced team is the test of his Managerial skills. When to hang his boots up is the toughest decision he has to make.

TACTICS

Four well proven tactics are provided to suit most situations but you can design your own tactics. See the tactics in action using the Ray Trace facility.

THE PLAYERS

Over a thousand players in the four division league. Each player with a unique combination of the following attributes: SHOOTING ACCURACY, PASSING ACCURACY, PACE, STAMINA, APPLICATION, AGGRESSION, HEIGHT and TACKLING SKILL.

These attributes are influenced by the player's Age, Mental and Physical Dexterity, Quality of Experience, Weight, Temperament and Morale. There are several other factors such as injury, disciplinary points, unsuitable playing position which influence a player's performance.

Hosts of other factors like referees, injuries, disciplinary problems, team morale etc. can lay to waste the best laid plans of a manager. The PLAYER MANAGER brings everyday realities of a Manager's life, his talents as a manager and a player into a sharp FOCUS. THE FOCUS IS ON YOU.

ANCO

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CROSSBOW

THE LEGEND OF WILLIAM TELL

SCREEN 7

cross swords with ancient legend in this new animated arcade adventure.

WILLIAM Tell and crossbows go together like Geoff Capes and a couple of cabers. No-one understands the intricacies of arrows and quivers better than Will and he's a difficult man to beat in swordplay as well. Childcare, on the other hand, is something he doesn't excel at. Unsupervised, his son has managed to get himself into a scrape with the evil duke Gessler who's throwing him into prison for refusing to bow down to the ducal hat. For a man like Will this isn't a matter of choice; he's determined to find his son and give Gessler a lesson he'll never forget.

The search for Tell junior turns out to be an icon-driven arcade adventure with plenty of fighting sequences thrown in. Tell's exploits, which take place in the top half of the screen, are directed using a selection of icons.

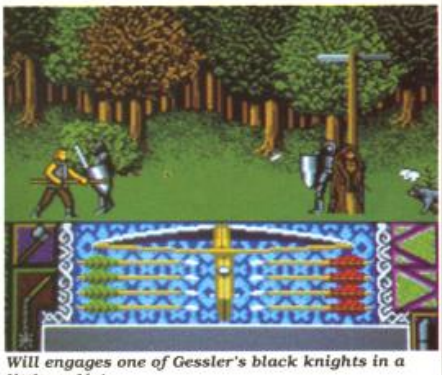
Basically, it's a question of exploring the countryside, collecting objects and dealing with the people and animals that you meet. Equipment is your first priority. Back at your hut you'll find a staff and an axe but the forest itself hides a whole armoury of extra swords, different types of arrows, crossbows and arrow winders. Any jewellry and travel documents lying about are bound to come in useful; provisions are essential if William's energy is running low.

It's best to deal with most characters by talking to them. Some will give you an object without any prodding at all; others need to be persuaded with a morsel of food or a little kindness. Icons let you offer provisions, jewels or show papers though when you start out you'll have limited supplies of these.

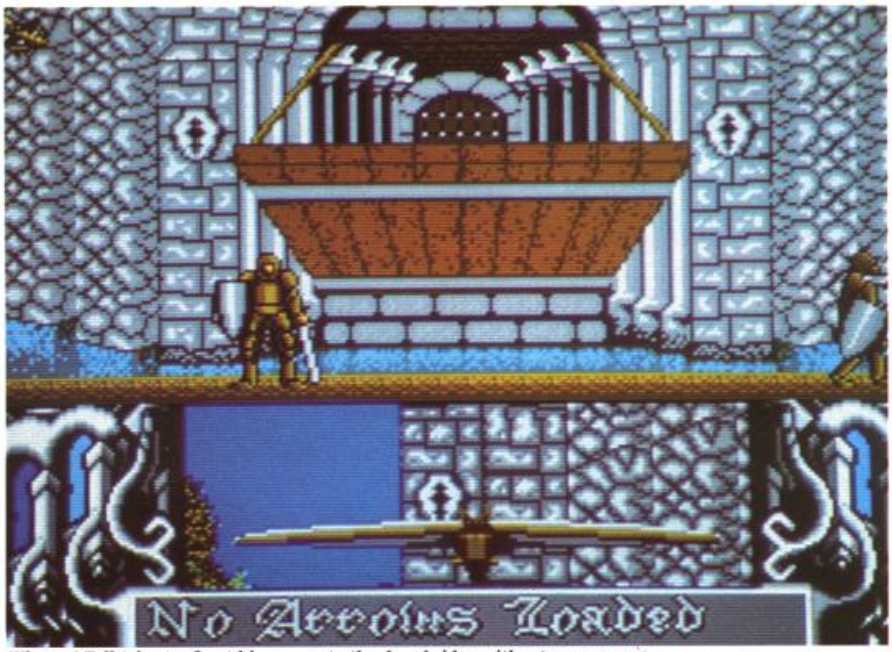
Gessler's black knights are under instructions to arrest anyone who bears a passing resemblance to William Tell. However much you try to avoid them, you'll have to go into combat eventually. The appropriate icon lets you choose your weapon and execute a few basic fighting moves. If you choose the crossbow, a target positioning window appears at the base of the screen; it's up to you to set the sights yourself.

There's obviously plenty of substance to the story; certainly enough to support hours of playing time – if you can spare it. Even so, *The Legend of William Tell* is good rather than outstanding; a lot of the location and character graphics are repeated and it takes a fair amount of exploration before you start to make much progress. Not only that, some of the initial fighting sequences are extremely tough and may put you off if you're not very patient. Definitely one to consider only if you've got lots of time on your hands and are addicted to arcade adventures.

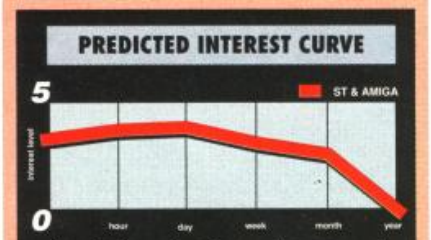
● Kati Hamza



Will engages one of Gessler's black knights in a little melée!



Whoops! Tell tries to shoot his way onto the drawbridge without any arrows.



Not a bad arcade adventure, but not a really good one either. Your initial expectations are not that high, and you won't really find much more to hold your interest after the first few games. Your interest will peak once you've got the hang of things. Of course once you've solved it – that's it!

RELEASE BOX

ATARI ST	£19.99dk	OUT NOW
AMIGA	£19.99dk	OUT NOW
SPECTRUM	£9.99cs•£14.99dk	IMMINENT
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AMSTRAD	£9.99cs £14.99dk	IMMINENT
PC	£24.99dk	IMMINENTNo

ATARI ST

Graphics and presentation are generally slick with user-friendly icons and helpful save/load options. Sound is limited to effects in-game but a jolly Lone Ranger title tune goes some way to compensating for that. Fun for a while but tedious in the long run.

GRAPHICS	7	IQ FACTOR	6	ACE RATING 679
AUDIO	5	FUN FACTOR	6	

AMIGA

Graphically and sonically more colourful than the ST version though some of the definition isn't quite as good. A tad faster but no real differences in the gameplay.

GRAPHICS	7	IQ FACTOR	6	ACE RATING 684
AUDIO	5	FUN FACTOR	6	

PIPEMANIA

ENTERTAINMENT INTERNATIONAL show that plumbing can be fun...

I can still remember quite clearly an old coin-op in which a little steam train chuffed its way merrily round a series of rectangular sliding blocks, each of which contained a different shaped section of track. The idea was to ensure that the train continued to move for as long as possible before meeting an obstruction, or the end of the track. This was achieved by sliding the sections of track around the screen in a similar way to the classic sliding letter puzzles. Considering the simplicity of the idea, the resultant game was surprisingly compulsive.

Now Entertainment International have produced a game for micros which is superficially similar, and just as addictive. In *Pipemania*, rather than a steam train you must control the flow of a rather yucky substance called Flooz, and instead of sections of track you must place sections of pipe in order that the gooey stuff can continue flowing without leaking.

O.K. So far, so good. You simply tack sections of pipe onto the source pipe to form a length of tubing which the stuff can flow through. There are complications, however. To begin with you have a fairly respectable amount of time to make headway with your construction, but once the goo starts flowing it continues to do so at a steady rate, leaving you little time to stop and think about what you are doing.

The other little complication is that sections of pipe are presented to you in a set order, and you must use them as they come, so you will often have to look at the stack of pieces to see what is in the pipeline, as it were. It is permissible to place a new section of pipe over an old one (as long as it is not in use) to replace the original piece. This process, known as 'bombing', takes more time than placing a section of pipe in an empty space. It is no good simply dumping unwanted pieces anywhere either – at the end of each round, any pieces of pipe that are gooless are removed, along with a sizeable chunk of your score.

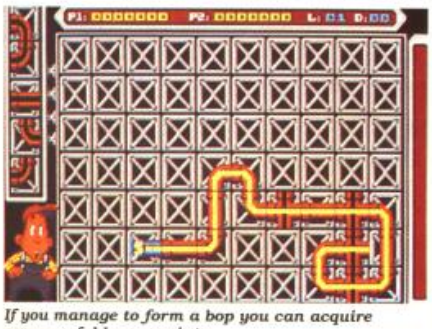
If you get clever enough to be able to form loops and other fancy structures you receive bonus points. There are also points to be had for directing the sticky stuff through pipe sections that are placed on screen before the start of the round. Then there are obstacles to be avoided, and these become more hazardous with each passing level.

At the end of each level you get to play a bonus screen. The objective is the same, but this time the pieces of pipe slide back and forth at the top of the screen and must be dropped into place (there are shades of Tetris here). This is even more difficult than the standard game because, of course, pipe sections must be stacked, which entails using a lot of otherwise unnecessary pieces.

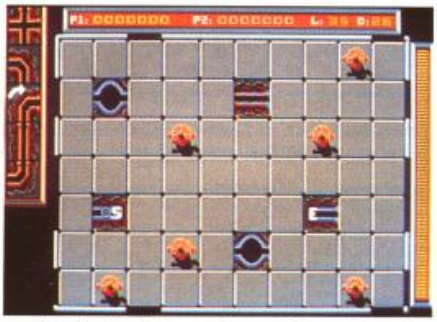
A useful feature is the use of passwords to gain entry to levels you have reached in previous games. This should give the game a longer life than it would otherwise have had if players had been forced to continually replay levels they had already mastered.

Pipemania is destined to become a huge success. It has all the elements that made *Tetris* such a superb game: an engaging simplicity, instant accessibility, timelessness, and bags of fun. When you add the two-player and advanced features of the game, it is not difficult to see that a monster hit is in the making. Unreservedly recommended.

● Laurence Scotford



If you manage to form a bop you can acquire some useful bonus points



On later levels there are plenty of obstacles, reservoirs and fixed pipe sections

COMING IN FROM ALL ANGLES!

Pipemania hasn't even hit the streets in the UK and it has already made a hell of an impression on the entertainment software industry.

Lucasfilm were quick to snap-up the program for marketing in the states, and by all accounts it is already doing very well over there. As you can see from our release box, Entertainment International are so sure that the game will have universal appeal that they plan to release it across every popular format.

In addition to the micro versions, there is a coin-op also in development – and it shows real achievement when a development for micros gets taken on for the arcades rather than the other way round.

And that's not the end of it. A version of the game for the Nintendo gameboy and an NES cartridge wil both be available around the middle of the year.

RELEASE BOX		
ATARI ST	£19.95dk	OUT NOW
AMIGA	£19.95dk	IMMINENT
SPECTRUM	£9.95cs £14.95dk	IMMINENT
C64/128	£9.95cs £14.95dk	IMMINENT
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PREDICTED INTEREST CURVE

Pipemania does not look like anything too special at first sight, but I guarantee that the moment you begin to play it you will become instantly addicted. This is one that you are going to play and play until you are absolutely sick of it. But even then you are likely to keep going back to it. A classic game.

ATARI ST

The comments made for the Amiga apply equally to this version. To be honest there isn't really anything to tell between the two – both are superbly implemented games with stacks of playability. It is nice to see that there are still some games which don't rely on stunning audio-visual elements to mask a total lack of gameplay.

GRAPHICS	6	IQ FACTOR	8	ACE RATING 910
AUDIO	7	FUN FACTOR	10	

AMIGA

Graphically, the game is quite simple, but then it doesn't need intricately drawn sprites to keep it's appeal. Similarly the sound is restricted to suitable blips and bleeps at appropriate moments. But although the game may be primitive on an audio-visual basis, it makes up for it with it's instant appeal and playability. A superb game!

GRAPHICS	6	IQ FACTOR	8	ACE RATING 910
AUDIO	7	FUN FACTOR	10	

CONSOLE CAPERS

ACE looks at some of the latest releases for the Sega Master System

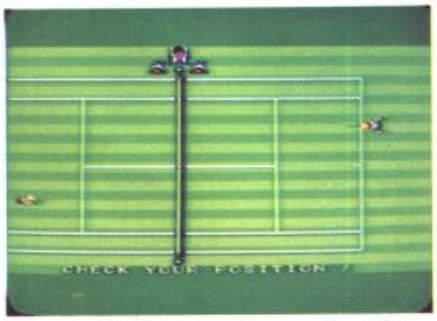
TENNIS ACE

I. Lender? J. McKin? Do these names sound familiar? Well, *Tennis Ace* incorporates them in its comprehensive attempt to emulate the fast-paced sport, and (just for good measure) gives you bags of options, realistic ball movement and occasional flashes of humour (bring back Des Lynam, I say).

Every possible permutation of two players and computer opponents has been included; you can play solo against the computer or against a friend; or you can play with a friend in a doubles match against two simulated opponents; or with a computer partner against a friend and his partner... in fact, it's this flexibility which makes the action enjoyable. In one-player mode alone it would die an early death.

There are four basic types of game: training (which helps to hone your skill level), Open Tournament (against another human player), Exhibition match (so you can show off your talent) and Grandslam Tournament, where you face the big boys (and girls). On top of this, there are three types of court surface to play on – clay (high bounce), grass (limited rebound) and hard court (high and wide bounce) – all of which do play significantly differently.

The action is presented from overhead, the court scrolling to accommodate shots travelling



Once play begins you revert to an overhead view – still a little odd, but at least you can see the whole court.

beyond the lines. Serving is different, however; it's a '3D' side-on view which switches to overhead once the ball has been struck. Many different types of shot are available, including lobs, drop shots, volleys and smashes, all of which help to spice up the action, which doesn't (and maybe should) move along at a heart-stopping pace.

The one major niggle is the amount of time it takes the program between points. You have to wait at least fifteen seconds: this may not sound so bad, and for the first few games it isn't, but when you're playing three sets (particularly against the computer) it gets on your nerves.

Tennis Ace isn't a bad sports sim, but it could have been better. The range of options is great, but the actual in-game variety is not so hot. Playing alone can become laborious, even with a password system; fortunately, the two-player options more than make up for this. However, if you haven't got a friend coming round every night, you might want more for your £25 than just a decent tennis game.

Initially, Tennis Ace strikes you as being far too easy; the computer opponents are predictable, and the collision detection between ball and racquet is very kind. Then you enter the Grandslam Tournament and things begin to get harder – but not astoundingly so. After a month's play, you'll probably find that you can beat most of the opposition quite easily and, unfortunately, that's when the one-player game dies.

More comprehensive than *Super Tennis*, this is still far from being the perfect simulation. The graphics are detailed enough and the ball movement works very well, but the sound grates even with the wide choice of tunes open to you. Despite the huge variety of options, the action itself doesn't quite hit the mark for a solo player. For two players, though, it's great!

Gordon Houghton

SEGA	£24.95ct	OUT NOW
GRAPHICS 7	IQ FACTOR 6	ACE RATING 760
AUDIO 5	FUN FACTOR 8	

The service must be delivered from a side-on view – not exactly conducive to good play

PSYCHO FOX

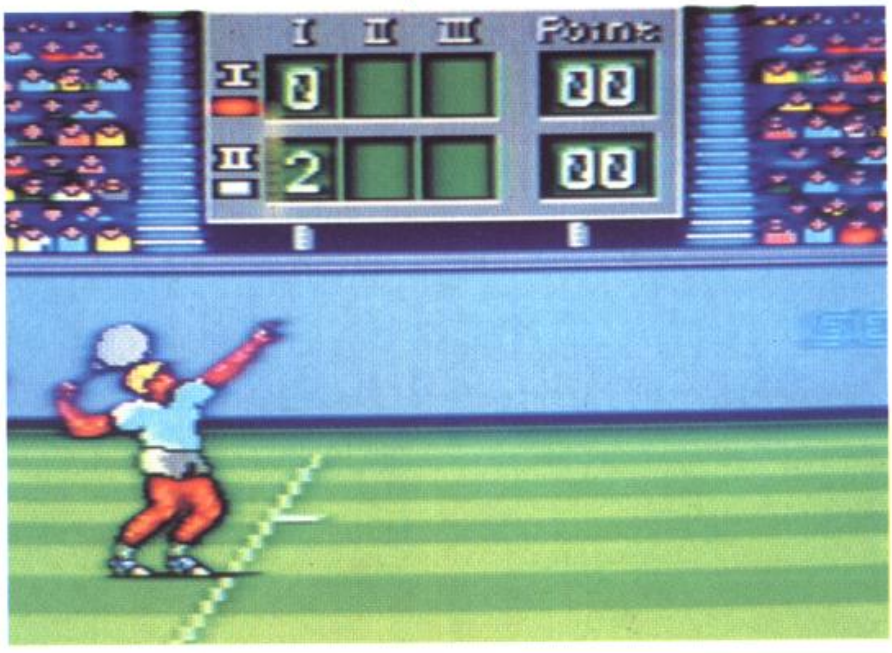
Dont be put off by the title. The fox in Sega's latest platform caper is really quite cute. Your challenge is to negotiate him around the various platforms and several levels in a bid to defeat the evil Madfox Daimyojin.

Foxes are respected creatures in Japan – worshipped at Inari temples as gods of the harvest. But this vaunted position is about to be usurped by Daimyojin, who has thrown the world into turmoil. He has populated the land with evil creatures bent on destruction.

Psycho Fox must visit all seven stages of the game eliminating these creatures with whatever weapons he can muster. The stages have three rounds each and you have just three lives with which to conquer its extensive network of platforms.

Your fox can punch the enemies to destroy them or jump on them if he is agile enough. He can also enlist the support of his trusty ally – Bird Fly. Bird Fly will launch himself at the enemy and knock them off the platform clearing a path for Psycho Fox. To get Bird Fly to perch on your shoulder you must first crack open an egg – but be careful in doing this as some of the eggs contain enemies.

The Psycho Stick is another useful artifact to look out for. It enables Psycho Fox to transform into either a hippopotamus, monkey, or a tiger. Certain forms are more appropriate than others depending on the situation. The Hippo, for example, has powerful punching power that can smash through walls but he weighs a good

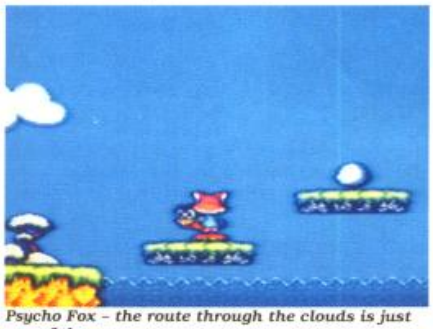


deal and may sink through some of the platforms.

Taking the correct route is the key to Psycho Fox, as some paths are a good deal more difficult than others.

Alongside all the hazards and creatures out to get you there are also plenty of 'leg-ups' for Psycho Fox. There are excellent jumping boards which enable him to trampoline high into the air to move around. There are also swing poles, jumping boards, wind rides and bridges.

Sega are still masters of cute as the Psycho Fox islands in the sky demonstrate.



Psycho Fox – the route through the clouds is just one of the many.

SEGA	£24.95ct	OUT NOW
GRAPHICS 8	IQ FACTOR 7	ACE RATING 835
AUDIO 6	FUN FACTOR 8	

Manoeuvring Psycho Fox takes a bit of practice. He can be made to move a considerable speed and carries the momentum of this speed into the air with his leap, carrying forward a good deal. On landing you can immediately right his position by moving the joypad in the opposite direction, often creating an excellent 'steaming heels' effect as he lands on a platform. Just like a *Tom and Jerry* cartoon.

Before you confront Daimyojin you must complete the treacherous seventh stage, where all of the traps that you have previously encountered must be negotiated again. As if this were not enough to worry about there are also some tricky escalators that can throw you off the scent. Daimyojin himself is as tough to defeat as any mean-looking end of level nasty from a shoot 'em up – a huge sprite taking up a third of the screen.

Apart from the main business of platform leaping in an attempt to confront Daimyojin there is also a secondary game in between stages.This is a gambling game called Amida, where you place bets with the money you have gathered in the platform scenes on how far you will get along the paths. At the end of each path is a prize. The more money you have, the more paths you can bet on.

Secondary games are popular in Japanese console games, particularly those involving an element of gambling, and they certainly do add an extra dimension, as well as providing light relief from the main business of the challenge.

Psycho Fox is very much a game for platform officianados. It is Marioesque and features some very tough pieces of platforming. It has real lasting value. There is more than one way to get around it, adding to the appeal. The Secondary Game is also fun, offering something else to boast about apart from how many of the platforms you have so far mastered.

Graphically the game is superb, particularly some of the later stages such as the Ice Zone, Wind Zone, and Underground Cavern. Perhaps not quite as appealing as the *Alex Kidd* games but certainly one of the best platform offerings available for the Master System.

Eugene Lacey

SPELLCASTER

The Japanese love role playing games. They are the most popular type of game amongst the many millions of console owners, regularly outstripping the latest shoot 'em ups and arcade games.

This explains the comparatively high number that are available for the Sega. But if you have always reasoned that RPG's with all that puzzling and adventuring are not for you then you might be wise to reconsider. *Spellcaster* is a very different type of game. It is much more arcadey than computer RPG's, and the plot and characters are all introduced to you in snappy cartoon-style cameos.

You are the ambitious young warrior Kane, determined to prove your valour to the leader Daikak. An opportunity arises when ten of Daikak's warriors are slaughtered by a mysterious enemy when they were dispatched to guard some remote mountain temples.

Daikak instructs you to journey to Izumo to find out what happened to he men. This is where the action begins, as you find yourself journeying through a forest and under attack from strange teddy-bear like creatures.

You are armed with a Dokko which you can throw at the enemy to kill them before they can tough you and reduce your strength rating which is displayed above the action window. Your energy level is also displayed at this point.

You are never far away from the action in *Spellcaster*, which is where the game departs from more pure RPG style games like *Dungeon Master*. You have to complete each of the mini arcade missions in order to reach the destinations, where you encounter other characters whom you can talk to.

Once you reach once of the eleven destinations you are given a menu of possible moves. You select either Move, Talk, Look, Take, Use, or Spell by highlighting your chosen action with the joypad and pressing fire.

Normally it is best to have a good look around first as the game will give you clues in its descriptions of the location. Look gives you a further "At what?" request which enables you to move a finger pointer around everything in the graphic window display, examining anything that you think may be of use. If something is identified you may use TAKE to grab it.

There are a further seven weapons to be picked up in the game, all of them more powerful than the Dokko with which you start. There are also the spells and you will need to cast these during certain action screens if you are to survive them and solve the mystery.

You have not really got to grips with *Spellcaster* until you start to wield the magical powers of the spells. The best of them is the Nobota spell that creates a shield impervious to all the enemy's missile attacks. The Indira Spell is one of the most spectacular, bringing down bolts of lightning to strike down your enemies.

You can cast a spell at any time you wish by pressing the pause button. This will bring down the Status Screen where you can select your spell (Providing you are carrying it) and then return to the action screen where the spell is executed. This information screen also enables you to use the "Password Save" feature which enables you to quit the game and then resume the next time you play at exactly the same position by making a note of the password.

Mars calls on the God of the War to restore your strength, Makiri enables you to fly (very useful in some of the trickier platform action screens), Fudo gives you a huge and deadly ball of fire, and Hatten calls on the God of Winds to whip up a tornado against your enemies.

There is good variety in the in the action screens that Kane must journey through. Apart from the the temples and shrines the quest also takes you into space, across time, and into the Land of the Dead.

Mastering the use of the spells and weapons makes for a good tough challenge. Ultimately *Spellmaster* is limited by its finite plot. Once you have done it you are unlikely to plug it in again. It provides a fun challenge whilst it lasts though.

Spellcaster is more of an arcade game with adventure style graphical rewards between levels than a pure RPG. Its arcade screens are tough and graphically satisfying with the added curiosity of the mystery. A competent game.

Eugene Lacey

SEGA	£29.95ct	OUT NOW
GRAPHICS 8	IQ FACTOR 7	ACE RATING 710
AUDIO 6	FUN FACTOR 6	

Kane learns of the slaughter of the warriors.

Spellcaster - the fun is in casting the spells

OMEGA

MINDSCAPE discover the ORIGIN of cybernetics, and create a game that will appeal to programmers and simulator fans alike

EVERY cybernetic engineer worth his weight in microchips knows that to reach the pinnacle of his career is to join the Organisation of Strategic Intelligence. That's where the country's experts are designing cybertanks – armoured vehicles capable of completely independent fighting, movement and thought.

You're a new recruit to this hotbed of defence intelligence and your assignment is to create the most efficient cybertanks possible on a limited budget. Design is implemented using a combination of pull-down menus and keyboard commands.

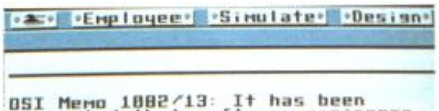
There are two main engineering points: the chassis and the tank's artificial intelligence. For the chassis it's mainly a question of choosing equipment (fuel cells, drive system, weapon type, enemy scanner etc) from a menu of available components. New recruits have a budget of 1,000 credits. This increases as the efficiency of your tank designs improve, enabling you to purchase more advanced equipment as well as extras such as energy misers, repair kits, defence shields and accelerators.

Programming a tank's AI is much more complicated. Using the Cybertank Command Language (CCL) you type in a list of commands intended to control abilities like movement, searching, scanning, rotating, firing and so on. CCL works like a mini programming language (luckily, it's based on English) and it's not something you'll learn to master in an afternoon. About 50 pages of the manual are devoted to teaching you how to use it and it probably helps if you've had some minor experience of programming before. If that all sounds a bit too complicated, you can just string together a selection of ready-made AI capsules selected by menu from the AI library: they aren't as flexible but speed up the engineering process.

Every completed design has to be authorised. This works a bit like a primary debugging process. A more in-depth de-bugging routine is also included. If there are mistakes in your AI routines, they're identified for you to go back and alter them. If not, you're free to go on to test the design in combat simulation.

There are several complete battlefields on the disk but you can construct your own using a construction kit. Options screens allow you to pick the number and type of your opponents as well as whether or not you're going to be fighting in teams. If fitted with a comm-link, tanks in your team may communicate with one another. During the simulation, which runs automatically, you can switch between localised and overhead viewpoints. At the end of the sim, your design can be evaluated; if it's good enough, you're given promotion and a bigger budget. If not, it's back to the drawing board.

The nail-biting finale. If you can't stand to watch, there's an option to switch to manual control.



One of many neat presentation touches, the bulletin board keeps you informed about the day to day running of the OSI.

Omega is probably one of the most complex games you'll ever come across. It comes with an in-depth manual which runs to about 200 pages and there's much more to it than can be adequately summarised in a review. In many ways, it's more an exercise in programming techniques than a tank sim or a strategy game. The design possibilities are endless but it probably won't appeal to the average gamesplayer. Presentation throughout has been made as user-friendly as possible and the documentation is extremely helpful but if you really want to master this game you're looking at weeks and weeks of in-depth playing time. Omega is an excellent product but it's only going to appeal to a handful of cult enthusiasts. Joystick junkies steer clear.

● Kati Hamza

Designing a tank's brains is the most time-consuming operation. Completed tanks be transferred to another computer via modem.

AMIGA

Despite minimal sonics and graphics, Amiga Omega is fast, user-friendly and extremely well-presented. Clearly aimed at a minority market though.

GRAPHICS	4	IQ FACTOR	10	ACE RATING 805
AUDIO	2	FUN FACTOR	6	

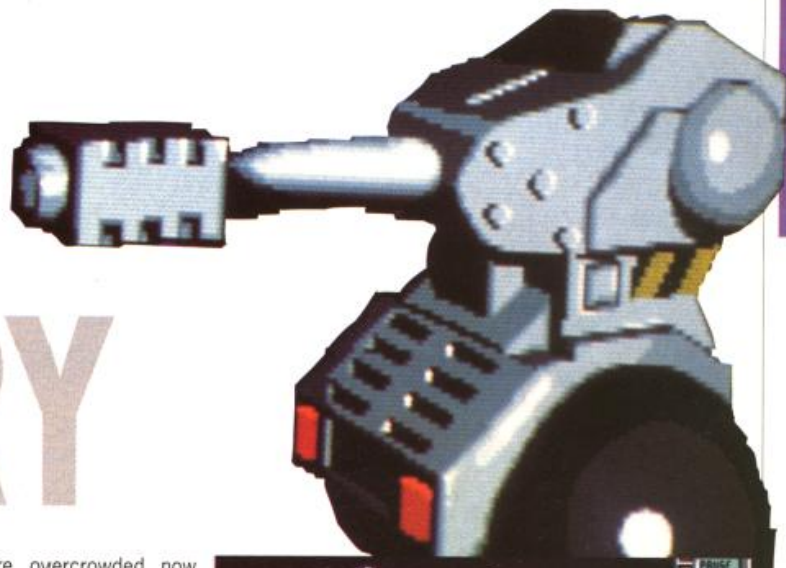
***Omega* will take a long time to master. It will take you at least a day to wade through the hefty manual. However, if you persevere, there are plentiful rewards to be had. Because the game uses a programming language of sorts, there are endless possibilities. This is one simulation that is definitely not going to receive an early retirement.**

RELEASE BOX

AMIGA	£29.99dk	OUT NOW
ST	£29.99dk	IMMINENT
PC	£29.99dk	IMMINENT
C64	£19.99dk	IMMINENT
MAC	£29.99dk	IMMINENT

No other versions planned.

DARK CENTURY



TITUS engage in a bit of programming wizardry and say 'Tanks for the Memory' in another future tank sim

IF prisons are overcrowded now just think what it'll be like by AD 2250. Luckily, Titus predict that the governments of the future will come up with an ideal solution. No more messing about with rehabilitation, electronic tagging or psychology – just ship them off to the nearest inhabitable planet and leave them there.

Unfortunately the hard-nosed beneficiaries of this humane venture don't see it quite like that. They've managed to commandeer a selection of specially designed government issue tanks and are running riot on their prison world. Unless you and your team of penitentiary guards manage to stop them in your own set of armoured vehicles, the stolen tanks' complicated self-destruct system is sure to destroy the planet.

Unfortunately a screen shot does not give an impression of the game's speed. The opposing tanks whip past you at a rate of knots.

Up to a maximum of six tanks (including the enemy) take part in each encounter, which can be played manually or in automatic mode by one or two players. Unlike a car, it's a lot more straightforward driving in manual. Just suss out the position of enemies and allies using the radar and use the joystick to hunt out the prison tanks and blast them to bits.

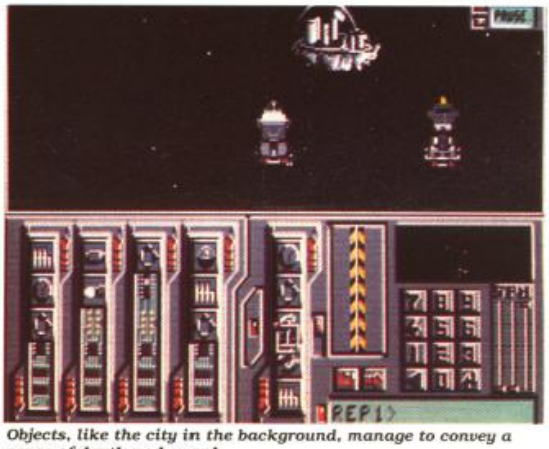
In automatic it's up to you to program the movements of tanks in advance. This means selecting and arranging a sequence of icons to specify such details as angle of turret, different speeds according to whether you're in attack or surveillance modes, targetting, number of consecutive shots and auto destruct mechanism. When you've fiddled about with all this technical detail to your heart's content, you watch the ensuing battle on screen.

It takes a while to get to grips with all of this, as getting the hang of the controls, setting your parameters and putting together an effective program is a complex, strategic process. This is clearly not the sort of game you can just pick up and play for half an hour - it requires study and plenty of practice.

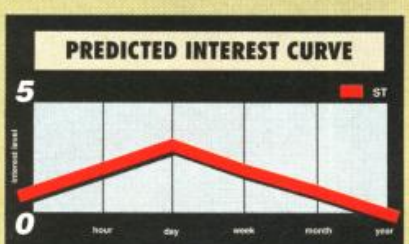
As such it resembles Origin's complicated tank programming game, *Omega*. It can't really match it in terms of complexity, though, and if you're really determined to spend hours programming and watching tanks, *Omega*, with its artificial intelligence routines, specially designed programming language and its wide variety of vehicles, is bound to be a greater challenge. *Dark Century* can only cope with a maximum of six tanks and there are few variations in landscape, or vehicle capabilities.

Within these limitations, Dark Century is a competently programmed, well-implemented piece of software clearly aimed at gamers with a strong bent towards programming. Even with the manual options, however, its specialised subject matter is unlikely to appeal to the average lover of shoot 'em ups, arcade adventures, even simulations. If you do feel like hiding away with a manual for a couple of weeks, make sure you know exactly what you're buying first.

● Kati Hamza



Objects, like the city in the background, manage to convey a sense of depth and speed.



Comprehending all the program subtleties which comprise the main (automatic) part of the game takes more than a couple of hours of hard slog. Once you've mastered the system you'll want to prove how effectively you can use it, though as there aren't many variations in terrain or tank design and no battle involves more than six tanks there's not that much opportunity to spin the experience out.

RELEASE BOX		
ATARI ST	£24.99dk	TBA
AMIGA	£24.99dk	TBA
SPECTRUM	£8.99cs	TBA
AMSTRAD	£9.99cs £14.99dk	TBA
PC	£24.99dk	TBA
No other versions planned.		

ATARI ST

The emphasis is on planning rather than portraying the action so the 3D graphical display of what's going on isn't too heavy on detail. Presentation, however, is excellent, with in-depth instructions, clear icons, and some classy introductory graphic touches. Sound, predictably, is on the poor side.

GRAPHICS	7	IQ FACTOR	9	ACE RATING 679
AUDIO	4	FUN FACTOR	6	

TENNIS ACE £24.95

CASINO GAMES £24.95

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AFTER THE WAR

DINAMIC engages in some Post-holocaust fisticuffs as one more beat 'em up hits the shelves

ATARI ST	£19.95dk	IMMINENT
AMIGA	£19.95dk	OUT NOW
SPECTRUM	£8.98cs £12.95dk	IMMINENT
C64/128	£9.95cs £14.95dk	IMMINENT
AMSTRAD	£9.95cs £14.95dk	IMMINENT

No other versions planned.

PREDICTED INTEREST CURVE

Mastering all the moves will take time, and getting to the final level will take even longer. Once you have succeeded in escaping though, that's it. It is unlikely to whirr inside your disk drive again.

AMIGA

Scrolls nice 'n' smoothly and makes tremendous use of the Amiga's colour palette. Possibly the prettiest beat 'em up to date, even if it is appallingly hackneyed in its choice of a post nuclear-war New York for its fight scene locations. Still, you don't really expect originality these days, do you?

GRAPHICS	9	IQ FACTOR	8	ACE RATING 740
AUDIO	7	FUN FACTOR	7	

THE depressing obsession with post nuclear wastelands continues unabated in the imaginary world of computer games – despite the biggest reductions in thermonuclear weapons for decades now taking place in the real world.

After The War sounds like the definitive post-holocaust, 'mean streets' beat 'em up. It looks like it too – with giant rats running wild and assorted mutants terrorising the hapless citizens of Manhattan in 2019. (Just think, Kylie will be 60 by then, if she doesn't get nuked down under!)

Into this grim metropolis comes one Jonathan Rogers. That, at least, makes an original change from Rick Fist or Danny Dangerous. But if he doesn't have a tough name – he sure has a tough job. Jonathan's objective is to reach the XV-238 launching platform – from where he can escape to one of the colonies.

Very pretty backdrops but nothing new in the game play.

After the War – twenty possible moves and aggressive opponents.

The launch platform is located inside Professor McJerin's secure compound. The mad prof is protected by a weird assortment of animal-like robots. These include Kangaroo Fighters, Kangaroo Destroyers, Flying Rats, and R.A.D Bulls.

Dinamic have set the difficulty level very high – with two separate loads – three levels in the first and two in the second. A password enables the experienced player to start on the more advanced levels once the secret word has been discovered.

The first level takes you through the streets of Manhattan where you have to battle it out with the "radio gladiators" – street dwellers who are so badly contaminated that they hardly care whether they live or die.

The "punkies" (quaint Spanish translation) live beneath the bridge in Manhattan and you must pass them on your journey towards the outskirts of the city. They are armed and have the cowardly habit of sneaking up on you from behind.

Your toughest opponents above ground are the R.A.D Bulls – massive, aggressive creatures that will slash you to bits as soon as look at you.

To compensate for the toughness of the adversaries Dinamic have programmed in twenty possible moves for Jonathan to make in his defence. These include three types of kick, two jabs, and two punches as well as normal jumping, moving forward, retreating and ducking. He can also pick up an FX Machine Gun and use mines to destroy the nasties when the going gets really tough.

Mastering a goodly number of moves is essential to deal effectively with the varying attack styles of the enemy. To the games' credit the moves can all be implemented crisply as instructed in the manual- and it pays dividends to practice these moves before setting out seriously to reach McJerins hideout.

If you make it to the second load the action switches to below ground where McJerin's cronies have taken over the Manhattan subway. It is here that you will come up against the Flying Rat Robots and "Pneumatic Shooting Torretas" (That Spanish translation again). You need to use your gun to survive this level as fists and boots aren't enough – especially in the case of the tough, human-like Guardian Androids.

At the end of this level is a lift that will take you to McJerins base. This is where the fighting becomes most intense – and you will need to exercise quick and nimble control of Jonathan if he is to survive.

After the War is competent in every department. A beat 'em up squarely aimed at the tougher, well practised exponents of computer pugilism. Graphically it is excellent, providing cinema-like atmosphere in the street and subway scenes.

My only criticism is the lack of imagination in the game play. Pretty as it is, gameplay has hardly improved at all since the days of *Kung Fu Master*. Surely it is possible to incorporate elements of strategy without spoiling the frenzied business of throwing punches, kicks and laying people out? Last Exit From Beat 'Em Boredom. Rated PG (pretty good).

Eugene Lacey

This chain-wielding skinhead absorbs a good kicking before he bites the concrete.

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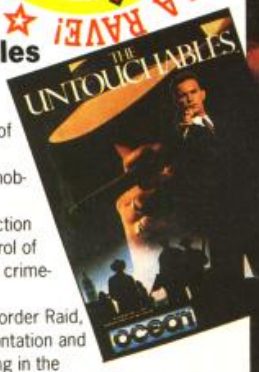

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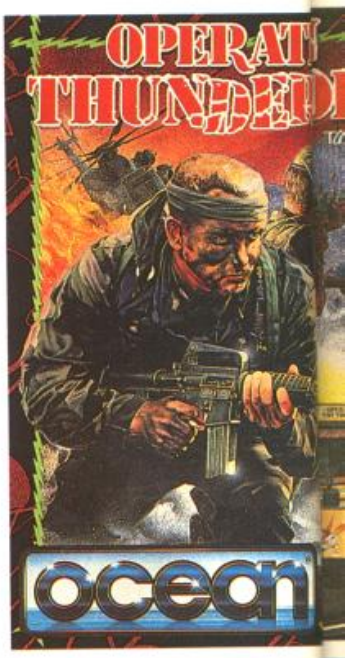

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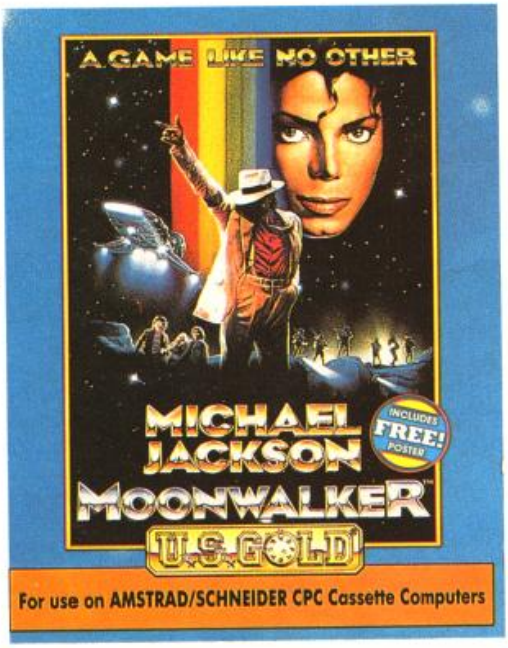

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Mark Higham - ST Format

Moonwalker

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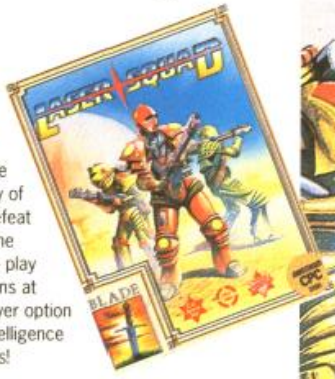
Laser Squad
from Bladesoft



Laser Squad combines strategic skill with the use of grenades and a variety of automatic weapons to defeat your foe. You can take the part of hunter or hunted - play with a friend and take turns at opposing roles. One player option plays against artificial intelligence so highly develped it bites!

"Laser Squad is a terrific game that is superbly playable and can definately be recommended as one for the library of any gameplayer." **Andy Smith, Amiga Format**

Lazer Squad

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4

Operation Thunderbolt
from Ocean

Follow up to last years No 1 hit "Operation Wolf".
The game brings you enhanced shoot-em up action for one or two players. Thunderbolt not only reporduces the horizontally scrolling gameplay of Wolf, but adds 3D action to the scenario as you test your nerve against swooping jets, helicopters, tanks and many more awesome adversaries! Use the laser sight, or the bulletproof vest, but watch out for those air-to-ground missles.

"Brilliant is the only way to describe Thunderbolt" - not a game for the faint-hearted"
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Operation Thunderbolt

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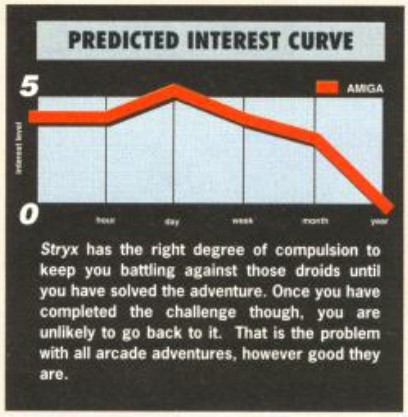
ACE 02/90

Mining for energy crystals in the Oids-like hive below the Domed City.



Stryx has the right degree of compulsion to keep you battling against those droids until you have solved the adventure. Once you have completed the challenge though, you are unlikely to go back to it. That is the problem with all arcade adventures, however good they are.

RELEASE BOX		
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No other versions planned.		

AMIGA

Comes on two disks and has the usual graphical frills during loading and at the end of the game that are now the hallmarks of this talented Scouse software house. Didn't like the load time after each go, and felt that the sound effects could have been more imaginative. Overall the game packs a lot of different challenges, provides a very colourful spectacle to look at, and makes good use of the Amiga.

GRAPHICS	7	IQ FACTOR	7	ACE RATING 790
AUDIO	6	FUN FACTOR	7	

STRYX

PSYCLAPSE unleash droids to avoid in an impressive multi-section arcade adventure with a puzzling twist in it's tail

ACCORDING to Asimov, one of the first and cardinal rules of robotics is that a droid can never knowingly harm a human being. It is a good job that this law is regularly flouted in books and computer games as if the droids were law abiding hunks of metal than these creations would be fairly dull affairs.

The droids in *Stryx* haven't the least regard for any of the laws of robotics. They are systematically seeking out and murdering the inhabitants of the pollution-free domed cities of Earth in the year 3106. This rather hackneyed sci-fi yarn provides the background for Psyclapse' latest game.

Stryx is an arcade adventure split into three separate sections – each providing a different game challenge. You start off in one of the four domes where the droids are running wild. You must arm your self as well as you can and set about eliminating the Cyborg Assassins before they wipe out all the humans. Your first move is to find the jet pack. Exploring the dome on foot is guaranteed to get your nowhere as you are likely to be pushed off a platform and land on an electrified surface that will quickly sap your life force.

You, by the way, are *Stryx* – half man and half robot, capable or running at great speed and leaping great distances. A sort of Six Million Dollar man deluxe version.

The platform capers provide a tough challenge. The aliens – particularly the Red Guards – make tough adversaries and you need to be quick thinking, as well as quick with the fire button, to defeat them

As you explore the domes you will find various objects. Three of these can be carried in your backpack at a time. There is a storage screen and operate screen in the control panel – objects being moved by one to the other by the Function keys. The main thing to keep an eye on in your control panel is your life force barometer. You must prevent this from reaching zero by topping it up. You only have one life so if it does reach zero that's it – and you are in for an annoying 30 seconds of disk whirring if you want another go.

The main items to look out for in the Domed Cities are the keys to the 'Lifeforce'. Once you have all of these you can travel to the Central Dome where you can use the keys to switch on the 'Lifeforce' annihilating all of the droids and rebel computers at a flick of a switch.

Beneath each Domed City is a hive – where energy is generated to keep the cities running. This is an *Oids* type challenge – where you float around in your mining craft picking up crystals to replenish your energy reserves.

The droids are not going to let you do this easily though – having several ground based defence installations constantly spewing out missiles, flying saucers, and rocket fire. You really need to be able to master the 'thrust' and 'rotate' controls of the mining vehicle if you are to survive.

Oids fans will love the 'Hive' part of *Stryx*. It provides all of the *Asteroids*-like fun of floating but with the addition of full colour and a fantastic assortment of aliens.

The third section of the game takes place in the Connection Tubes – linking the four Domed Cities to the fifth Central Dome. This was the most disappointing level from a game play point of view. It would have been better had it been a pure speed test – racing down the tunnels blasting the aliens. As it is, the tubes are cavernous, like the hive, and you keep banging into things. The jet bike you ride is fun though – very well drawn and capable of real speed.

When you have all of the keys you need to journey to the Central Dome you can attempt to program the computer . This provides a little bit of puzzling right at the end of game, and is a well though out conclusion to the adventure.

Three arcade challenges – well two and a half really – cobbled together in one game. Arcade adventure fans will not be disappointed with *Stryx*. There is still a shortage of decent AA fun to be had on 16-bit machines and *Stryx* helps fill the gap.

● Eugene Lacey

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Sega also announce that 'grey' imported Mega Drives will be incompatible with the software which will be marketed in Europe when the official Mega Drive is launched later this year, and that owners of the 'grey' imports will not therefore be able to run this software.

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CTW Survey '89 CTW Survey

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SEARCH FOR THE TITANIC

Once you have acquired a ship, some personnel and equipment, you can begin the hunt for wrecks.

WHEN she was constructed in 1912, the Titanic was the biggest moving object ever built by man. She weighed 46,000 tons, carried over 2,000 passengers and was declared the ultimate unsinkable ship. After the collision with the iceberg, which came just four days into her maiden voyage, the exact location of the wreck remained an unfathomable mystery, until it was finally discovered in 1985. Capstone's oceanographic sim lets you enact that search.

CAPSTONE/CRL prove that life under the ocean waves might not be quite as exciting as landlubbers think

Not that the Titanic is your immediate objective. Basically, you're short on the necessary readies and need to amass a reputation akin to Jacques Cousteau's before the big sponsors start writing out blank cheques. The only way to do that is to go on low-budget wreck-hunting trips (about ten) and bring back plenty of undersea evidence.

Each expedition is divided into two separate phases: planning and execution. Both are heavy on strategy, low on action; most commands are performed via key presses and menu selection. Graphic representation is minimal and confined to the second part.

Planning involves selecting your ship and starting port, deciding what sort of equipment, if any, to buy and hiring enough suitably qualified crew. As you've got to finance salaries and enough water, food and fuel to last the trip as well, your initial budget of $10,000 isn't likely to stretch very far. That's when you apply for sponsorship from a menu of potential companies picking one of a selection of good reasons why you want the cash. It's all a question of clinical key presses; the begging, wheedling and grovelling 'just like real life' promised by the manual, doesn't really come into it.

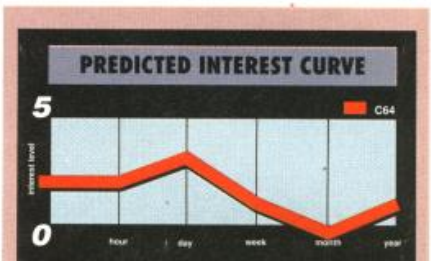
You can't leave port if you've bodged up essential arrangements like hiring divers or making enough safety provisions. Get them right and you head out into the open sea. You're after the co-ordinates of one specific wreck and your first job is to get out there in one piece by altering direction and speed.

When you've made it, it's time to survey the ocean floor using divers and any equipment like a minisub, bathysphere, sonar platform or suction tube you might have bought. First trip out, you'll probably only be able to afford to send divers down on searching and surveying expeditions to the ocean floor. If you find anything, great, if you don't you'll just have to keep looking.

You couldn't ask for a more complex game-design. There are more than enough options to allow for innumerable different wreck-seeking trips and lots of screens and tables to give information on factors which might affect their outcome. Bad weather, crew health and how carefully you've stocked up are all important considerations.

What is missing is any real sense of suspense or excitement. The action moves very slowly and there's not enough visual representation or sound to give much incentive for exploration. This is no problem if you like your simulations long, involved and ponderous. If you don't, the repetitive diving and searching (which takes ages to reap any rewards and has practically no visual impact) will just get too tedious. One for very serious simulation fans only.

● Kati Hamza



Digesting the long and informative manual, getting to grips with the controls and playing right through your first game successfully is likely to take about a day. It took them three quarters of a century to find the Titanic so you should be prepared for a long wait if you're determined to play this to the bitter end. Maximum enjoyment requires the sacrifice of lots of playing hours.

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No other versions planned		

C64

Graphically and sonically, *Search For The Titanic* is severely limited. Apart from a few maps in drab colours there's little to comment about other than the menu displays – they're easy to use and comprehend. In keeping with the lethargic speed of the diving section is the long disk-loading time. Make a cup of tea while you're waiting.

GRAPHICS	3	IQ FACTOR	8	ACE RATING 647
AUDIO	1	FUN FACTOR	6	

Careful navigation is essential in your search for the wreckage of the world's greatest liner.

GRAVITY

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Screenshots from ST version

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Gravity designed and programmed by Ross Goodley. Visuals by Pete Lyon.

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GAZZA'S SUPER SOCCER

EMPIRE and the Mars Bar Boy make a real soccer turkey with this no-go footie sim

PAUL Gascoigne, as any football fan worth his salt will tell you, is like George Best. They'll inform you that he's one of those players who has an amazing amount of skill and potential, but his temperament lets him down. 'The Mars Bar Boy' and 'Fatty' are just a couple of this lovable, cheeky character's previous appellations; most people these days call him 'Gazza' and this is where Empire and the programming boys at ODE step in.

Gazza's Super Soccer gives you three basic options; you can play a single game, create a league or generate a cup competition. If you play a one-off, you're offered the choice of one or two players, each of whom can select teams (drawn from the current First Division), name their players individually and decide on skill levels and tactics.

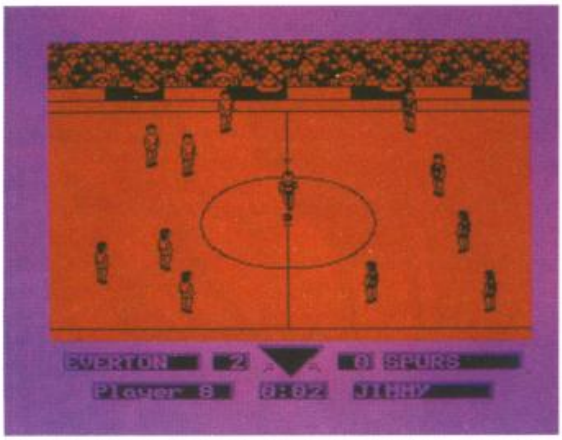
League and Cup competitions follow a similar pattern. For example, in both you decide on the tournament size (between four and 20 teams for the League, and between eight and 64 for the Cup), then create a new team or load a saved one. You can also name the contest: unfortunately, the program doesn't allow many letters, so if you wanted to call your cup 'Littlewoods', it would read 'Littlewoo'. There's an extra option which allows saved code from any 8-bit machine to load into any other 8-bit machine – a nice touch.

Unfortunately, the action doesn't complement the meticulous pre-match presentation. It's displayed in three parts: a central section viewed from the side, and two end sections seen from the viewpoint of the attacking team. In any event, the player in possession is marked by a triangle above his head.

The system used is a big let-down. The controls are fiddly (you have to change direction when the viewpoint changes, and you have to press 'Enter' to access the goalkeeper), and the graphics are poor, particularly the sense of perspective, the pitch proportions and the player animation. This latter aspect is so jerky that it's hard to see what's going on a lot of the time, a fact aggravated by the seemingly aimless wanderings of most of the other players on the pitch. To cap it all, the sound is limited to a few measly blips and vague roaring noises.

If the other versions are anything like this, avoid them. The programmers don't seem to have captured the feel, speed or excitement of real football, and certainly haven't matched the addictiveness of other soccer sims. It's enough to put Gazza back on the Mars Bars again.

● Gordon Houghton



In the centre of the pitch you get a side-on view similar to Matchday.

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No other versions planned.

SPECTRUM

If you've ever played *Matchday II*, you'll know what a Spectrum can do with a soccer game. It can provide easy-to-handle controls, tense and exciting gameplay and a wide variety of options. *Gazza's Soccer* scores ten out of ten for options, but forgets the most important bit: the action! It's better to watch the man himself on tv than subject yourself to a football simulation which fails miserably in the -gameplay department.

GRAPHICS	3	IQ FACTOR	6	ACE RATING 297
AUDIO	2	FUN FACTOR	2	

PREDICTED INTEREST CURVE

Confusing and disappointing to begin with, *Gazza's Super Soccer* never even scales the foothills of mediocrity, preferring the quiet, grassy plains of football game oblivion. If you do take to the style of gameplay (which is unlikely), the multiple options for generating your own leagues and cups may well keep you happy for a week or so. After that, the game will be consigned to the bin marked 'I wish I hadn't bought that'.

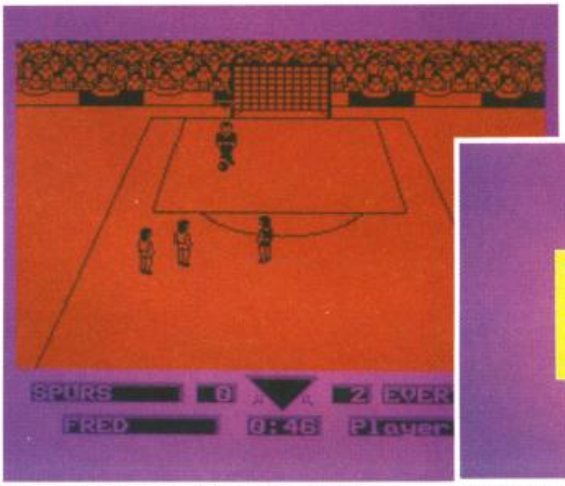
THE SOCCER SYNDROME

Without a shadow of a doubt, Soccer simulations have always been the most popular sport titles for micros. Over the past decade there has been a whole plethora of games from huge turkeys to absolutely stunning timeless pieces of programming.

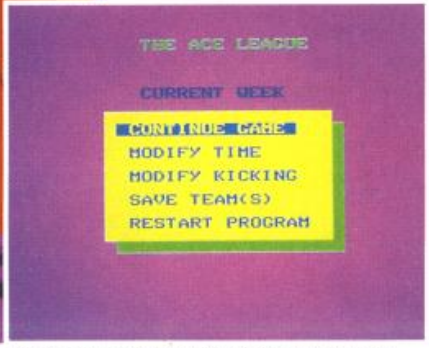
Perhaps the first program to really make its mark was Ocean's *Matchday*, developed by programming supremo Jon Ritman (also responsible for superlative games like *Head over Heels* and the original *Batman* isometric 3D adventure.

Most recently, however, the crown has been taken easily by Anco's superb *Kick Off*. This utilises an overhead view rather than *Matchday*'s side-on perspective.

With so many soccer games around at the moment, and in the face of such strong competition, it will be interesting to see whether titles like *Gazza's Super Soccer* and *Footballer of the Year 2* can hold their own. It also remains to be seen whether Anco can remain at the top of the league with their impending management sim *Player Manager* (see the review elsewhere in this issue for more details).



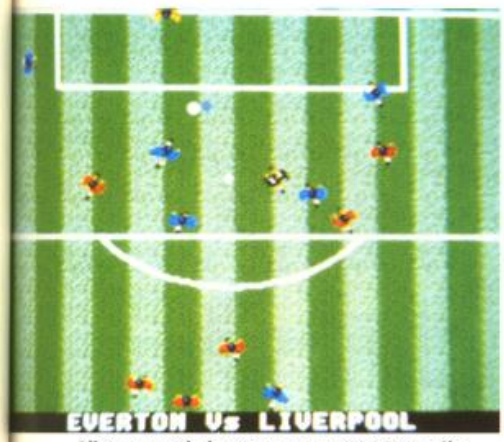
Approaching the ends of the pitch, the view switches to a head-on display.



There are plenty of options in Gazza, but they don't make up for the disappointing action.

GREMLIN resurrects the footballer of yesteryear as yet another micro soccer game joins the ranks of the many that have gone before

FOOTBALLER OF THE YEAR 2



Like many existing soccer games, FOTY 2 relies on an overhead view of the pitch.

WITH the World Cup mere weeks away, there's bound to be a glut of soccer games on the market; Gremlin has decided to sidestep the conventional management/arcade footy sim and revive an aging formula they first used on 8-bit many moons ago.

Before you even tie up those laces, you have the option of radically changing the game. Enter your first and second names, then edit the names of national and international teams. You begin in the UK Superleague, which incorporates English, Irish, Scottish and Welsh clubs (well, that's the only explanation for Swansea City appearing alongside Liverpool).

The game proper offers you a choice of options: gamble money in a double or nothing trivia game, check your current team or individual status, opt for a transfer (for which expensive transfer cards have to be purchased, but you also get a cut of the fee) - or play a match. Matches place you in a variety of national/international league and cup competitions, and offer you the chance to purchase goalcards. Goalcards boost your team's score in that particular game, but only if you successfully memorise and execute a pre-match plan.

What would a soccer star be without the option of an international career? Score goals and impress the right people and you may just get the nod from whichever national side you opted for at the beginning. If you don't, you can always complain that the manager has constantly frowned upon players of extraordinary talent, and that you're in the same company as Alan Hudson and Glenn Hoddle.

Score the most goals by the end of the season (why can't you win the title for being a defender?), and the accolade 'Footballer of the Year' is your rich reward.

You begin the game in the U.K. Superleague. Here you can select which team to play for.

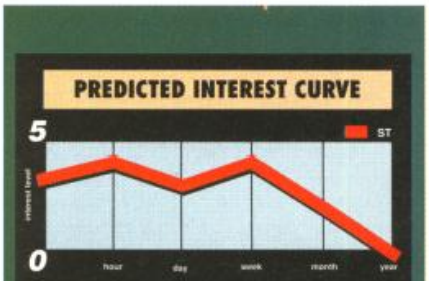
Apart from the basic lack of variety, there are a couple of other problems with this game. Firstly, accessing the various tables means a short wait whilst they're drawn up, but they're statistically comprehensive and add a lot to the enjoyment of the game's strategic elements.

More serious than this is the depth of the 'double or nothing' section, which contains too few questions, many of which are repeated in a slightly different form too soon after they were first asked. During the same gambling sequence, the game threw up 'Which side were beaten by Leeds in the 1973 final?' (Sunderland), followed by 'What was the year in which Sunderland beat Leeds in the FA Cup Final?' This wouldn't be too bad if the questions were harder, but they're too simple for anyone with a moderate knowledge of football.

If you don't know too much about soccer, *FOTY 2* is a reasonable enough strategy game. It has plenty of tactical options, some compact arcade sequences and the ability to save/load games so that you can go on for seasons. In the end, though, you'll wish there was a bit more to it.

● Gordon Houghton

The control menu allows you to select your next course of action.



Initial reaction is lukewarm, as understanding the system's subtleties takes some time. After a period of playing on one skill level, interest may begin to wane, but once you replay at a higher standard it becomes rewarding again. With nine different skill levels the gameplay will remain challenging for some time.

ATARI ST

The strategy isn't blindingly complex, nor are the arcade sequences the most fun you'll have from a footy game, but despite that *FOTY2* still remains playable – largely due to the neat graphical touches, and a wide variety of statistical information which you can access at any time. Had there been better action and more depth in all departments (but particularly the gambling section), the game would have been much more enjoyable.

GRAPHICS	7	IQ FACTOR	7	ACE RATING 670
AUDIO	6	FUN FACTOR	7	

RELEASE BOX

ATARI ST	£19.99dk	OUT NOW
AMIGA	£19.99dk	IMMINENT
SPECTRUM	£9.99cs £12.99dk	IMMINENT
C64/128	£9.99cs £14.99dk	IMMINENT
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No other versions planned.

While the two goons are intent on you, they fail to notice Black Virgin springing from behind...

This unusual beat-em-up from TITUS becomes something of a walk on the wild side

WILD STREETS

PICK a beat 'em up, any beat 'em up. What does it contain? A Magnum 357 maybe, but a black panther in the official employment of the CIA? – certainly not. Presumably that's why Titus have used them as gimmicks to add a touch of originality to their latest game.

The scenario follows the standard urban beat 'em up line. It's 1998 and downtown New York has degenerated into a ruinous shanty town. The guys in charge are the Mafia and their latest caper involved kidnapping the director of the CIA.

Without further ado, James Taylor, Panamanian veteran and professional CIA bully-boy, is helicoptered in. This isn't the sort of mission even a guy on steroids accepts alone, so before he leaps out into the urban jungle he's equipped with a limited ammunition gun and his own personal feline bodyguard, aptly named Black Virgin.

There are five separate levels but the objective in each one is roughly the same: beat your way through thugs and hoodlums along a flick screen city path to the end of the level and an even harder hoodlum. You can use your Magnum any time but it's wise to save any bullets you've got left for the final showdown, when it's easier just to shoot the big guy down. Black Virgin trots obediently behind you most of the time, springing on the occasional street fighter to help you out.

RELEASE BOX		
ATARI ST	£24.99dk	OUT NOW
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SPECTRUM	£8.99cs	IMMINENT
AMSTRAD	£9.99cs £14.99dk	IMMINENT
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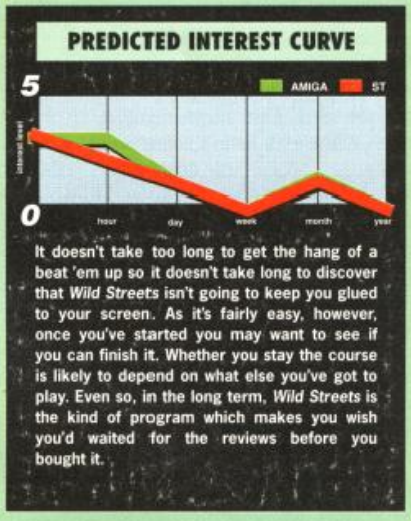
No other versions planned.		



It doesn't take too long to get the hang of a beat 'em up so it doesn't take long to discover that *Wild Streets* isn't going to keep you glued to your screen. As it's fairly easy, however, once you've started you may want to see if you can finish it. Whether you stay the course is likely to depend on what else you've got to play. Even so, in the long term, *Wild Streets* is the kind of program which makes you wish you'd waited for the reviews before you bought it.

ATARI ST

Stiff animation and an almost interminable series of lookalike sprites do little to improve on the woolly control method and tedious gameplay. The use of flick-screen rather than scrolling action, means that it's easy for the main character to get caught between screens. That way he gets a beating from both sides without you actually being able to see what's going on. Sound-wise, the title tune is appropriately action-packed with some weak sampled speech, but the in-game FX are limited.

GRAPHICS	4	IQ FACTOR	2	ACE RATING 384
AUDIO	5	FUN FACTOR	3	

AMIGA

The only significant difference between this and the ST version is slightly enhanced sound. The unremarkable title tune plays right through each level instead of at the start and the growling panther and beating effects are slightly more realistic. Apart from that all the ST criticisms apply.

GRAPHICS	4	IQ FACTOR	2	ACE RATING 401
AUDIO	6	FUN FACTOR	3	

In theory the selection of ten different punching and kicking movements (not all that many by sophisticated standards) should provide enough spice for a varied fight. In practice, the moves you select aren't always translated accurately into what's going on on screen. That wouldn't matter too much if you didn't have bullets to save but repeatedly firing your last bullet when all you actually wanted to do was a flying kick can get a little frustrating.

Even so, the worst thugs New York City can muster don't require too much complex punching to beat. The fighting element lacks speed, fluidity and variety; it's fairly easy to dispatch most villains with a couple of blows.

Blow by blow, *Wild Streets* degenerates into less and less of a challenge. Technically the absence of scrolling and stiff animation are a disappointment. It doesn't take long for the action to become repetitive and extremely tedious - and a couple of gimmicks can't make up for that.

● Kati Hamza

There's trouble ahead, but a knee to the groin soon fixes things!

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'The mix between action and realism is terrific'
– ACE rated 952 – Advanced Computer Entertainment.

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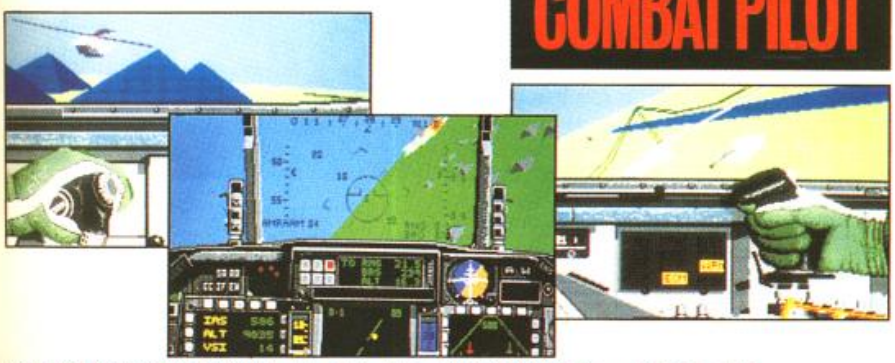
F-16 COMBAT PILOT



Flying fast and low, I turn my F-16 towards my target. Time to switch on the ground radar and arm the laser-guided Mavericks. I fire six missiles in quick succession, Lantirn automatically locking on to each tank. With flak bursting around me I dive for cover and head for home. Approaching base, I contact the tower and request a talkdown for my night landing.

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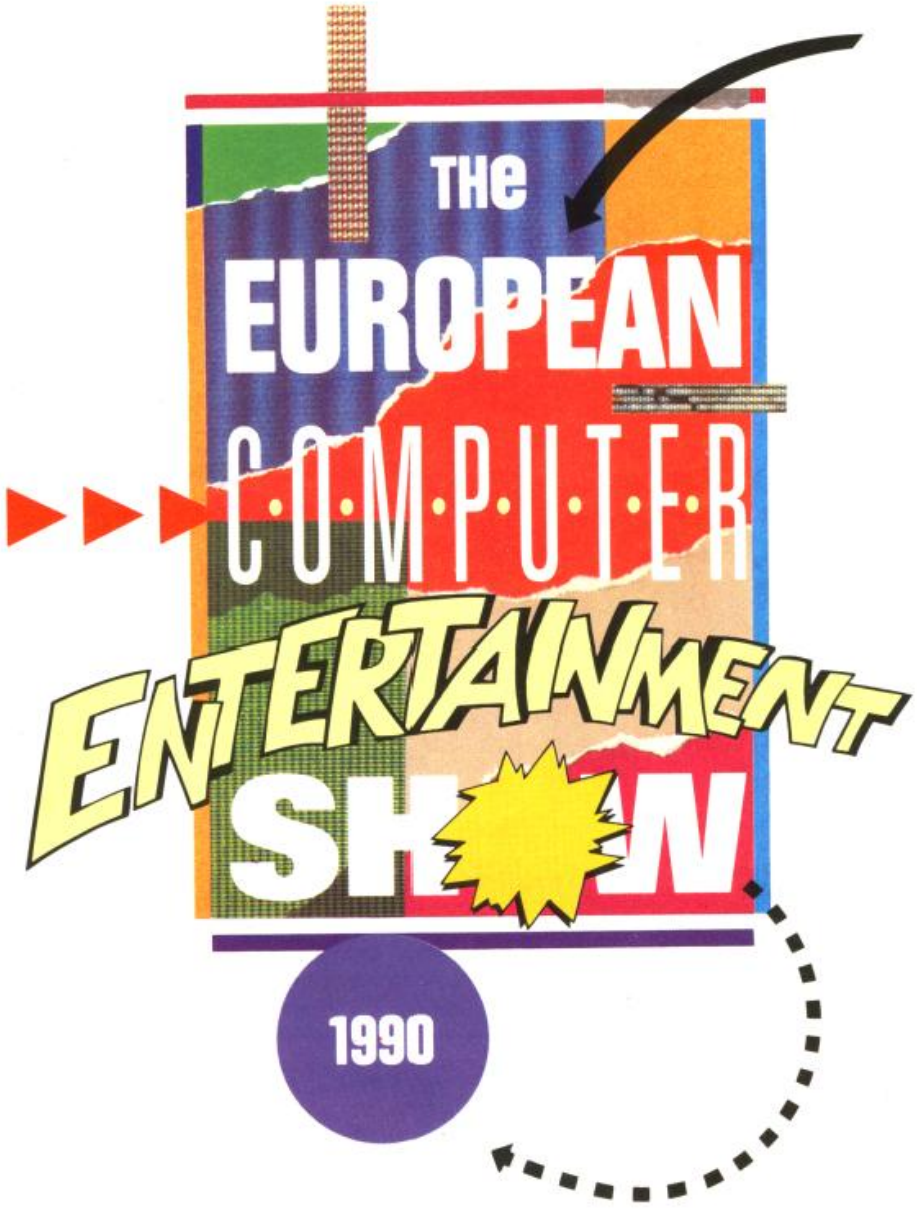

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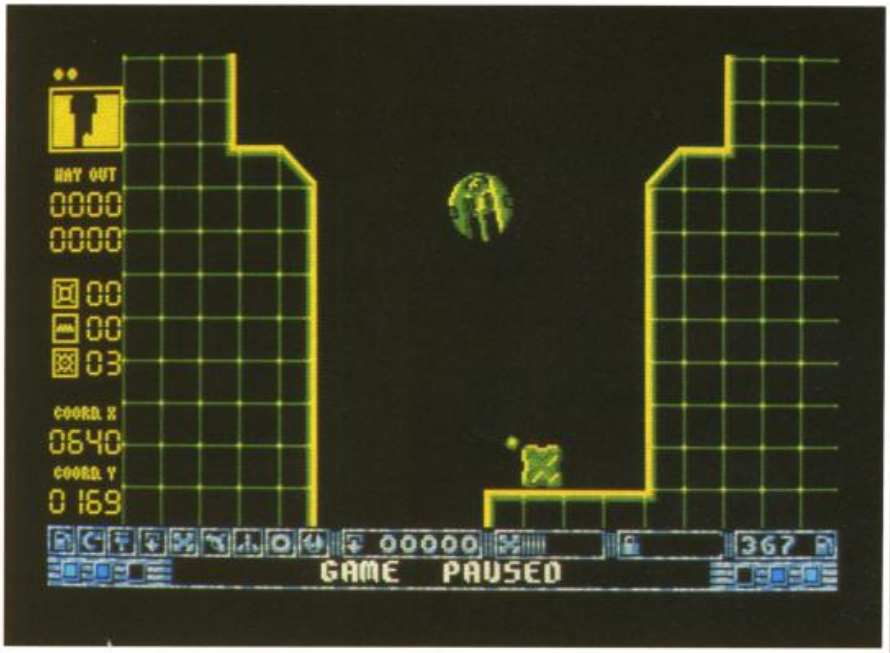


Don't be decieved by the minimalist graphics in the simulator section – this game has bags of playability and is hellishly addictive.

ROTOR

ARCANA get into some heavy *Gravitar* style thrusting with their compelling shoot and collect game

IN the future, so say Arcana, there will be two options for people such as us: work like slaves for no reward or enlist with the Roto-Raiders. These fine upstanding citizens are part of a crack squad of flying battle tank pilots on a mission. Mission objective: destroy enemy defences, steal energy, ammunition and fuel, then come home.

Fair enough. But before you even get near the leather of a ROTOR's yoke, you have to undergo six simulator levels in order to prove your worthiness. These pocket missions still end your game if you lose all three simulated ships, but you can take comfort in the fact that at least no one really died. Every three missions you gain a password which allows you to tackle the next set: eventually you get to tackle the eighteen non-simulator stages.

Throughout the game you have a pocket computer informer. This handy gadget gives details about your mission successes and details your level of prestige units (PUs). PUs are necessary to gain access to later missions, and are acquired by carrying out tasks and blowing up empty containers.

Your ship can be improved in the missions proper by opening caskets which contain pearls. An on-board transformer converts these into useful customisations such as extra rotation speed, engine upgrades, hull renewal and more powerful lasers. Once you start collecting these, the craft becomes appreciably easier to handle. On the negative side, opening containers sometimes reveals mines, which weigh your ship down considerably. If you don't collect them they explode, and a life is lost.

Each level is a self-contained unit, the size of which increases as the difficulty advances. The only way out is to find a randomly-generated exit once you've successfully destroyed enemies and collected the spoils. Later missions contain nasty surprises like artificial gravity generators, laser bases, snake bases and rapid-firing cannon. If you haven't got some nifty control upgrades by then, you won't be coming home for tea. And even if you do defeat the enemies, you won't be able to return unless you collect all the sun crystals lying in caskets. It's a tough old life, isn't it?

● **Gordon Houghton**

THE ARCHIMEDES FACTOR!

The Acorn Archimedes was supposed to be a milestone in microcomputer history – the first affordable machine to use RISC technology. It promised so much for the games player and yet, up to now, it has delivered so little.

There can be no denying that for any serious games designer the machine is a prayer answered – not only do it's graphic and sound capabilities rival those of the Amiga, but the presence of the RISC processor allows the programmer to indulge in more complex routines without sacrificing the speed of execution (and that is exactly what you want to hear if you are trying to generate hundreds of solid three-dimensional, fast moving polygons for instance).

So why have companies been so slow to develop software for the machine? The answer, in part, can be put down to it's small, but rapidly growing, user base as well as Acorn's reluctance to market the Archie as an entertainment machine. But that is becoming less of a reasonable excuse with each passing day.

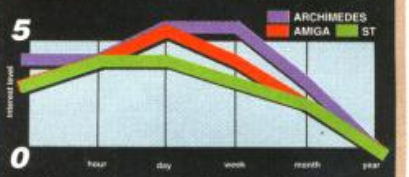
It is nice to see a relatively small company like Arcana developing Archimedes versions alongside traditional 16-bit games, even if this particular game doesn't really exploit the machine's capabilities to the full. Let us hope that other software developers are quick to follow Arcana's example and give this superb micro the recognition it deserves.

RELEASE BOX

ATARI ST	£19.99dk	OUT NOW
AMIGA	£19.99dk	OUT NOW
ARCHIMEDES	£24.99dk	OUT NOW
PC	£24.99dk	IMMINENT

No other versions planned.

PREDICTED INTEREST CURVE



Quite tough to begin with, the ROTORS in all versions are difficult to control. Once you've eased through the excellent simulators, however, the mission levels are challenging and (literally) rewarding: the upgrades give you greater control and keep you coming back for just one more go. The ST version falls shorter in appeal because poor graphic movement inhibits the gameplay, making it a little too frustrating.

ATARI ST

It's not just the poor scrolling (which sometimes disorientates you) or the sparse effects which make the ST version less worthy; it's also the fact that Rotor has *OIDS* as a direct competitor. *OIDS* is a far superior game, but anyone with a liking for *Gravitar*-influenced action should check it out anyway.

GRAPHICS	6	IQ FACTOR	6	ACE RATING 709
AUDIO	6	FUN FACTOR	7	

ARCHIMEDES

For a supposedly superior machine the Archimedes has yet to prove itself on the games front. *Rotor* is no exception in this case. This version does not really score much over the Amiga game. Slightly nicer sound and smoother scrolling are all that give it the edge over the other two versions. Nevertheless, full marks to Arcana for even bothering to think about this too often ignored machine.

GRAPHICS	8	IQ FACTOR	6	ACE RATING 895
AUDIO	8	FUN FACTOR	9	

AMIGA

There are too few *Gravitar*-style games on the Amiga, so anything half-decent is bound to prove by far and away the best. Even so, a great soundtrack, smooth and polished graphics, excellent presentation and a fair degree of difficulty help make it an appealing game in its own right. For the price, it's worth a look.

GRAPHICS	8	IQ FACTOR	6	ACE RATING 895
AUDIO	8	FUN FACTOR	8	

You've made it through the warehouse, and there's the Porsche – essential for the additional driving

VENDETTA

TO date the *Last Ninja* series have been System 3's biggest products. All that seems set to change with *Vendetta*, a mixture of *Ninja*, *Outrun* and a lot of improvement.

It may look like *Last Ninja*'s programming routines with different graphics, but the whole thing has been kicked up a gear. The opens with a video display depicting some of the kidnap of a nuclear physicists daughter. Rather than the usual ransom demands these terrorists are forcing the professor to build them a nuclear bomb, allowing them to spread even more fear throughout the world. Playing the part of a lone vigilante it's down to you to rescue the Prof. and his daughter before the bomb is completed. Seeing as you're operating in an above the law status, it's not only the terrorists you have to look out for, but the police.

Guns, violence, terrorists and SYSTEM 3. Where's a ninja game when you need one?

The first level turns out to be a warehouse, staffed with terrorists. Though some of them are armed, most of them tend to be relatively harmless, especially when you find a weapon. No namby pamby bamboo staffs or bows here, we're talking machine guns that can cut through most of the enemy forces. That, coupled with the ability to fire and run backward makes you pretty confident, until you come across terrorists in kevlar body suits. Then it's down to the thump and grind of martial arts to get you through.

Discovery is the better part of progress in this case, which means keeping an eye out for every possible object. Apart from finding weapons you need to find computer disks, video recordings and other evidence to prove the bad guy's exist and that you're not one of them.

It's not just a case of leaving one level and entering the next. Nowadays hero's travel from place to place in a turbo charged Porsche, in an excellent driving sequence. The road scrolls perfectly, all the twist, turns and junctions move as realistically as roads can be on an 8-bit micro. With the addition of terrorist cars and missile launchers the whole thing's a tad hectic.

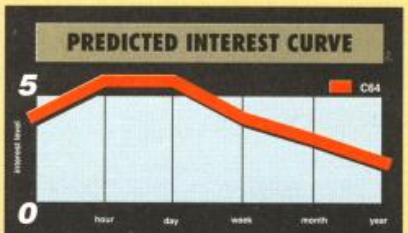
Vendetta isn't your usual run of the mill arcade adventure. The graphics are excellent, displayed fast and don't confuse matters too much. A driving soundtrack accompanies the graphics and adds even more atmosphere to an already tidy game.

The last of the three levels in set in a terrorist's favourite bolt hole, a plane. To give the effect of a confined space the screen is cut down to a third of it's size. Leaving no room to manoeuvre and even less room to fight. It's worth noting that the further you get the more bloodthirsty the action is. All the opponents come complete with Uzi's and bullet proofing, all the useful items are guarded and the pace is really stepped up.

Probably the best thing about *Vendetta* is it's accessibility. It's easy to get into, taxing and doesn't leave you a gibbering wreck with awesome problems. Definitely a game worth buying. If anything it tops *Myth* as one of the best original 64 games in a long time.

● **Mark Patterson**

Oh dear, here comes trouble, and you've yet to find anything more deadly than a knife.



A classic easy to get into game. The only beginning problem is getting used to moving about on the perspective screen. Once that has been accomplished, it's a case of getting to know where all the locations and useful objects are.

With the addition of a separate, quality driving section, the playability is strengthened even further.

Once completed (which is no mean feat), *Vendetta* is one of those games that's worth digging out again and again just because of the quality of the graphics and presentation.

C64

Graphically, *Vendetta* is one of the best 64 games I've seen in ages. The screens are drawn fast, and the detail is excellent. The presentation impresses right from the start, and lots of extra touches are included throughout.

A game which comes close to pushing the 64 to its limits in speed, graphics and sound, leaving room for an absorbing, taxing game.

GRAPHICS	9	IQ FACTOR	7	ACE RATING
AUDIO	9	FUN FACTOR	9	912

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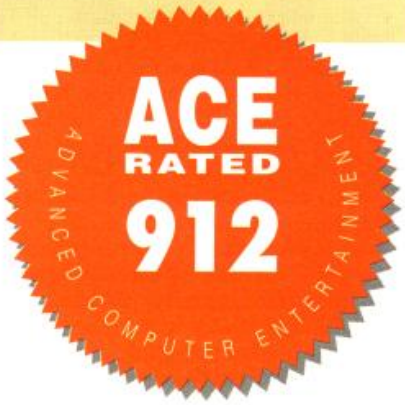


LORDS OF CHAOS

TARGET GAMES reveals its strategy for the past, present and future

AS the comedian Richard Digance observed recently, if a hurricane hit Harlow New Town it would make an improvement. 'Concrete' was the middle name of whoever designed the town centre, a geometric mass of the stuff, with post-war school-building aesthetics and a depressing line in sharp corners and bland paving stones.

Hard then to believe that one of Britain's most consistently good development houses haven't thrown themselves off a concrete walkway in despair instead of writing a string of great strategy games. Yet Target Games are beavering away on the next potential hit now, a "fantasy, strategy, role-playing game" called *Lords of Chaos*.

The aim of the game is simple – playing a wizard you must defeat other wizards and reach a portal somewhere on the landscape within a certain number of turns – it is the method of play and the execution of strategy which makes the game cause for interest. For the overriding aspect of the game is magic, the use, selection and potency of spells to defeat all of your opponents.

There are several types of spells. Creature spells range from the utterly pathetic giant bat, to the ultimate... red, green and gold dragons. Projectile spells such as lightning can be useful in times of crises and close combat; terrain spells like Flood multiply insidiously to make a landscape impassable; more other-worldly incantations such as Subversion do things like turn an opponent's creature to your own side.

Target Games, with the delightful Harlow in the background

Nick Gollop

Julian Gollop

Each spell costs "mana" to cast, which regenerates each turn and can be boosted by some of the objects found on the huge scrolling landscape (viewed from above with the creatures displayed in a psuedo-3D fashion). The amount of "mana" needed is dependent upon the level of the spell, the higher the level the greater the drain.

Every creature, even a wizard, has a certain number of Action Points which are used up in a turn by movement, firing and, if a wizard is selected, casting spells.

A wizard will send their creatures off to seek and destroy the other wizards (up to eight, which can be either human or computer controlled and who take it in turns to move) and *their* creations as well as pick up objects on the ground and in chests. These aid life and are vital for the casting of some spells – notably the dragon spells.

The game ends when the last, surviving wizard (who by this time should have many victory points) makes it to the portal and on to the next level. During the wizard definition section (which, at the moment, is a separate program) the player builds the strength and attributes of a character and chooses spells in return for points.

"The idea of using magic in a strategy game gives an infinite variety of strategies," says Julian Gollop, a founder of Target Games. He is one of the three programmers working on the project – his brother, Nick Gollop, is working on the Commodore 64 version whilst Martin Beadle is embarking upon 16-bit versions.

Julian has an intriguing past. He began programming in 1984 for the short-lived Red Shift software before moving on to Games Workshop where he wrote the original *Chaos* (re-released on Firebird Silver last year) upon which *Lords of Chaos* is vaguely based. His break came in 1986 with the highly acclaimed *Rebelstar* for Firebird Silver, followed by the sequel, *Rebelstar 2*, in 1987/8.

His most recent work, *Laser Squad*, the first for Target Games, gained yet more acclaim, combining strategy with a touch of action. It was recently published by Blade Software for all major formats.

Julian is programming the Z80 versions and is the ideas-force behind this game. What inspired him to get into strategy games? "A little set of tabletop figures for *Lord of the Rings*. Five or six fantasy figures – a few hobbits and orcs and things like that". In fact, the original *Chaos* was a board game.

"To create things is good," announces Julian, musing on a suitable philosophy for Target Games – "Get drunk" shouts Martin beadle from the background – "to break the straitjacket of mediocre computer gaming" comes back Julian.

"*Lords of Chaos* is as good as we can do on 8-bit," he says, "it's fantastically complex compared to *Laser Squad*". Of course, "the 16-bit versions will be significantly enhanced with more spells and adventurey-type things". There may even be a quest: "to recover a magical staff or whatever".

And what about his hopes for the game? "For it to be liked by the people that play it... to be recognised as something a bit different. If people are playing the game in a few years time, I'd be happy."

● Jeffrey Davy

Martin Beadle

THE SEVEN GATES OF JAMBALA

Discover if seven is GRANDSLAM/THALION's lucky number in their new platform cutie

SHORT on leg and small in stature (but big in courage and cuteness factor), dwarves, pixies and Mario-clones are favourite heroes in arcade adventures. Dravion, the sorcerer's apprentice doesn't differ significantly from the norm – but then nor does his arcade adventure. In fact, it looks like a genetic hybrid, cleverly constructed from the components of several other platform games.

The most notable resemblance is to Ubi Soft's *Twin World* – the horizontally scrolling landscape looks very similar and though the execution isn't quite as slick, the plot runs along roughly the same lines. Partly by accident and partly by nefarious design, Dravion has fallen into the notorious labyrinth of Jambala. The only way out is to travel through seven different mazes in search of all the scattered pieces of a magic wand and then put them together again in a specially designed arcade sequence.

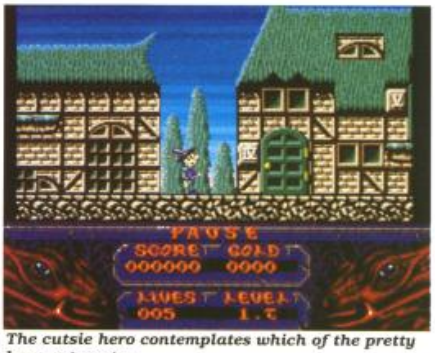
As he's skipping along ledges, leaping across chasms, searching through passages and trying to access the right sets of doors, our small and plucky hero has to fight his way through the usual selection of underground beasts. Giant wasps, nipping rats and strange green creatures get top billing in Jambala's magical menagerie. A couple of flashes with a hastily devised spell usually put them out of their misery; some even leave stronger, long-range spells behind – useful for defeating the slightly harder end-of-level meanie.

Wandering around Jambala casting spells at people does have its compensations. Every now and then you pick up goodies like extra lives, even bigger, better spells, and hammers. The latter are designed to help you in a DIY search of the ground for gold and other treasures. You can spend them in the locations marked by little wooden doors you find along the way. The idea is that their inhabitants dispense information, extra jumping ability and the like at a reasonable price. Unlike the streets of Dick Whittington's London, however, the paths of Jambala aren't paved with gold, so shopaholics won't find much they can afford to buy.

In fact, for a sophisticated platform based adventure, pickups are pretty thin on the ground. As a result Dravion's frantic to-ing and fro-ing scores lower on variety and action than you might expect. Coupled with the absence of two-way horizontal scrolling and some occasionally tight collision detection this does tend to reduce Jambala's long-term appeal.

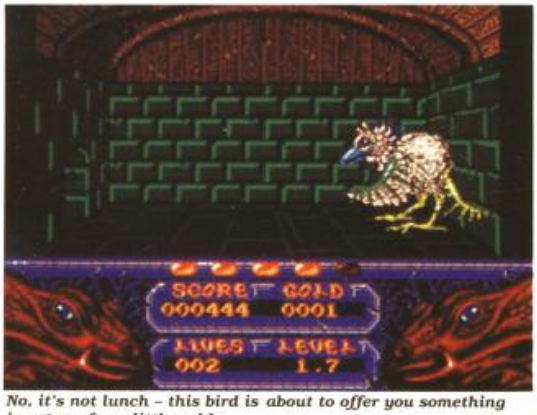
There is a plus side though; the graphics and sound create just the right sort of magical atmosphere and the Dravion sprite is made all the more endearing (or nauseating depending on how you feel about it) by some slickly animated touches. For serious games players its average content won't provide as much of a challenge as some of the other platformers around - *Axel's Magic Hammer* or *Twin World*, for example. Younger computer owners and platform addicts might find it has more appeal.

● Kati Hamza



The cutsie hero contemplates which of the pretty houses to enter.

Our hero leaps towards a not so cute nasty.



No, it's not lunch – this bird is about to offer you something in return for a little gold.

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No other versions planned.

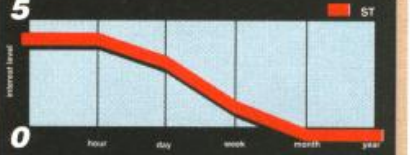
ATARI ST

Polished graphics, detailed animation and a mellow soundtrack manage to steep the game in a cute olde worlde fantasy atmosphere. FX on the other hand – a mish mash of familiar arcade adventure sounds – are less imaginative. The one-way horizontal scrolling is generally smoother than the two-way vertical movement.

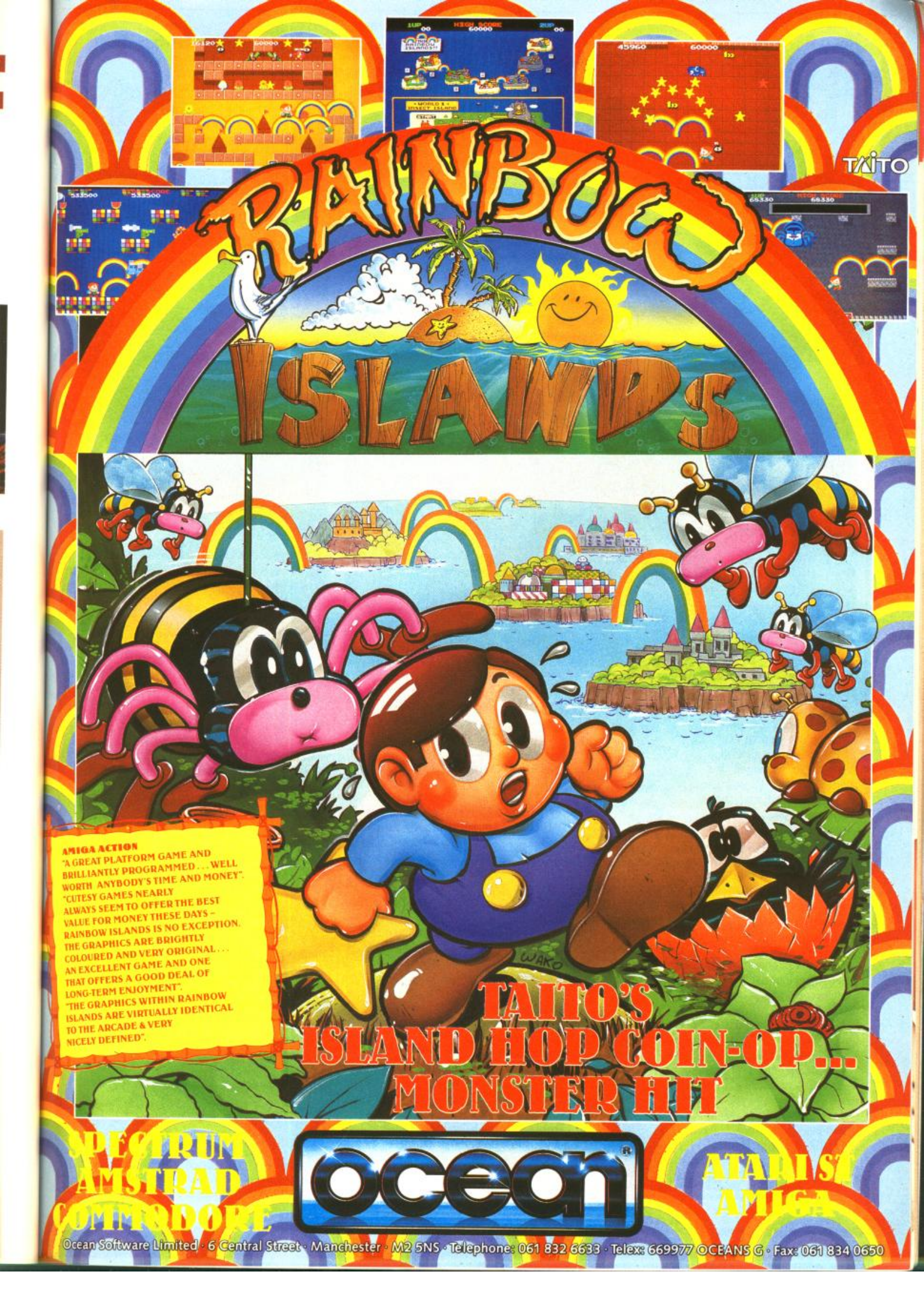
GRAPHICS	7	IQ FACTOR	4
AUDIO	7	FUN FACTOR	5

ACE RATING **604**

PREDICTED INTEREST CURVE



Pretty graphics and atmospheric sound are attractive enough to entice at first but a few minutes play reveal that there isn't enough cake to go with the icing. The action lacks the variety and originality that should keep you playing past the first couple of hours – after that it'll probably go straight back into the software drawer.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SWORD OF THE SAMURAI

Time to crack the whip over the peasantry – the part of the game for sadists.

JUST when you thought Microprose were scraping the bottom of the contemporary simulation barrel, they changed the barrel. This time those masters of sim and sophistication are taking their customers back in time to feudal Japan, land of hard-nosed samurai warriors. Samurai have three outstanding traits: they're easily offended, they have a great sense of loyalty and they don't mind doing people over (only when necessary, of course).

MICROPROSE invade feudal Japan with their latest sophisticated simulation

To succeed in this simulation, you need a whole host of other samurai qualities, too: tact, a knowledge of battlefield tactics, stealth and a ruthless willingness to succeed. If you're the kind of person who worries about the cholesterol in a cream bun, this isn't for you.

A piece of advice before you start: read the 102-page manual. Not only does it provide superb background knowledge about the period, it also helps a lot in tactical planning. The action takes the form of a series of menus interspersed with some concise arcade sequences. The very first menu you'll face gives you the option to practice some of these elements, such as duelling or battle encounters: if you just want a short, snappy game this is quite handy.

If you haven't got a saved game to load in, it's time to put on that ol' ambition hat and get down to some serious business. You name your samurai (a 15-year old novice) and align him to one of the clans. Each clan is distinguished by its relative strengths in honour, generalship, swordsmanship and land management: statistics which you will need to learn well if you're to succeed in the variety of subtle situations the game offers you.

It's vital that you think thoroughly before you take any decision, as other samurai are competing with you for the immediate goal: to become daimyo, or clan leader. One rash action can end the game, and that means a lot of disk-access hassle.

Becoming daimyo means gaining land, honour and strength. Once you've established yourself, you can then go on to conquer more territory (at least 24 provinces) until you think yourself fit to be declared Shogun, a position granted by the Emperor to the military ruler of feudal Japan.

There's so much to do in Samurai that it will be a long time before you've exhausted its possibilities: you can explore, conquer, wage wars, acquire honour, marry and reach a state of appeasement with your rivals, each action comprising a complex sub-set of other actions. The only real trouble is the disk access time (very frustrating, but not too onerous on a hard disk) and the poor visual presentation. With those aspects up to scratch it would have been a serious gamesplayer's dream.

● Gordon Houghton

The map shows the disposition of the samurai in the game.

PC

As with every simulation Microprose produce, this is a very thorough emulation of the subject. The only game to approach it for detail about feudal Japan is Cinemaware's *Lords of the Rising Sun*: Samurai is far more in-depth, challenging and rewarding. As an added bonus, the game supports an AdLib sound board or a Roland MT-32 Midi board. In fact, the only aspect on which you can really fault Samurai is its graphical quality: even in VGA mode the sprites are poorly drawn, coloured and animated. As a result, CGA mode is a better option, since the characters move a little more rapidly and there is little lost in aesthetic appeal.

GRAPHICS	4	IQ FACTOR	9	ACE RATING 855
AUDIO	N/A	FUN FACTOR	7	

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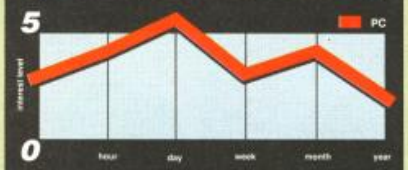
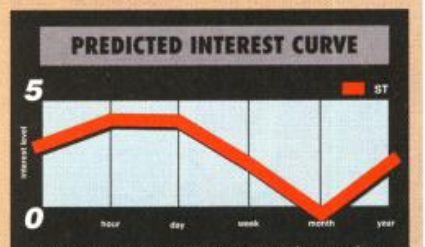


The massive instruction manual and confusion of options take some time to get used to, but they won't deter serious simulation fans. The massive variety of options, four skill levels and great subtlety of the gameplay prove very compulsive with extended play, and the manual provides enough background information and atmosphere to help you ignore the poor visual effects. The only deterrent to lasting enjoyment is the repetitiveness of certain actions: some of the text options are limited and the disk access a little slow on low MHz PCs. Even so, it will take a long time to even become daimyo, and it's the kind of game you'll be coming back to in a year's time.



All multi-eventers take some getting used to, though the graded complexity of *Shaolin's* events is definitely designed to break you in gently. It's a game of two halves bound to gain double the attention, especially as the four and two-player options contribute to long-term playability. Once you've exhausted solo play, it'll always be one to bring out when you're playing with friends.

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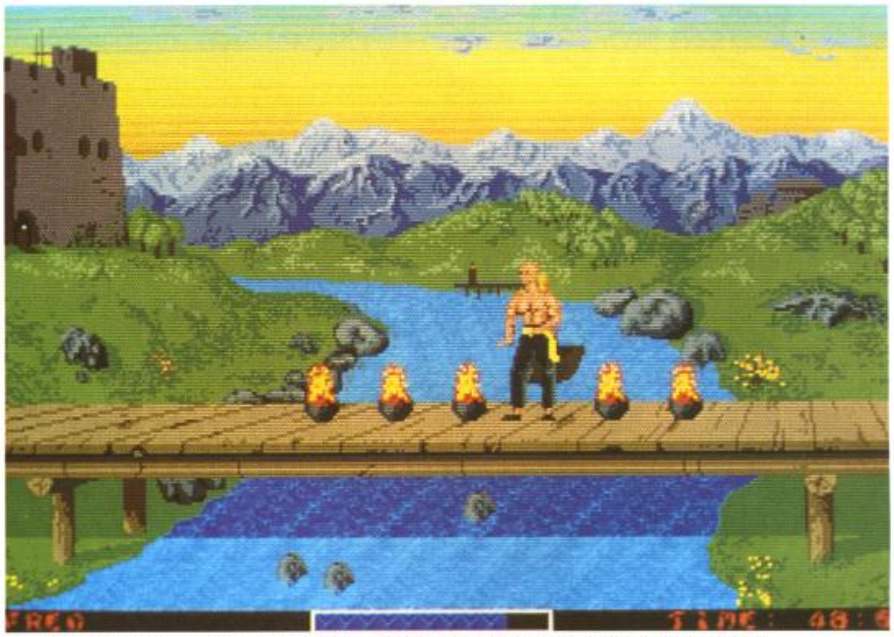
ATARI ST

Slick presentation, clear instructions and accessible controls ensure a high level of playability. The main drawback is the animation of the main sprites which aren't as well defined as they could be and can look rather stiff. Sound is a combination of C64-style oriental music and a few insignificant punching effects which don't contribute much to the action.

GRAPHICS	7	IQ FACTOR	5	ACE RATING
AUDIO	5	FUN FACTOR	8	796



Surrounded by fire, our hero had better get kicking if he doesn't want his tootsies burned.

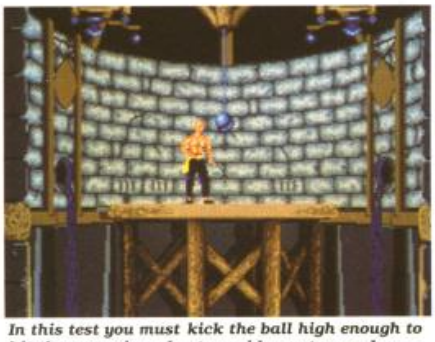
CHAMBERS OF SHAOLIN

Does GRANDSLAM/ THALION' Oriental beat-em-up live up to its Eastern Promise

MOST beat 'em ups include so many complex fighting moves that they require an initial learning period before you really start to get to grips with them. *Chambers of Shaolin* has the usual selection of punches, but instead of ignoring the learning curve, German software house Thalion has actually made a feature of it. The program works in two parts; first you build up your character's skills in six different training events, then when he's experienced enough you save him to disk and enter him in the fighting contest proper.

There are six Chambers of Shaolin, each one dedicated to uniting the body and mind in harmony through a special discipline. Each is aimed at a particular ability like balance, speed or strength and features such supposedly oriental pursuits as jumping between four rising and sinking poles, dodging flying objects, kicking burning baskets off a wooden bridge and chopping through boards with your bare hands (the only joystick waggler). Up to four players can take part; each character can be separately saved to disk.

All this eastern circuit training is very reminiscent of the kind of multi-eventers (Winter Games, etc) Epyx used to produce in the good old 8-bit days. All the events (with the possible exception of the board chopping) are extremely well implemented, easy to get the hang of and good clean fun. In effect, they comprise a medium sized game in their own right.



In this test you must kick the ball high enough to hit the gongs in order to avoid a watery end...

Having learnt how uncoordinated you really are, it's time to leap into the arena and face a number of opponents. The objective is to save your sister who's been kidnapped by a rival gang and to succeed you'll have to make use of all the skills you learned at the academy – and more. In addition to traditional punches, moves include such specialities as the splits and the Tigerclaw. The colour of your belt (and consequently your strength) are determined by how well you did in the Chambers. This is more important if you're playing a computer rather than human opponent – the artificial variety is tougher to beat.

Both sections are well-presented, absorbing and enjoyable. Neither outweighs the other; once you've played through the Chambers once, you've got two excellent games which are practically independent of one another and give you the added bonus of two and four player options.

The only annoying aspects are the animation – which is nearer adequate than outstanding – and the uneventful sound. In every other respect *Chambers of Shaolin* lives up to its eastern promise.

● Kati Hamza

The only 'joystick waggler' in the game – the traditional karate chop on a piece of wood.

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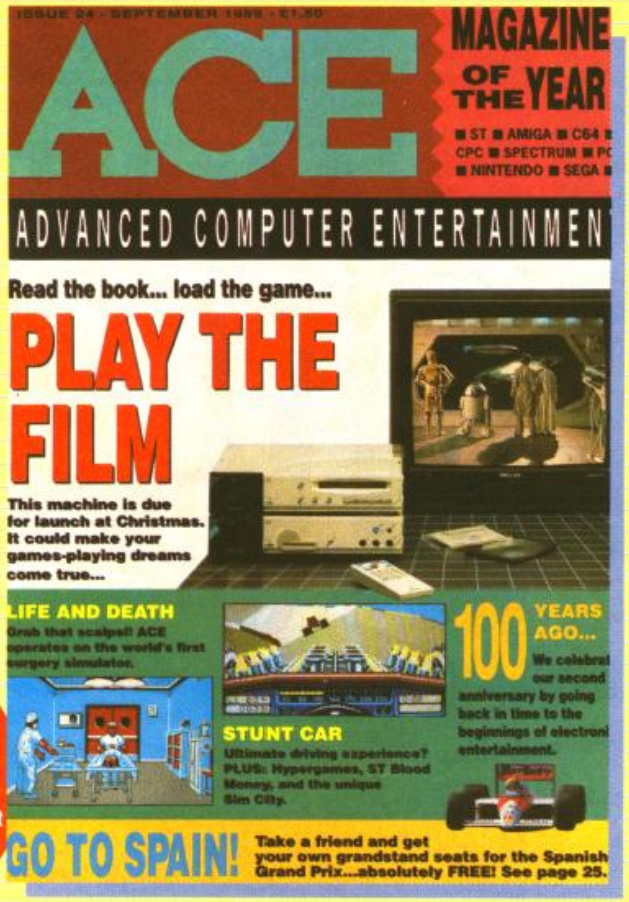

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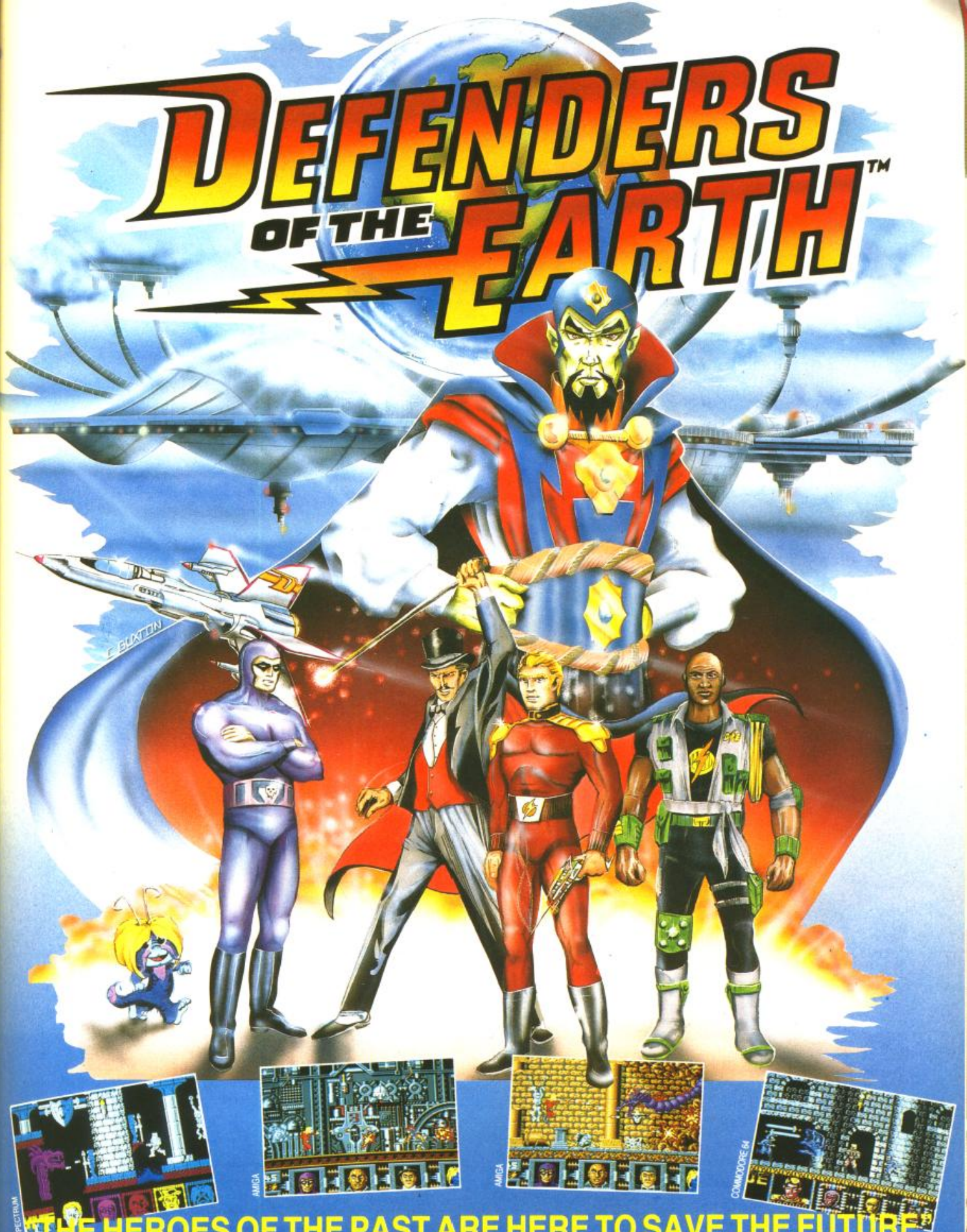

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BIT-MAP BLARNEY!

Travel to a local software house, meet strange exotic programmers, eat a wondrous buffet lunch, walk away with ACE freebies, and get your name in the magazine: all courtesy of the ACE Conferences.

Last month we told you all about the ACE Conferences. If you missed out, the message is that we're organising a series of meetings between you, the readers, and Britain's top software houses. You not only get the chance to meet the programmers and publishers of today's greatest games, but you also get a light lunch, some ACE freebies, and the chance to let the software houses know exactly what you think about the games you play. Chances are you'll also pick up some freebies from the software houses themselves, but we're not promising anything!

Last month we gave you advance warning of some of the conferences to be held in the London area. We're also arranging some in the North of the country, details of which we were planning to print this month but which will now have to wait until the next issue while we complete the necessary arrangements. Expect, however, to get the opportunity to visit Ocean in Manchester, Psygnosis in Liverpool, and US Gold in Birmingham for starters. We'll also do our best to sort something out for readers in Scotland. Any suggestions?

Meanwhile, we've now fixed the date for the first conference (see box). This will be with the infamous Domark and will give you a chance to get first-hand experience of one of Britain's longest established software houses, with a great string of hits behind them including APB, the Bond games, Splitting Image, and Trivial Pursuit. Not only that, but you'll also be meeting the boys from Incentive – who in tha past have given you games like Darkside, GAC, and Driller. In particular, you'll be able to check out Castle Warrior, their latest release.

Castle Warrior artwork from Domark/Incentive. You can find out the reality behind the poster if you attend the Domark conference: there are still some places left, so write in now!

WHAT YOU HAVE TO DO

Each month, we'll let you know about forthcoming conferences around the country. If you think you might be interested in attending one, all you have to do is send us a **postcard** with **your name and address** clearly written, together with a **daytime telephone number** if at all possible. You also need to tell us **which conference** you would be interested in attending (one choice only, please) and **your age**. We need to know how old you are so that we can ensure a good spread of age groups at each conference.

Unfortunately we have to limit the number of people attending each conference to 15. In addition, we have to make a nominal charge of £5.00 to help cover costs. All places are allocated on a first-come, first-served basis. There is however an exception to both these conditions: as a special offer to subscribers we are giving them **priority allocations** for the first ten places in each conference, and they may also attend **free of charge**. You can find out how to become a subscriber on page 49 (and you get other benefits too – a free issue, a special newsletter, and guaranteed delivery).

As soon as we decide on a date, time and venue for a conference (Domark is the only one fixed at the time of going to press), we'll select the lucky readers from those who have applied and inform them of the relevant details. If anyone can't attend, they'll be shortlisted for a future conference and another selection will be made for someone who can take their place.

MEET THE BIT-MAPS!

We've also arranged another ACE Conference in London, with Mirrorsoft. In particular this should be a golden opportunity for *Xenon* fans, because the Bitmap Brothers are expected to attend. And, of course, you'll also get the chance to find out more about products from Cinemaware, Imageworks, FTL, and others.

Just to very things a bit, we'll also be fixing up an ACE Conference...with ACE! This will give readers the opportunity to visit the ACE office, chat to all of use here, get a bite to eat, and give their frank opinions on the magazine. Details soon...

KID GLOVES

Somewhere deep in the heart of the Amazonian jungle there beats a drum. Softly at first and then louder, the insistent beating awakens our hero, Kid, from a deep sleep. Last thing he can remember he was pulling on an old pair of boxing gloves he'd found in his uncle's study... now, here he is, surrounded by trees and shrieking parrots. There's something weird going on round here.

Confused and uncertain, Kid's troubles are just beginning - he's yet to visit strange scenes in the Ice Age, the pyramids of Egypt, the psychedelic West Coast of the 60's and more - but he's still wearing the gloves and with your help he may yet find his way back home !

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ACE NEW WORLDS

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RINGS OF MEDUSA

Every once in a while a game comes along which cannot be classified into a convenient style. This is one of them. The plot centres around you as Prince Cirion of Morenor attempting to save the kingdom from the clutches of the evil goddess Medusa who is attempting to control the world with her hell army.

As Medusa is not actually in the country Cirion must find five rings which have been scattered around the country, put them together in a temple and force her to battle. Sounds

STARBYTE defies description with its new release

easy enough but Cirion has no army and very little money.

The landscape of Morenor is shown as an overhead view with a small blob indicating your position. Movement is simply a matter of using the mouse to place the cursor where you want to go, then holding the button down. The landscape is beautifully depicted with mountains, forests, marshes, castles and towns looking quite real. Upon entering towns the display changes to a stylised view of the various buildings there (the same view for all the towns, and buildings are entered simply by clicking on them). Inside buildings you are presented with various menus showing all the available options.

Your first task is to make some money in order to pay for the army you will need. There are several ways this can be done such as gambling in the casino, attacking caravans, conquering towns and plundering their treasuries, mining for raw materials and finding treasure.

By far the most reliable though is trading which although slow to begin with has the advantage of being easy and more or less under your control. All sorts of items are available for trade such as sheep, books, leather, beer etc. Horses and wagons are always available and each such outfit can carry up to 80 items. The trick is to buy cheap and sell dear which generally means a long trek across country to a distant town. Assuming you aren't ambushed on the way and robbed of all your possessions you can soon start generating a handsome profit.

As the game progresses so the state of various towns changes. What begins as a booming commercial centre with a high cost of living may eventually degenerate to a ghost town where prices are low. Also the amount of stock of particular items in a town changes from time to time, so keeping careful records of different prices can be no more than a guide - intuition plays the major part.

Once you have accumulated some money a variety of options are open to you. You can hire scouts and search for possible sources of raw materials then open mines and sell the products in town. Alternatively you might wish to buy a cargo ship and trade with distant islands. Whatever you decide the aim is to accumulate enough money to hire a big enough army to eventually defeat Medusa.

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LANDSCAPE 90
Beautifully detailed graphics and a large playing area enhance the atmosphere of the game.

ENCOUNTERS.....75
Except during battle between matched armies there is little for the player to try out.

CHALLENGE.....90
The game world is complex, has great depths and is well thought out. If you want a game to tax your intellect, intuition and memory simultaneously, this is it.

SYSTEM 85
The mouse control could have been rather more precise and loading of the Amiga version more reliable.

ACE RATING 850

An excellent game which has you living in its world rather than simply playing in it.

Soldiers of various races and fighting styles are recruited in the towns. Each race has its own attributes which makes it more suitable for particular tasks. Thus elves make good scouts, while gnomes have the correct qualities to make good magicians. The more you recruit the stronger your army will be - and the higher the payroll. Fine economic balance is essential to ensure that your soldiers don't kill you off because you haven't enough money to pay them.

Once you have accumulated enough wealth to support a large army you can begin attacking towns and castles. The castles, once conquered can be used to train your soldiers while towns yield the contents of their treasuries and give you the opportunity to collect taxes.

While this is happening you should also be searching for the five rings two of which are found on the main continent, two on the islands and the fifth is hidden among an army which must be defeated. Possession of the rings confers benefits which range from increasing your army's strength by 50% to giving the player information on which goods are produced in

a particular town (and therefore where the prices are lowest).

Throughout the game your actions can influence other events. The banks can be robbed with impunity but they seem to have a central intelligence system so that while a life of plunder may be very profitable at first you'll soon discover that stealing from one branch and depositing it in another is rather futile as once a theft has taken place the establishment will not deal with you again.

Keeping in well with the bank is a must. You can borrow money but if you don't pay the interest within a set time the local stores will refuse to deal with you.

Attacking caravans is also a little risky. If you attack the same town's caravan repeatedly the town will then refuse to deal with you. If you are attacked yourself there are a number of strategies. Bribery may get you off the hook as might bluffing the enemy. If the worst comes to the worst you'll have to fight it out, but until you have accumulated a fair sized army you'll have no chance of winning. If you lose, all your goods and cash are stolen (but you will be left with your wagon).

Overall this game is an excellent blend of strategy and role playing. The playing area is large (although much of it seems to be covered by water and it's easy to get lost at sea despite having a constant display of latitude and longitude), options are broad and each is well detailed and flexible, and the scope of gameplay is vast. With such a lot to think about it will take many hours to complete but the difficulties you face increase nicely in conjunction with your increasing strength and powers.

DEMON'S TOMB

MELBOURNE HOUSE goes for text adventuring in graphic detail

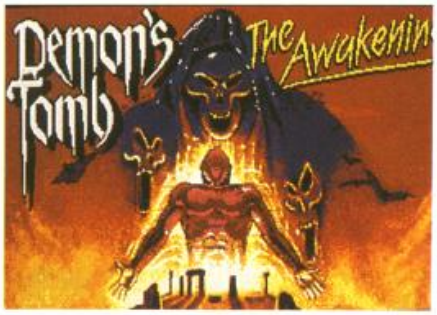
With Level 9 having pulled out of the text/graphics market it's good to see Melbourne House weighing in with a contribution. Demon's Tomb is set in rural England where a Edward Lynton, scholar of ancient Egyptology dies in a fire while exploring a burial tomb. His son Richard then sets out to find his father, only to discover a greater mystery.

The game begins with a prologue in which you control Edward who has only a few moves before being overcome by the fire in which to preserve his belongings. Those coming after him must find various items intact if they are to solve the mystery.

After Lynton Snr. expires, you take control of Richard and his dog Sam. Together they set out to discover the whereabouts and fate of Edward then use those possessions he has managed to save to help solve the riddle of his murder and the more horrifying mystery yet to come.

I always enjoy adventures where interaction with other creatures is possible and in this game Sam is a classic example. Not only will he do as he's told (usually) but he will also do his own thing at times (usually the most inconvenient times). For instance, try climbing down a cliff without taking proper precautions and your canine capers after you sending you to your death. Mind you, on another slippery slope nearby his help is invaluable.

Problems are many and varied, not too difficult with a bit of thought and observation and mainly logical. In addition to problems which need solving to progress, there are several background difficulties built-in which are prone to have you tearing your hair with frustration. The excessively litter conscious seagull needs watching if you drop certain of your possessions. Your inability to progress in certain areas while carrying much weight means and end to the casual "drop all" to which we are so accustomed. Similarly water behaves realistically destroying fragile materials for ever - don't drop your notebook while crossing the ford!



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One thing which annoyed me was the proliferation of hints and clues written in to the text as "asides". These often spoilt my enjoyment in solving a puzzle by giving me too much help too early. One of the things I like about adventure puzzles (and cryptic crosswords) is having to think laterally. Being pointed in the right direction rather than misled rather spoils the point. Since the manual contains a list of hints covering most of the problems (coded in a manner to allow simple access without giving away what you don't want to know) the hints in the game seem rather superfluous.

The adventure system itself is quite novel giving you the choice of normal typed input or menus. While in menu mode a list of verbs appears at the bottom of the screen where you simply click on the one you want. In theory this seems a good idea but in practice it is rather unworkable due to the sheer number of verbs listed. Scrolling through is rather tedious and also tends to give away yet more hints by suggesting possibilities you hadn't yet thought of. At one stage you find a piece of charcoal which is used with another object in a particular way. After seeing the relevant verb while scrolling through the menu I solved the problem without thinking.

In addition to the input options a number of other aspects of display can be adjusted to your liking. Screen display can be adjusted to 40, 60 or 80 column and even two columns of

LANDSCAPE 75
Location descriptions are rather terse even in verbose mode but the graphics do provide some atmosphere.

ENCOUNTERS.....80
The dog is exactly like my next-door-neighbour's - and just as likely to induce a love/hate relationship.

CHALLENGE.....60
Too many clues given away to what are not particularly difficult puzzles in the first place.

SYSTEM 90
About the only thing missing is an option to have graphics on all the time instead of only on demand at individual locations.

ACE RATING
760

An excellent game for beginners which will also be enjoyable to old hands looking for light relief.

36 are possible. What with options to have the text free or enclosed in a border, status line on or off, menu height etc. your preferences can be accommodated easily. It is even possible to change the on-screen colours to your taste and echo text to the printer.

Graphics are small but well drawn - nothing outstanding but pleasant. More pleasant is that they only come up if you deliberately ask for them. If you aren't accessing the pictures you can play with your saved-game disk in the drive - useful in sections of the game where you are continually dying. A very handy graphic is activated by another function key - it shows a blank screen except for a prompt in the top corner which implies you are actually programming. This also acts as a pause command.

The parser is both friendly and flexible handling even complex inputs well. Multiple commands are generally understood - even some ambiguous ones where the program will prompt you if it gets stuck. Thus "get" on its own will furnish you with a list of available objects from which to choose.

All the usual system commands such as ramsave, again, undo etc. are included together with verbose, brief and superbrief options for room descriptions. All in all the system is excellent in its handling of the game and the flexibility of display available to the player.

I hope this isn't a one-off attempt by the programmers and would like to see further plots (rather more difficult ones perhaps) in the future.

ACE NEW WORLD'ERS

At last - enough space to let you have your say again. Letters this month from Andy Brightmore and David Guest. If you have something to say why not write in to me at the following address: **ACE NEW WORLD'ERS, Priory Court, 30-32 Farringdon Lane, London, EC1R 3AU.**

THERE'S MORE TO ADVENTURES...

...than beautiful pictures. The main attributes that the game must have are a good game story and a well developed language. A game without graphics leaves more to the imagination and therefore the player can have different ideas about locations. With the C64 I used to buy Level 9 adventures, not because they had the best graphics available for adventures on the Commodore but because the language was
well in advance of what other companies had to offer. Now on the ST with the stunning graphics capabilities I have started to buy adventures by Magnetic Scrolls because they have a combination of good graphics and an easy but detailed language. I also think that in a
game where the player is a detailed assigned character (eg. Fish) then graphics actually help the flavour of the game. Lastly I think that comedy games are far better than the old serious adventures. I would much rather play Knight Orc or Guild of Thieves than any Zork game which have been exploited to the full and are getting boring and too easy to complete. Also when the Zork self-mapping system was introduced this took a lot of the playability out of the game. Couldn't they just have a GOTO feature like Knight Orc?"

*• Larger memory machines and more use of disks means adventures can be virtually unlimited in size and complexity but this in turn means
longer development and thus higher costs. Whether or not a text based adventure has graphics should make no difference to the text side of things but too many programmers now rely on graphics to sell a game and plot/gameplay seems to be getting lost on the way.*

TRY THIS RIDDLE...

...What did Level 9 used to do, clubs and mags try to do, SSI still do (all the way from California!) but US Gold never do? Answer: Reply to the "I'm stuck" letters! What a golden opportunity to get feedback from customers, build mailing lists to rival Readers Digest and help you finish their old games so you can buy their new ones and get stuck all over again. They could even discourage piracy by replying only to the registered users, a tried and tested method of protecting business software. I still have my handwritten tips for Adventure Quest, penned by the author himself (Mike Austin of Level 9) on the "fly back with a clue" sheet which was enclosed in each game together with the "eternal loading guarantee" given for each tape. None of your 90 day limited warranty disclaimers in those days. They even included a stamped addressed envelope to send to them for your clue. Of course the games were great but could this level (no pun intended) of customer service have something to do with their subsequent rise to fame and fortune. I struggled through each new release with their help and kept coming back for more and others must have done the same. What chance of the same treatment nowadays. And Activision/Infocom please note, hint books costing more dollars than the game from USA addresses only is no way to do it. Bring back the human touch.

• Couldn't agree more. Trouble is, mass distribution means masses of queries which cost money to answer. Perhaps the software houses could set up and finance a joint help service manned by experienced players with access to game programmers/authors. There again you

NO PROBLEM

DEJA VU - GETTING STARTED

Get the coat and gun then find the door marked 'private' and go in. Take the bill from the desk and the key from the wallet. Use key then enter locked room and open body. Unlock the desk and get everything then go to the cellar. Hit the bottle on its own to open a secret passage. Go to the casino and use money in right hand machine until you win. Take lift to top floor and open wastebasket to get syringe. Take lift to bottom floor and kill the alligator! Go to the bar and unlock door to the street.

UNINVITED - GETTING STARTED

Get out of the car and open mailbox, wear amulet. Examine books in the library to get spell translations. Get the Spider Cider and No Ghost from the store cupboard upstairs. Take the axe from the staircase. Take the scroll from the nightstand in the bedroom and read the book. In the master bedroom wear the mask to ward off evil. Read the journal then go to the lounge and get a key from the chair which will open the cabinet in the master bedroom. Take the box then go to the downstairs hallway where opening any door will bring the skeletal belle who can be disposed of with No Ghost.

LEISURE SUIT LARRY GOES LOOKING FOR LOVE IN SEVERAL WRONG PLACES

The following tips should help on the cruise ship: Go to room and take fruit. Go next door and come back immediately. Return next door, open nightstand and take sewing kit. Go to bar and take dip. Go to room and change into swimsuit. Go to pool and rub sunscreen on body. Lie on chaise lounge. Enter pool and dive under and take bikini top. Go to barbers and sit down (get wig). Go to captain and pull blue

lever behind him. Go to lifeboat and jump in and wait for it to lower. Wear sunscreen, eat dip and wear wig ASAP. On the island head in to the undergrowth.

MANHUNTER NEW YORK

Day 1: Investigate explosion at Bellvue Hospital. Access Mad and note suspect's movements. At Bellvue, examine corpse for identity. Access Mad for more info. Go to Trinity and investigate left side of church. Go to the bar and play knives with bartender. Play video game: The game involves negotiating a maze where at several points one lands on red squares and can thus throw balls at three rows of kewpie dolls. If successful the game flashes a screen depicting a funfair. The game's packaging contains a map of the maze. Make note of the kewpie dolls which are dislodged by the squares which cannot be avoided when progressing through the maze (there are three of them). Go to ladies loo in Prospect Park and go to end cubicle. Sit and flush three times - woosh!

CHAOS STRIKES BACK

When using the oracle save your position as close as possible to the problem for specific help.

ROS - PART ONE:-

Don't worry about the knives from the wall - collect them to throw past the moving force field (careful timing needed) to operate the pressure pads. The knights behind the wooden door are easily defeated by approaching from the other side and dropping them down TWO pits - the pit on the floor below is directly under the one above. In the corridor with pit and gate stand with back to pit to see force field. Throw dagger at field to pass through gate. Upstairs remove torch from bracket to move wall. Up again, full strength fireshields - lots of them - before removing gem - then back to the closed door which should now open. Up again - turn left then keep moving forward, stepping around pit. You'll be spun so watch your compass - about turn then keep moving forward. On entering open room your final exit is in the centre of the far side. Follow the corridor to find the Diabolical Demons.

NETA - PART ONE:-

From the room with screamers go through door and bear left past the pit which generates hordes of red monsters. Up the stairs, fill the cells with mummies. Up again - simply keep walking straight on across the large open area. Cross the room with poison balls to gain access to the Diabolical Demons. These two routes should help you explore more of the game but there's plenty to do along the way which you can discover for yourself!

DUNGEON MASTER

A healthy tip for those wanting to increase their skills ready for Chaos: Wizard - if you have the firestaff use INVOKE repeatedly. Priest - keep making potions. Ninja - find as many objects as possible then throw them back and forth along a corridor. Fighter - use any weapon repeatedly - into thin air if you like. Level 13 - (knights!) - you don't need to complete this level. Once you have found the Ra key and assuming you already have two, go to level 7 and collect the winged key then the long staircase which takes you to level 14. Deal with the dragon (or dodge) then up to level 12 for the master key which is needed to access the firestaff. Then retrace your steps to level 7. Long winded maybe but it avoids over two thirds of level 12.

FISH - THE JAGGED WARP

Put jeans on then go south. Move rubbish then take torch. Turn on torch then go outside. At the abbey take pew, turn off torch then north twice. Drop pew then go down and move rubble. Move lid then down for cord and back to pew. Stand on pew and climb up. Tie cord to gargoyle, down then pull cord. untie cord, take gargoyle then down. Put lid in doorway then go down. Put gargoyle in hole, take chalice and look inside. Take grommet and wait for mob to attack.

SPACE QUEST II

Can't cross the ravine? Climb the tree - when it snaps press right cursor key to crawl across. Can't escape from the hunter's cage? Call hunter twice, throw the spore then get key and unlock door. Can't climb down the chasm? Tie rope to log then climb down. Then swing rope and jump. Little pink creatures won't open the stone door? Type 'word'. Can't find a light source in the caves of the killer squid? Hold the gem in your teeth. Can't reach the landing platform? Blow whistle in clearing to get something to clear your way. Getting fried by acid on the asteroid base? Attach plunger to barrier.

BARDS TALE I

Try to get a barbarian as a special monster as he does a lot of damage. Get a hobbit with a dexterity of 18 and make him a monk. He will usually get first hit. To gain experience fast, pick a team, go south and fight samurai. Go back to guild, save then reboot, reload team and repeat. Each time you'll gain 204 experience. El Cid has a horn of fire which does 40-50 damage. The Review board is the second house on Trumpet Street. High level (4) paladins and warriors get double hits. Dungeon 1 is in the Scarlet bard. Develop a level 2 (level 3 spells) conjuror fast!

BARDS TALE II

The tombs; Only have six members in your group. Join old warrior to group. Poison all but the old warrior by drinking water from the fountain. Kill toxic giant. Give torch to old warrior then put him at front of group and poison him. Then go back to entrance.

BEYOND ZORK

Pick up every scroll and stick/wand/stave you find. Go to the magic shop and ask the old woman about their uses. Sell Mischief and Fireworks - both useless. Sell valuable objects - tusk, crown, jewel, doubloon. To use the spells - point sticks and say scroll words.

CHRONOQUEST

The Chateau - 1922 AD Hall - Look lid of urn, pick up punch card. Study - Pick up oriental sphere. Hall - Use sphere on top of bannister. Landing - Look at feet of statue, get golden key, use on bureau, look at open drawer, get leather gloves, look at right hand corner of rug, get punchcard. Father's - Look under bed, get grapple and rope, look at pillows and get punchcard. Bedroom - Push drawer, look and get combination. Kitchen - look in bottom left cupboard, use combination on safe, drop combination and get lighter. Get bottle and drop wine. Hall - NE then light lighter Stairs - up, east. Chapel - Look left of photo, get candles, light candles and extinguish lighter. Look at book and get punchcard. Library - Drop photo, letter and bottle. Look mirror, push switch. Hall - Get sphere then drop it. Library - push drawer in desk, look then get fuses and drop candle. Machine - Push lever up, use fuses on fuse box, push lever down, go up, push switch, use punch card in slot.

GUILD OF THIEVES

How do I get out of the boat? Jump west. How do I get into the castle? Help man in the scrub. How do I bet on the rat race? Bet on the grey rat when the race is in the courtyard with note from cushion in drawing room. How do I placate the bear? Fish in the moat with a rod made from cue, cotton, needle and maggot. Put poison on the fish. Why can't I open the safe? Because it is a red herring! How do I get into the wine cellar? On the stairs, pull the pipe, open stopcock, wait then close stopcock. What do I do in the toilet? Another red herring. What do I do with the cauldron? Put an eye, heart, skin, berries and cube in it then open sachet. What can I do with the billiard balls? Open the red ball and look inside it. How do I get into the mill? Shout "Stop the mill". How do I buy the lute? With your winnings on the rat race. How do I stop the lute from breaking? Put it in the bag. How do I climb the slippery slope? Wear gloves (in temple garden)

INDIANA JONES AND THE LAST CRUSADE

At the university; Enter your office after talking your way through the student. Take all the junk mail then the package and open it. Leave through the window. After meeting Donovan go to Henry's house and take the painting then go to Venice. In Venice; At the restaurant look at the wine bottle then take it. Enter the library. Take the Mein Kampf in the bookshelf which is not completely filled (you'll have to search for the correct shelf). At the stained glass window look at the Grail Diary. Note the picture of the window that is drawn in the diary and the statement (first on the right etc.) Press enter and leave the area. Search the place for the metal post and then take it (the red cordon comes too). Search the library for the stained glass window that matches the one in the diary. Look at the pillar corresponding to the statement in the diary, either left or right. Using the post, open the slab represented by the inscription on the pillar. Climb in to enter the sewers.

OUT OF THE SHADOW

ACE SHOWCASES CARL CROPLEY'S COMPUTER GRAPHICS...

Back in 1983, Carl Cropley had a very tough decision before him: should he become a computer graphics artist or start a career as a qualified refrigeration engineer? Fortunately Cropley opted for art, designing graphics for such computer games as *Redhawk*, *Kwah*, *The Mystery of Arkham Manor*, *Brian Clough's Football Fortunes*, *Colossus Ten Chess* and *Casino Roulette*. More recently he's worked on *Demon's Tomb*, *Imperium* and *Hound of Shadow*.

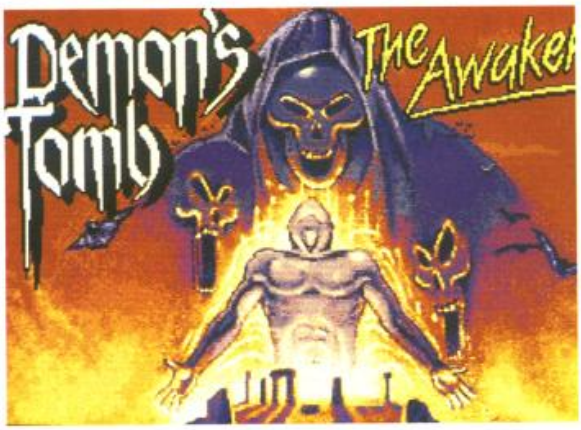
"Before starting the graphics for any game I usually research the project – referring to library books, taking photographs and producing rough sketches. In the case of *Hound of Shadow*, the idea to produce all the pictures in sepia tones came from a discussion I had with Chris Elliot and Richard Edwards, the creators of the game. I began to research the 1920's and visited the locations in London that Chris and Richard had specifically requested appear in the game. I then produced my initial roughs before producing the final screen versions. The 16 shades of brown used to produce the sepia effect gave me the scope to produce more realistic images."

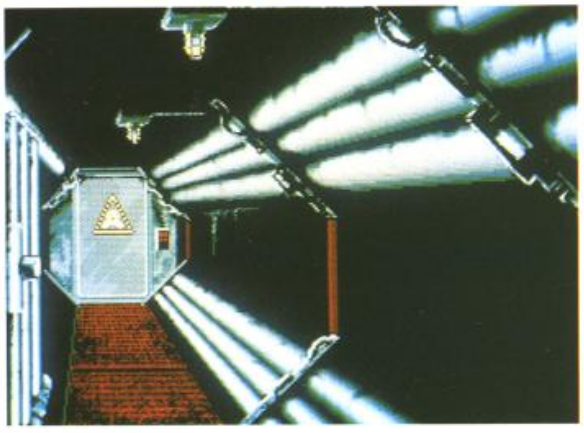
Cropley uses a 2Mb Amiga 1000 and Electronic Arts' *Deluxe Paint III* and *Deluxe Video III* to produce his graphics.

"All my pictures start out as simple filled line drawings. Using the shade, blend, smooth and stencil functions of *Deluxe Paint III*, I can then add shadows, highlights and textures. One screen I'm particularly pleased with is 'The Reading Room Desk in the British Museum' in *Hound of Shadow*. The lights used in this room during the 1920's were single light bulbs rather than the more modern fluorescent strips used today. This meant I had to completely recreate the way the light would have fallen in the 1920's. This, together with the perspective in which the desks span out like spokes of a wheel, created quite a challenge to my abilities."

Cropley is currently working on the static and animated graphics for a *Dragon's Lair* style game, "I'm a big fan of both Don Bluth and Chuck Jones". As for the future, Cropley believes: "artists and animators have been limited for quite a long time but with the advent of CD technology, games designers will have to become interactive storytellers – games will become more film orientated".

In the meantime, Cropley would be pleased to hear from anyone who needs the talents of an experienced computer graphics artist. Write with SAE to: Carl Cropley, 111 Squires Avenue, Bulwell, Nottingham NG6 8GL.





NOW IT'S YOUR CHANCE

Are you a talented computer graphics artist? Do you want to give your work international exposure? Are you looking for a lucrative contract with a games software company? ACE will try to help you achieve these ambitions, and more... Just send examples of your work, with a brief description of yourself and how you design computer graphics, and you may just see your talents on display in a future issue of the magazine.

Send to: **ACE ART, Priory Court, 30-32 Farringdon Lane, London EC1R 3AU.**

TRICKS 'N' TACTICS

THE ROUGHEST & TOUGHEST CRACKED BY *ACE* READERS

SPACE ACE

The Complete Solution

Don Bluth's rather pricy, but very pretty interactive cartoon is fortunately not quite as frustrating as *Dragon's Lair* owing to a very useful SAVE option. This complete solution will, however, undoubtedly prove useful to those still meeting rather sticky ends. It has been compiled from the solutions sent in by **David Williams** of **London**, and **Chris West** of **Egham, Surrey**.

Scene 1: solution is in the manual.
Scene 2: When Dexter appears move **right** to avoid the first stomping arm. Once the arm goes up, move **left**. When the third crack appears in the ground, move **left**. Wait for the second stomping arm to go up then move **left**.
Scene 3: When all three spaceships come close to Dexter, move **down**. When he reaches the rock, move **up**.
Scene 4: When the spaceship starts heading down towards the station, move **up**.
Scene 5: When the muck monster appears, press **fire**.
Scene 6: Wait for the arm to go down, then up, then move **right**, and quickly **up**.
Scene 7: Wait for the platform to come up for the second time, then move **right**. When Dexter lands on the platform, move **right** again.
Scene 8: When Dexter appears on the path move **down**, quickly followed by **right**.
Scene 9: Just before Dexter reaches the corner in the path, move **down**, then quickly move **left**.
Scene 10: When Dexter is grabbed by the monster's tentacle, press **fire**.
Scene 11: When the right-hand monster drops below the bridge then move **up**.
Scene 12: As soon as the dogs pounce, move **up**.
Scene 13: When Dexter stops running, move **right**.
Scene 14: When Dexter stops running, move **up**.
Scene 15: When the robots begin to move their arms quickly, move **right**.
Scene 16: When Ace approaches the corner in the corridor, move **left**.
Scene 17: When Ace reaches the centre of the floor, move **left**.
Scene 18: When Ace is approaching the corner in the corridor, move **right**.
Scene 19: Just before Dexter reaches the ladder, move **up**.
Scene 20: When Borf's staff is in mid-air, press **fire**.
Scene 21: As above
Scene 22: When Ace picks up the staff, press **fire**. When Borf's staff is in mid-air, move **left** or **right**.
Scene 23: As soon as the scene begins, press **fire**. When Borf begins his round house kick, move **down**.
Scene 24: When Borf's staff is in mid-swing, press **fire**.
Scene 25: When Borf swings his staff, move **up**. When he swings again, move **down**.
Scene 26: When Borf swings, move **left**. When Ace is behind borf, move **down**.
Scene 27: When Borf's goons approach, move **up**. When the screen changes, move **left**.
Scene 28: When Ace is over the platform, move **down**.
Scene 29: Just as the platform is about to hit the lava, move **right**.
Scene 30: When you see the ray, move **right**.
Scene 31: When Ace reaches the corner of the corridor, move **left**.
Scene 32: When Ace reaches the penultimate mirror, move **right**.
Scene 33: When the ray hits the ground, move **left**, then immediately **right**.

All being well, you have now completed the game.

THE DUNGEON MASTER GUIDE

Part Three

A guide to help you through each level of the dungeon

Locations of monsters have been omitted to leave some surprise.

Level One

All 24 characters exist here frozen in pictures. By clicking on one the inventory will be displayed along with the option to resurrect or reincarnate.

Resurrecting a character will return him/her to life exactly as before death, retaining all attributes.

Reincarnating a character will return him/her to life, but without previous attributes.

A few items are to be found before going to level 2.

Level Two

Items to be found: 3 Falchions, 2 Daggers, 1 Arrow, 3 Throwing Stars, 2 Small Rocks, 1 Buckler Shield, 2 Blue Magic Boxes, 1 Copper Coin, 4 Torches, 5 Flasks, 2 Chests, 2 YA Potions, 1 Elven Doublet, 2 Pairs of Leather Boots, 1 pair of Leather Trousers, 1 pair of Ghi Trousers, Numerous Keys.

'Small details can hide great rewards' – Press button on wall for a Falchion.

Two pressure pads in room with gate – step on first pad, then one step right, two forward, one left, and out.

Large room with gate and 9 pressure pads – forward 3 steps, back one, forward 2 steps, back 1, forward and out.

Pressure pad with rock laying nearby – place rock on pad to open gate.

'Step inside, take a ride' – step into transporter and search

the floor.

Pressure pad and trap door – place an item on the pad to close the pit.

Pressure pad with writing on wall – It says nothing useful, continue.

Large room with pressure pad and green button wall – Press button to open gate and step around the pad to leave.

Blue transporter and open pit – Place an item on floor to close the pit and search the floor.

Wooden door closes as you approach – wall says 'None shall pass' – simply chop door with a sword to get to a chest.

'This fountain accepts one wish' – Put a coin in fountain to open door.

Unopenable gate with sword behind – Continue around corner and throw switch on wall. Go back to find gate open and throw switch to open secret room in place you've just come from.

Level Three

Items to be found: sword, sabre, sling, numerous small rocks for sling, 5 arrows, wooden shield, wand, 2 bezerker helms, helmet, blue magic box, rabbit's foot, blue gem, Ra key, 2 flasks, 3 chests, mirror of dawn, compass, numerous coins, mail Aketon, suede boots, 2 leather pants, 2 leather jerkins, elven huke, 2 fine robes.

On entering level 3, take 8 paces forwards, button on left wall opens secret passage. A fast run is required to get through transporter.

'Choose your door, choose your fate' – six cryptic rooms. One golden key to be looked for in each room.

The Matrix. Enter room, 2 steps right, 6 steps forward, turn left, 4 steps forwards, turn right, press button in alcove, proceed the way you were going to find a secret room.

Time is of the Essence: Blue button on wall. 'Hit and Run'. Press button and quickly move 4 steps left, one forwards to get through wall.

Blue button and open pit – press button and turn quickly to see a transporter, throw a fairly heavy item into it to shut pit.

Second blue button and pit – Press button and immediately take 2 paces back while pit is shut (This pit can be opened for your exit by a blue button further in.

Creature Cavern: Fight your way through the monsters to the gold key.

Chambers of the Guardian: the last of the seven rooms contains a chest. Press the blue button and a transporter moves the

chest to another room, repeat this until a chest appears out side the last room. Use mirror of dawn to open secret room half way along corridor.

The Vault: 'You must pay for your entrance' – 2 gold coins. 'Cast your influence, cast your might' – ZO spell to open door, then throw an item onto pad to close pit.

Take silver coin and replace it with something to keep the door open, use the silver coin to open next door.

Open chest and use coins to open secret room on your right, enter room and press button to open secret room back the way you came.

Room of the Gem: Place an object on the pad to close pit. Blue button opens gate and also opens the pit behind you. Turn around and throw object back onto pad.

Find secret button at end of passages. Press to open a secret room and retrieve blue gem. You can now return to the entrance and open the door by placing gem in slot provided.

When all rooms have been completed you will have 6 gold keys, use them to leave the level. Just before the stairs, to leave the level, you will find a wooden door which can be opened by one of the gold keys. In the room are some useful objects and a button on the wall. Press the button to open a secret room a few paces back down the corridor.

Level Four

Items to be found: Numerous coins, axe, rapier, bow, Teo wand, hosen, leg mail, elven boots, leather pants, leather jerkin, small shield, bassinet, 2 small rocks, blue magic box, 3 flasks, water bottle, Neta position, horn of fear.

'Don't let a closed door stop you' – Chop down with axe.

Coin slot in wall turns on blue haze, use unknown.

'Short cut' and key hole – Use gold key to turn on transporter. Step in and appear further on.

'This is my prisoner, let him suffer' – Throw something to kill the prisoner, it opens your exit at the end of level.

Chop closed door.

Level Five

Items to be found: mace, 3 poison darts, dagger, staff of claws, large shield, 2 helmets, casque 'n' coif, mail Aketon, hosen, leg mail, choker, illumulet, mirror of dawn, rabbit's foot, ekkhard cross, 4 VEN potions, gem of ages, 3 blue gems, DANE potion, KU potion, chest, FUL bomb, blue magic box.

The first left turn on this level takes you into a large room containing four doors, these are the treasure stores. Working anti-clockwise as you enter the room:

First door: This room is full of transporters. Step into this room and move in the following order: right, back, forwards, left, right, back. Keep an eye on the floor as you do this.

Open pit: behind you is a lever to close pit.

Second door: Smaller of two rooms. Button in wall opens door. Larger of two rooms. Buttons around wall reveal more buttons until correct combination is achieved and secret panel opens.

Third door: On entering the large room, turn right and walk into corner where you will find a button. Press and walk back past the entrance to the other corner. Turn right and walk to the next corner. Turn right again and walk until you find passage on left. Forget walking straight across room as it becomes never ending.

Fourth Door: There are two passages on the other side of pits. the one on the left cannot be accessed until level six. The one on the right is reached by making your way through the pits on the right. A number of attempts may be needed before the pits close in the correct order.

When all rooms have been explored, return to the starting corridor a few paces down where you will find a stair case. Climb and press button to open wall to a corridor on level 4.

Level Six

Items to be found: Large shield, casque 'n' coif, mail Aketon, torso plate, mitheral Aketon, mitheral mail, torches, crossbow, 2 throwing stars, 2 vorpal blades, 3 slayers, 2 green magic boxes, blue magic box, UNVEN potion, VEN potion, yew staff, water flask.

'I am all, I am none' – nothing.

'Hard as rocks, Blue as sky, Twinkle in a woman's eye' – Blue Gem.

'I arch yet I have no back' – Bow.

'A golden head yet no body' – Gold coin.

Room with pit and gate that closes as you try to get to it – throw lever on right wall to turn on transporter, place an object in the transporter to open gate. Step into transporter to retrieve object, green button closes pit.

'The grave of King Filius' – Press 4 buttons around wall until correct combination is found. This opens a secret panel.

'The grave of King Milias' – Place a gold coin in hole in the wall to open secret room.

'If you want to stay alive, you'd better turn and run' – Right hand corridor: On left wall soon after entering room is a button. Press this to open a secret room on far left. In this other room is another button which opens a room near the exit.

There is also a room which opens when you step on a pressure pad and closes when you step off. No amount of weight seems to keep the door open.

Left hand corridor: After passing through the gate you will find a door on the left. Nearly opposite is a metal ring set in the wall. press this to open a secret passage. Towards the end of the passage is another secret passage opened with a button on the wall.

Stuck between two gates with a blue haze turning on and off – cast a spell to open the gate then take off armour to move faster and run through haze.

'Test your strength' – throw an item down corridor to open a gate further on.

As you travel along you will find a room on your right with a staircase leading up. This is the way to the restricted area on level 5 in the pit room.

DM GUIDE

Some useful additions

Here are some additions to the *Dungeon Master* guide provided by fellow fan, **Matthew Hill** of **Brighton, Sussex**.

(1) DELTA – Adds 1 to Mana
(2) BOLT BLADE – is found on Level 7 (NOT 11)
(3) SMALL ROCKS – are also found on Level 4
(4) FUL BOMBS – are only found on Levels 7,8,9,10,11,12
(5) WAND – also +1 to Mana
(6) FIRESTAFF – +1 to all levels & Brandish, Spellshield, & Fireshield.
FIRESTAFF + POWER GEM – +2 to all levels & Fuse
FLUXCAGE & INVOKE – INVOKE produces varying strengths of fireball, poison bolt and spirit bolt (DES EW)
(7) SCEPTRE OF LYFE – should be spelt LYF
(8) STAFF OF MANA – should be spelt MANAR – has LIGHT spell, not Fireshield
(9) DRAGONSPIT – +4 MANA not +7
(10) YEW STAFF – Found on levels 8 +10, not 6 + 9
(Yew Staff + Staff of Manar only have limited charge)
(11) FERAL PENDANT – is called PENDANT FERAL, Level 9
(12) HELLION – enhances physical skills
(13) GEM OF AGES – enhances mental skills
(14) EKKHARD CROSS – enhances character protection
(15) JEWAL SYMBOL – should be JEWAL SYMAL which adds 15 to Anti-Magic
(16) MIRROR OF DAWN – also an 'answer' to one of the riddles on Level 6.
(17) HORN OF FEAR – doesn't just frighten water elementals, but also worms, spiders, winged snakes, triffids, blue trolls, rust monsters, beholders, wizards, ghosts, etc. – not all monsters, however.

Do not enter transporter saying 'Ha Ha Ha', you will end up back on Level 5.

Towards the end of the level is a passage with a lever at one end and a gate and transporter at the other. Ignore the transporter – it only takes you to an earlier part of the level. To enter the room you must throw the lever and move quickly to the gate and enter before it closes.

Level Seven

Items to be found: the firestaff, Bolt Blade, flamebain, crown of Nerra, the inquisitor, FUL bomb, VEN potion, sceptre of lyfe, Gem of Ages, Illumulet, Dragon spit, Boots of Speed, 2 Green Magic Boxes, 4 Flasks, Water Flask, Orange gem, Corbamite, Magnifier, Torch, Ra Key, Winged key, Turquoise Key.

Although all the following information guides you through level 7, on first entering the level you can only open one gate (with a Ra Key). The other three Ra Keys and other keys must be obtained from lower levels.

'The Tomb of the Firestaff' – after passing through the first 3 doors that require Ra Keys, you will come across 4 rooms on the right. Only one of these can be opened with the turquoise key that you will find on this level. A lift of items to be found within these rooms was given in an earlier part of this guide.

'Danger, Enter with caution' – First you will find alcoves that may prove rewarding. As you turn right along a long corridor with short passages on the right, a button will be found on the left wall (three and a half passages along). press this button to open a passage on your return journey.

In the room at the end of corridor will be found a Turquoise Key under some ashes. To the left is a button that opens a passage at the end of which are some scrolls and a Ra Key.

On your return to the room with the alcoves you will find a passage has opened in front of you. Enter, turn left, right, left and seven paces forwards to find a button on your left. press the button and walk back the way you came to find the winged key has been revealed. Travel down the corridor, it is a direct route to level 13. Open pan and return.

Return to the 'Danger, Enter with caution' door. Opposite is another corridor at the end of which are some very useful items. Leave this corridor and open the door on your left with the Ra Key. Walk along this corridor for some distance taking many turns to find the Ra Key. Don't hang around when you find the Firestaff! You now need the Power Gem from Level 14.

Ruby Key opens 'Enter with caution' door.

Master Key opens door to retrieve Firestaff.

Level Eight

Items to be found: Delta, Rabbit's Foot, 4 FUL bombs, 2 Chests, Mac of Order, Staff of Manar, Yew Staff, Throwing star, Green Magic Box, Jewal Symbol, Torch, Copper Coin.

Level 8 consists of a very large room with a number of secret passages, also numerous pits.

Around the wall you will find a short corridor with a chest and two holes in the wall. The holes fire fireballs which pass through various blue hazes and travel around the room. At the start of this passage you will find a button on the wall. Press it to open a secret panel behind the blue haze on your right. press the green button behind this panel to switch off the hazes and thus stop the fireball from hitting you as you search the level. If you stand with your back to the fireball holes and walk forwards you come to the end of a wall. Step around this to the other side and take a further 10 steps forwards to find a key in front of you.

One of the buttons around the wall will reveal a series of passages culminating in what seems to be an endless passage. In effect you are being transported back top the start of the passage. Stand with your back to the beginning and take 26 paces forwards, then turn right and wait for a moment for a panel to open. You will find a gate behind which is a button on the left wall. Press to open a secret room.

One passage you find will end in a gate (you should have a solid key on you to open it). At the end of the passage you will find a skull on the wall. Use the skeleton key that you found in the chest to open a secret panel. You will find a number of these in the levels to come. Always open them to reveal access to the master staircase which begins on Level 8 and finishes on Level 14, opening on all the levels in between.

If you drop down one of the pits in the room you will find a series of corridors. search them to find another pit at the bottom of which is a Yew Staff.

Well, that lot should keep you happy for some time. In the final instalment, next month, levels 9 to 14 get a similar treatment.

SUPER HACK

OPERATION THUNDERBOLT (AMIGA)

Master hacker, **Mark Lawrence** of **Basildon, Essex** here provides some relief for Amiga owners being shot to pieces in *Operation*

Thunderbolt. This gives you infinite 'life'. Type the program below in Amiga Basic and save it for future use. Now insert *Operation Thunderbolt* disk 1 in drive 0 and if an alert comes up click on cancel to remove it. Now run the program and after a few seconds the screen should go black. Operation Thunderbolt will now load as usual but you should have infinite 'life'.

```
10 DIM CODE%(255)
20 FOR N=0 TO 95
30 READ A$ : A = VAL ("&H" +
A$)
40 CODE%(N)=A
50 NEXT N

60 CHEAT=VARPTR(CODE%(0))
65 CALL CHEAT

70 REM TYPE IN THIS LISTING
AND SAVE FOR FUTURE USE.
80 REM INSERT OPERATION
THUNDERBOLT DISK AND RUN
THIS PROGRAM
90 REM GAME SHOULD LOAD AS
USUAL WITH INFINITE LIVES

100 DATA 70FF, 2C78, 0004,
4EAE, FEB6, 2200, 5280, 6772
110 DATA 4BFA, 00EE, 3AFC,
0400, 429D, 3AC1, 93C9, 4EAE
120 DATA FEDA, 2AC0, 2A8D,
2B4D, 0008, 589D, 4295, 4BFA
130 DATA 0090, 1ABC, 0005,
3B7C, 0030, 000A, 41ED, 0038
140 DATA 2B48, 0006, 41FA,
0060, 7000, 7200, 43FA, 006A
150 DATA 4EAE, FE44, 4A80,
662A, 700C, 99CC, 6126, 7002
160 DATA 49F9, 0007, 0000,
611C, 397C, 5340, 0030, 297C
170 DATA 343C, 4A69, 0032,
297C, 31C2, 73BA, 0054, 4EEC
```

FUTURE WARS

The Complete Solution

Well, the animated puzzler from Delphine/Palace certainly seems to have got adventure addicts worldwide burning the midnight oil. We have been getting three or four calls a week, here at the *ACE* office, from frustrated readers anxious for help. So, to save your sanity and our ears, here is the complete solution courtesy of **Phil Thompson**.

The Start
Take bucket. Operate lift up button. Operate open window. Enter room.

First room
Operate carpet to get key. Take plastic bag. Operate WC door to get red flag. Operate cupboard to get insecticide. Use bucket on sink to fill. Use bucket on centre door. Operate right hand door then exit right.

Office
Open desk drawer to get paper. Operate cupboard to see typewriter. Make a note of number on typewriter. Examine map. Use red flag on hole. Exit right. Examine keypad. Operate keypad entering number found on typewriter one digit at a time and exit to office after each one. After final digit go through passage.

Control Room
Use paper on slot. Operate green button. Operate red button and quickly move under spotlight.

Swamp
Go left walking on green areas only. Use insecticide on mosquitoes. Examine ray of light to get pendant. Go left.

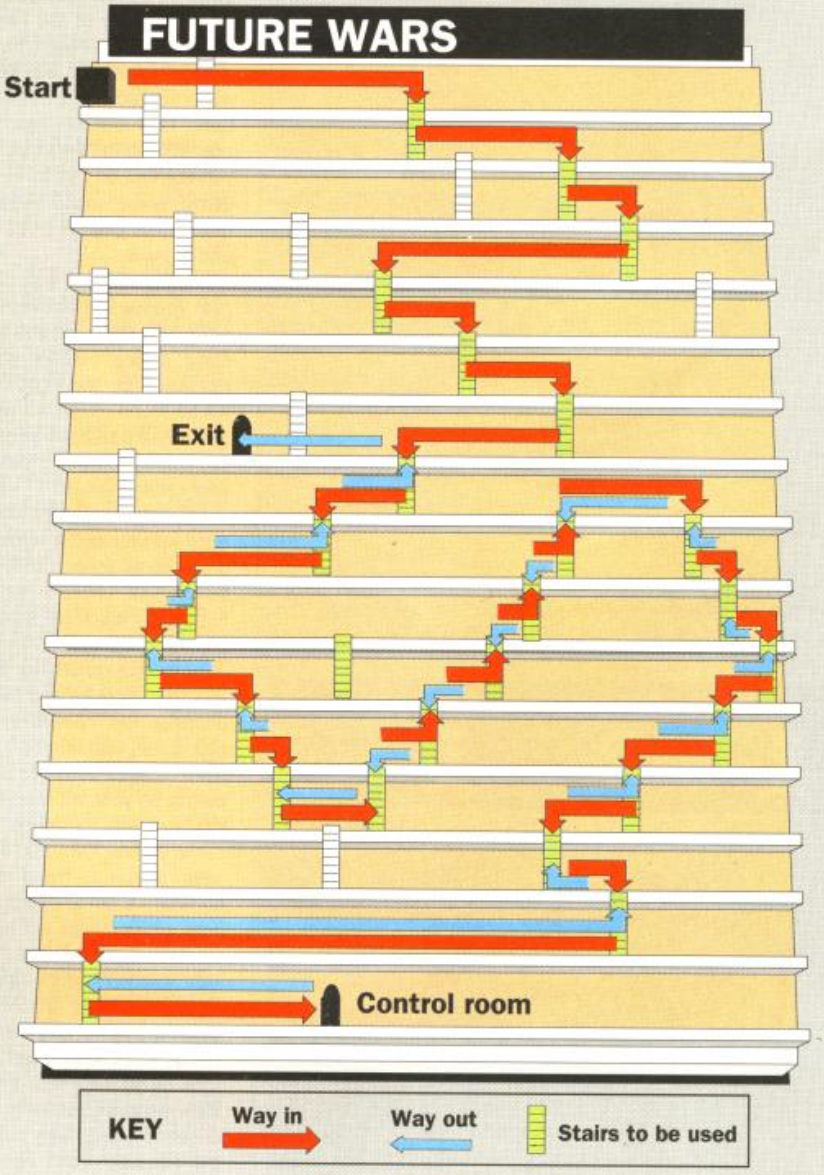
Lake
Examine tree by lake to get rope. Use rope on branch. After peasant goes for swim, take clothes. Go left.

Castle
Go round back of castle. Operate large tree to get coin. Go back to pub in front of castle. Use coin to buy a drink. Listen to gossip. Go to castle.

Inside Castle
Listen to information then leave, taking lance from sleeping guard. Go back to large tree. Use lance to get monk's habit and put it on. Go to lake. Use plastic bag with lake. Go bak to castle and exit bottom of screen.

Outside Monastery
Use plastic bag on wolf.

Inside Monastery
Enter door on left, leave and



enter door on right. Go to room on left. Take cup. Go middle door. Use cup on barrel. Give wine to leader. Examine him for remote control. Use remote control on cabinet. Take magnetic card. Go to wine cellar. Use remote control on cabinet. Take magnetic card. Go to wine cellar. Use remote control on top barrel. Enter secret passage.

Control Room
Examine glass case to get gas cannister. Use magnetic card on computer.

Wastelands
Take blowtorch from bottom right of first screen. Take fuses from white rubble. Go through manhole.

Sewers
Use blowtorch on tap to fill. Use blowtorch on monster. Go up steps.

Metro
Get coin from coin collection in newspaper machine. Use coin on money slot on newspaper machine. Repeat. get on metro train.

Shuttleport
Go down stairs. Use fuse on fuses in fuse box. Go upstairs. When recpetionist checks make-up go between arrows.

Prison Cell
Use metal key on grill. Use gas canister on metal grill. Use newspaper on metal grill. Exit through door.

Control Room
Use magnetic card on machine.

Slippery slope
Go to Lo-ann.

Outside Spaceship
Shoot any crughons in red danger boxes until crughon leader appears on flying podium. Shoot him. When Lo-ann is shot search her body twice. Use pendant on Lo-ann. Search dead crughon.

Spaceship Cockpit
Use magnetic card on machine near door. Operate case. Take garment. Use garment on video camera. Get in case. Operate case.

Crughon Base
Use invisibility pill on hero as soon as door starts to open. Leave spaceship. Hide in box on lower left of screen.

Cargo Hold
Operate door at far end. Follow enclosed map to computer centre. Use magnetic card on console. Follow map to exit. This completes the game.

```
180 DATA 000C, 4E75, 43FA,
0032, 3340, 001C, 234C, 0028
190 DATA 42A9, 002C, 237C,
0000, 0400, 0024, 337C, 0030
200 DATA 0012, 4EEE, FE38,
7472, 6163,6B64, 6973, 6B2E
210 DATA 6465, 7669, 6365,
0000, 0000, 0000, 0000, 0000
```

You can also gain infinite men by typing either **WIGAN NINJA** or **EDOM TAEHC** when you get a high score. From examining the program it appears that typing **SPECCY MODE** when you get a high score does something but I haven't managed to find what it does do (*Switches to yukky two colour displays and tinny sound perhaps?*).

A TNT SURVIVAL GUIDE

ZX SPECTRUM

As promised last month, here is the first of our detailed run downs on how to use pokes for individual machines.

If you are attempting to modify a very early Spectrum game then the chances are that you won't have to get round any tricky protection. Most of the early Spectrum titles used an auto-running BASIC program to load one or more blocks of code into memory and then execute them using a simple USR call.

The best way to find out if the game is of this type is to use **MERGE** rather than **LOAD** to load the program (see your user manual for details on how to do this).

This will load the program as normal, but will stop it from auto-running. All being well you can now examine the listing of the boot program. If you can't, or the computer crashes, then the program is protected and you will have to resort to other methods.

If you see a single line number (possibly zero) and nothing else then the program has embedded colour codes which make it invisible. These can be edited out as normal, but if the first line has a number of 0 you will find that you are unable to bring it down for editing. This is the solution.

Enter directly: **PRINT PEEK 23635+256*PEEK 23636**, and a five figure number will appear. Make a note of it. Now enter directly: **POKE n+1,1** where **n** is the number you noted down. If you now rexamine the listing you will see that the number of the first line has changed to 1. You should now be able to edit it as normal.

You may have problems if there is already a line 1. In this case you will have to repeat the procedure, but using a number other than 1 that is not in use (But make sure you reorder the lines afterwards).

To remove the colour codes move the cursor onto the partly visible line and call it down with the **EDIT** key. Now move the cursor slowly along the line until it disappears. At this point press **DELETE** once. Now repeat the process until the line becomes visible. Re-enter the line.

You may have to do this with several lines to clear the whole listing. If you are using a +3 then the codes will be ingnored by the machine, but they are still there.

Now you should have a clear listing. Find the last line in the program which loads a section of code, and the line with the first **USR** call. You must place any pokes you wish to employ between these points. Once you have done so, save your new loader on a seperate tape.

Now all you have to do is load your adjusted loader program, replace the original program cassette wound past the original loader program, then run your new program and start the tape playing.

Unfortunately most of the existing programs for the Spectrum are not so ridiculously easy to access – more on this machine next month.

CONSOLE CORNER

Jojo Cicero and **Mark Hook** of **Caerphilly, Mid-Glamorgan** have already treated Sega Master System owners to some great tips from *R-Type* to *Spy vs. Spy II*. Now they're back with some tips for *Altered Beast*.

i) It is possible to continue in all five times. To continue the second and all later times just press both buttons but push a different diagonal direction. Some diagonals can be used more than once.

ii) To destroy:–
...boss 1: stay at the left of screen. Fire at him continuously (using fireballs). When a head is above you use the 'flaming arrow' trick so you stop just outside boss body. Keep fireballing him. When another head is above you, face left and use 'flaming arrow'. Keep repeating the process.

...boss 2: not much to do really, just fire at eyeball and each spore endangering you. If a number of spores are close, electrify them!

...boss 3: always remain relatively close. Duck the fireball waves, shooting fireballs continuously. Never once use the 'pillar of fire trick'.

...boss 4: keep at opposite side of screen. Fire a single fireball at him and as he runs at you, jump and in mid-air use the 'flaming arrow' trick to gain distance. Keep repeating, and if he ever does take a life from you, fire like hell at him while he remains invincible.

More tips from the daring duo will be coming your way soon.

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* N for Nintendo Entertainment System and F for Sega, Atari, Amstrad and Commodore game systems

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John Cook reports from America where gaming on the move looks set to hammer home Nintendo's domination of the videogame market

That's Handy!

Here's an interesting fact to slip out at one of those intimate soirees, where you are trying to impress A.N.Other with your cosmopolitan intellect and vast knowledge of world affairs - "Guess how many Walkmans were sold in America last year?"

How about this then - an estimated 22.5 million units, worth something just over a billion dollars over the counter. These are lean years for headset audio, however, gone are the days when the tape machine attached to the belt was de rigeur, but it does give you some idea, even in a relatively stable market, the kind of demand there is for entertainment on the move.

Once Walkmans (and all the clones) became available, a whole new area of personal entertainment was opened up and going to work on the bus became slightly more bearable. Those ghetto blasters disappeared over night and - OK - so the treble leak from neighbours' cheapo headsets could be annoying, but that can always be solved by turning your own up that little bit louder....

That was the revolution in portable audio, this year comes the revolution in portable video games which is going sweep across the USA like never before. I guess it's true to say that portable video gaming has been with us for years. The first time most of us ever heard of Nintendo, it was probably because we found a Game and Watch tucked away in the depths of the Christmas Stocking. And companies such as Tomytronic have been producing larger non-programmable battery operated games for, it seems like, even longer.

But this is the year that every player in the 3.4 billion dollar videogame market has either got a programmable handheld in the shops or in the final stages of development. The big boys are taking this one very seriously - and you only have to look at the numbers that the Gameboy has been generating to comprehend why.

From nothing to an installed base of one million units, all achieved in the last five months in 1989. In my book, that goes under S for Spectacular.

"We think Gameboy just showed a shred of its potential in 1989 and we're looking forward to more phenomenal sales in 1990," said Peter Main, Nintendo of America's vice-president of marketing. By that, he means to sell four million more by the end of next year. He's unlikely to be wrong.

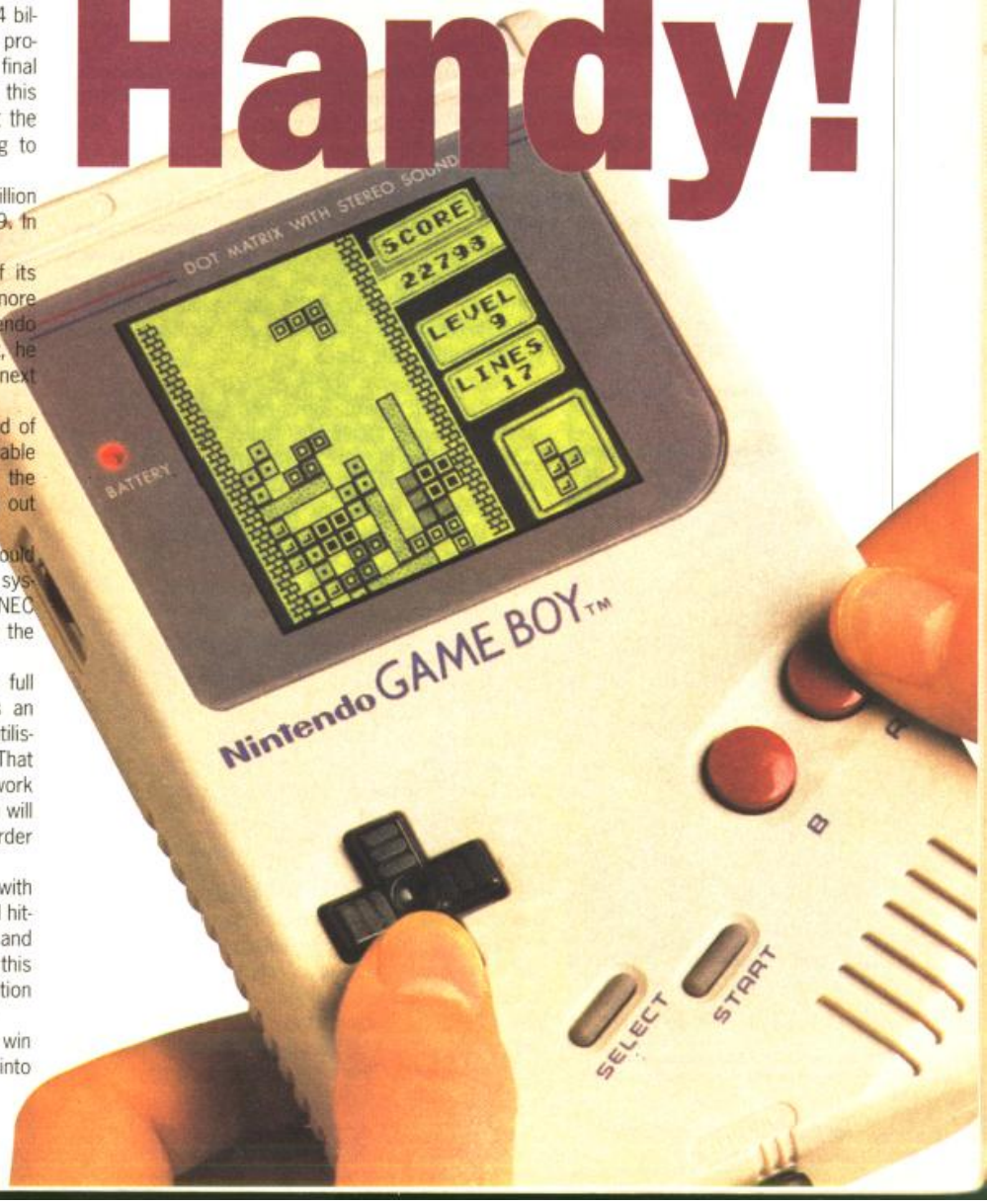
Atari has the Lynx - technologically way ahead of Gameboy - and reports wonderful things ("insatiable demand") of its test market in New York over the Christmas season, with a reported 75000 going out the door.

But poor old Atari. For a brief moment it could claim to be the world's only portable colour game system - a fragile claim that was viciously spiked by NEC previewing working model of its own handheld at the recent Las Vegas Show.

The NEC handheld is colour alright, with a full 400x270 pixel TV display and what's more has an instant and rapidly growing software base, as it utilises existing PC Engine/Turbo Grafix-16 software. That has to be a big plus, although there is still some work in the lab to do on the battery life of the unit which will have to be better than the present three hours in order to be a competitor.

Finally, bullish from its successful Christmas with the Genesis, there are rumours of a Sega handheld hitting the streets later this year - again in colour and compatible with, fancy that, Sega Master carts. Is this a bandwagon or is this a primitive transportation device piled high with a lot of musical instruments?

OK. So which one of these babies is going to win out? There are a number of factors to be taken into



Gator and Shanghai: a fatal Gameboy combination devastating your spare time!

Nintendo will be spending around $30 million dollars in advertising the Gameboy and other Nintendo products in the first half of '90. Atari's initial ad spend for the Lynx is $1 million

Gameboy Jordon vs Bird One on One Basketball from Milton Bradley

Nintendo has been smart in the type of software it is 'encouraging' its licensees to produce

Acclaim is a major Nintendo developer with both software and peripherals

Who needs The Times crossword when you've got Gameboy Scrabble?

consideration, but why don't we cut them down to three major areas for consideration. Technological sophistication, software base and price.

TECHNOLOGY

I suppose, first must come the Lynx which, when you first get your hands on it, is a very impressive piece of hardware. A backlit 160x102 display of 16 colours out of a 4096 palette. Cool. A 4 Meg 6502 does the house keeping, but there are custom chips in there to give hardware sprite scaling, hardware scrolling plus all the four channel hoopy sound you could eat. Fast and Loud.

Joe 90 would have been happy with one of these - and this 'gosh wow' factor is the major plus of the machine. A minus factor is the power hungry screen giving a quoted six hours of battery life. That'll be Duracell hours, not rechargeable hours, of course. That won't get you across the Atlantic - let alone through US Immigration procedures.

A strong second comes the NEC hand-held. Its true TV screen has astonishing clarity at only three inches across and it's unlikely that anyone will notice the difference that the 16 colours on the display only come from a 512 palette. Its 6502 may not have the supercharged aid of the Lynx's, but there's enough help for the thing to cope with wildly sprite intensive games such as *Gunhed*, although there is, of course, no hardware scaling. Big minus right now - only three hours of battery. It would be lunacy to release the thing to Joe Public like that, so expect it to at least double before you can get it in the shops.

As the Sega machine is yet to be shown, any conjecture about it is wildly speculative, but let's hope its Master System compatibility (if indeed it is) is a low end capability rather than the thing performing at max output.

But even if it was, the Gameboy would still look lame. Mono LCD screen. A blurry 160x144 display. A cut down Z80. Mmmmm. State of the technological art this isn't. But a battery life of thirty hours or so will keep you going all the way to the West Coast by plane, let you have the odd game while you're over there and see you all the way through Customs and Excise back at Heathrow.

On technology alone, then, it's Atari ahead by half a length, with Nintendo still at the starting game.

SOFTWARE BASE

No problem here - on a ratio of sophistication and availability, the NEC, when it comes out, must surely be streets ahead. There are already 20 titles out there and the same number again are due to hit the streets in the first half of this year - with familiar titles such as the *TV Sports* series from Cinemaware. Most PC Engine games are impressive graphically and have great playability. In the short to medium term, the software base can only grow larger and better.

Again, if the Sega machine is compatible with Master System games, it already has a great number of very solid titles to plug in and go. The quality of Master System games to broadly acknowledged to be improving - the recent release of *Golden Axe* being a fine example. Old technology compared to the Lynx 'though.

The Lynx has the original six games that were programmed for it by Epyx and right now that's it. I don't suppose anyone can deny the impressive display of *Blue Thunder* - an *AfterBurner* clone - it's out performing even an Amiga. But do you want to play *California Games* again?

Atari are bullish about future software development, of course, and substance has been added to that with the announcement of a link-up with Atari Games/Tengen which should ensure a goodly supply of reasonable coin-op originals. Here and now, however, there must still remain a small question mark until we see the software on the streets.

Again, on by any sophistication standard, the Gameboy must limp behind. That mono screen is never going to blow you away. But unexpectedly, the quality of the software that is available for the machine cannot fail to impress. *Revenge of the 'Gator*, from Hal of America for instance, is a pinball simulation that has the best ball movement algorithms I've seen on any computer anywhere for the past ten years. When you find yourself tipping the Gameboy in a vain attempt to nudge the ball in the right direction, you know that someone, somewhere has done something rather clever.

Nintendo has also been smart in the type of soft-

LOW BUDGET HANDHELDS

Game and Watches have always been with us - well... that's what it seems like anyway, but with the very rapid expansion of this programmable hand held market in the past year, a whole host of non-programmable games have appeared from unlikely sources such as Konami and Aklaim (the latter being successful NES cart publishers).

And know what? They're all completely crap. Forgive the blunt approach - and God knows I'm usually the type to call a spade a manually operated terrain moving device - but these game are universally going for the low, low end of the games market and this is reflected in the price of around $19.99. Which in turn is reflected in the quality and sophistication of the games. You don't even get a watch in some of 'em

Maybe the *Tetris* might be worth a look - but other than that, take the advice of a sadly disillusioned man. Don't!

Simple handheld fun with KIT and the Knight Rider

ware it is 'encouraging' its licensees to produce. Smart move number one was to bundle *Tetris* with the thing - the game most likely to appeal to the widest possible audience across the age ranges and across the sexes.

Many other puzzle games are in the works, including a surprisingly playable version of *Shanghai*. Sure there are arcade blasters - *Nemesis* being an unlikely example from Konami and *Classic Invaders* a forehead thumpingly obvious release from Taito. But there has been a deliberate approach to pitch much of the software away from the traditional shoot'em-up brigade and towards older users. The ones that take trains and planes to work. There's only one way to describe this particular curve ball. Sneaky.

The Lynx and the NEC neck and neck now, with Sega falling back and Nintendo just breaking into a brisk trot.

PRICING

This is where it all becomes really interesting. How much would you pay for a hand held machine? You've probably already got a computer or console, remember. This is going to be your secondary device - the one you play on the way to work, in the back row of the classroom, down the canteen; whatever.

Well, expect to see the Gameboy selling in the $80-90 dollar range. Sixty quid. Does that sound much to you? A nice birthday present, yes? Something you might get from a well-off granny at Christmas maybe. Carts for the things - most seem to be lining up at around $20-$25, that's cheaper than the majority of NES cartridges.

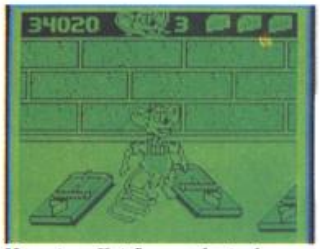
The Lynx - the only other contender yet to make it into the shops. Well, you can double the price of the basic Gameboy unit - say around $180 dollars. You can pick up a Genesis or NES for that kind of money and surely puts Atari's machine well beyond the scope of the impulse buy. Software? To you, $35-$45 dollars - just a little bit more than the average Nintendo cart. Add to this the thirsty running cost in batteries and the Lynx becomes what the marketeers like to call a 'premium' machine - wot you and me call 'pricey'.

The NES handheld, if anything, is likely to be a little bit higher than the Lynx - but will have the added advantage of being able to be used as a TV set with the addition of a low-cost tuner.....which no doubt will be thrown in as part of the deal by particularly rabid retailers. Who knows about the Sega, but it can't hope to undercut the Gameboy if anything that's leaked out about its technical spec is true.

The Gameboy suddenly puts on a spurt of speed and races up on the inside of the Lynx as the field approaches the Winning Post!

CONCLUSION

So - who wins? The NEC and Sega are bound to have an impact when they come to market, because of the large existing software bases - but here and now, doesn't the wunderkind Lynx seem to blow the technological dwarfish Gameboy completely away?



Mousetrap Hotel: a wacky tacky slice of life as a mouse from MB

In the cold hard reality of the market this is a one horse race... Nintendo clean up – again!

He's lean. He's mean. He's a-mazeing! He's Kwirk – the punk tomato...

Atari Lynx... the 'gosh wow' factor is the major plus of the machine

The Atari Lynx: in UK stores within the next three months for £149.99

Well, hang on. We have forgotten one small point. Nintendo itself. Let us not forget that in the USA, Nintendo is now a phenomena like you would not believe. By the end of this year it will have an installed based of 26 million NES consoles in American homes. Everyone calls it, of course, the Nintendo. And the merchandisers have not missed the opportunity to make large amounts of dosh on the back of this.

There's Nintendo breakfast cereal, you can wear the shirts, coats, jeans, slippers, sit on the chairs and bedspreads, use the Nintendo crockery and realise you've been playing Tetris for the past five hours by the Nintendo clock. Even when you turn the telly on, there's a high probability you've tune into the *Super Mario Bros. Show.*

And what does everybody outside the industry call the Gameboy. The New Nintendo. One kiddie goes up to another with this little hand held device (just the right size), says, "Have you seen the new Nintendo?" - the immediate reflex answer is, "Want One Now".

Here's another thing - with an estimated $2.7 billion dollars in sales generated by the Big N and its mates in '89 it isn't short of a few bob when it wants to promote a new product. There's 30 million - yes - 30 million dollars being spent by Nintendo on advertising alone in the first half on 1990. Not all of it is directed head-on at the Gameboy, but say "Nintendo" that often to the consumer and expect it to positively effect their buying choices even if you bring out a Nintendo brand of condoms.

Nintendo expect to sell another four million Gameboys in 1990. Atari say they are going to sell one million Lynx machines. It's publicly announced ad budget is presently one million dollars. I know who my money is on to succeed.

Sure - the colour revolution in handhelds will come - but until all the major machines have been released (all likely to be around the $200 mark) I strongly suspect that many prospective Lynx buyers will wait and see what the competition will offer. And while they're waiting - what could be better than just one more game of *Tetris* on the Gameboy.....

In the cold hard reality of the market, this is a one horse race - and I'd put my shirt, jummy, Toyboy boxer shorts and anything else that came to hand, on a wager that this is the year that Nintendo clean up - again.

COIN-OPS

BEAST BUSTING – WHO YA GONNA CALL?

After all the hustle bustle of the ATEI Show last month, it's back down into the arcades - as John Cook gets through large amounts of small change and focuses on that ol' Silver Ball

BEAST BUSTERS

SNK

Regular readers will know that I have a virulent dislike of the "mow-em-down" style of game that has become so popular in the last couple of years.

These are electronic shooting galleries, with the player gripping a simulacrum of an automatic weapon and blowing away moustachioed loony lefters, young children, nuns, etc, all in the cause of truth, justice and lower petroleum prices.

Now I know it makes me sound like a bit of a wimp - but while I don't mind giving all kinds of alien being pure hell, I draw the line at pretending to kill large sprites representing real human beings.

Why? Well - cop this for a powerful intellectual arguement - it's not nice. Shooting aliens is creating a fantasy world to have fun in - putting realistic human beings in that world and then killing the odd hundred, is starting to impinge on the real world in a rather disturbing manner.

So, as far as I'm concerned, you can trash Op Wolf, Mechanised Attack, Op Thunderbolt and Line of Fire.....but I think you could save Beastbusters if you really wanted to.

Beastbusters is the latest mow-em-down from SNK and has all the pharaoh we have come to know and love. Guns - three of 'em. Things to massacre by the score. But it's the theme that saves Beastbusters from a sorry fate - it's slock-horror, straight out of the Evil Dead.

The theme of the thing has you (plus two others if you like) entering a town where something has gone very wrong - it's full of zombies, werewolves and nasty squidgy things. Imagine Southend High street on a Saturday afternoon. And you get to blow them all away - but do they lie down and stay dead? Nope!

Apart from that, it's a bit conventional - you shoot special power-ups for more ammo, grenades, napalm, etc - but the novel theme and the 'tasteful' graphics bring it through.

Having played it through to the end - and it look like SNK are planning a follow-up by the way - I can tell you that the surprises keep coming all the way through to the final screens, although you'd have to be phenomenally good, or spend a lot of dosh, to reach them.

It's not trying to make you feel like Rambo and all the time it's obvious it's just a game. Splatterhouse meets Op Wolf - give it a try.

Incidently - I played Line of Fire to the end in the same session...I won't waste space describing it...suffice to say it was technically superb...but as a game, a load of rubbish. OK?

SHADOW DANCER

SEGA

What do you get when you cross One Man and his Dog with Shinobi? Shadow Dancer, that's what, where, "The young Ninja battles together with his faithful pet dog."

These terrorists have set time bombs all over the city and you have to - excuse me a moment...get down Shep... you have to deactivate them.

OK, so it's a jumpy, jumpy, kicky, kicky clone with a novel twist, but it is very playable and quite challenging. Shep follows you around and when you crouch down and press both the jump and fire buttons at the same time, he leaps forward and starts gnawing at the throat of your nearest opponent.

At this point you have to leap up and give some help, 'coz left to his own devices, Shep might get hit - where upon he shrinks to the size of a poodle.

He does get back to his full size after a bit, but all he'll do in this state is "Siiiiitttttttt". As in

Shinobi, you can throw Shukren around are have a Ninja Magic smart bomb that kills all known terrorists dead.

Hardly breath-takingly original, but an effort that'll probably appeal to Shinobi fans and dog lovers everywhere.

FINAL FIGHT

CAPCOM

What on earth does Capcom think it's doing with the super-fab CP System board? The release before last was UN Squadron - a banal horizontal scroller. Yawn. And now, we are offered Final Fight - a beat-em-up.

OK, so the sprites are big, but does the world seriously need another one of these? Capcom are definitely suffering from a distinct lack of imagination, despite the fact that they have the hardware to out-perform almost every other system in the arcades.

More, faster and prettier is not always better, boys. Anyone with some startlingly original game ideas - send them in to us and we'll pass them on to Capcom. They need 'em!

AMERI DARTS

AMERI CORP

There have been a fair few darts games on home formats, but I can't think of one on coin-op - until now. And y'know, it's quite a laff.

First you have to choose a type of game, traditional 301 and cricket, plus some hi-tech ones where you have to hit flashing sections of the board within a time limit.

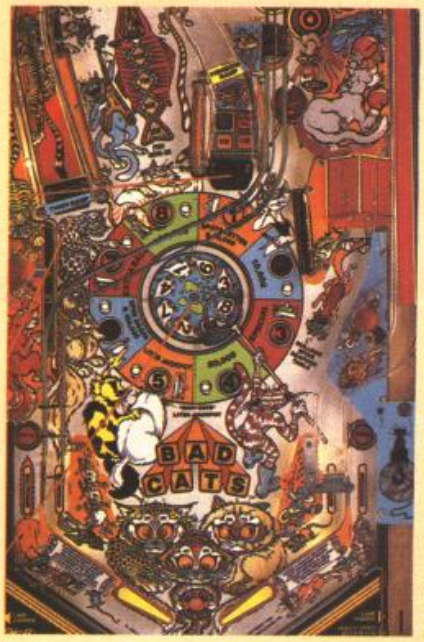
You then use a trackball to give force and direction to the throw and press the fire button for the precise to 'let go' of the dart.

Score is automatic, of course - although that is unlikely to stop some people chalking up on the side of the cabinet, I bet.

The control system does take a bit of getting used to, but after a while you can control the flight of the dart very well and it becomes a lot of fun.

I expect this will find its way into a fair number of pubs - yippee for that, particularly if it gets rid of all those appalling Nintendo PlayChoice 10's.

THE SILVER BALL



Ilove pinball. I love vids too, but there is something altogether more sophisticated about leaning on a pintable, trapping the ball on a flipper, surveying the admiring crowds of underlings, then nonchalantly taking the jackpot with a single well placed shot.

The skills involved are slightly different to those used by vid junkies and the concentration needed to play well, produces a slightly different effect - less intense, slightly more refined. Ring any bells with anybody?

In the US, where the coin-op business is worth about six billion dollars (compared to the five billion generated by the movie business), almost half of that is generated by pinball.

In France, you can't walk into a cafe without bumping into a pinball table - and playing off the Champs Elysee, with a double expresso on one side and a cognac on the other must surely be one of life's more perfect moments.

In the UK, you are lucky if an arcade has a single table...luckier if it's in full working order. Why? Well....it's the Law. Very early pinball tables in the 30's - this was in the pre-flipper days, when the game was a variant of bagatelle - there were payout machines where you could bet where the ball would land. This resulted in the banning of almost all pinballs, despite most were for amusement only.

Modern games don't pay-out, of course, but you can win more than your initial (only in credits), so that pinball is firmly classified as a game of chance.

This means you have to have a gaming licence to operate one and also limits the ways that the distributors can sell tables to the arcade operators.

Despite all these problems, there seems to be a growing interest in pinball - largely because of a massive increase in the complexity of the hardware that runs the tables. Large amounts of flashing lights and Megabytes of digitised sound are now the order of the day. More about the mechanics of these new age tables in later issues - but why not rush off and try one of these newer efforts in the meantime.

Bally had a big hit last Fall with a table based on the Elvira character - an easy to understand table with well defined goals, such as multiple ramp shots.

It's latest, Mousin' Around, is far more complex in design - although it's still a good bash. My favourite manufacturer, however, is still Williams. This company has been producing great table for a long, long time - with classics such as Cyclone, Comet, Taxi...but they've gone back to a simpler playfield with Bad Cats.

Particularly good for the first-timer, if you've not played pinball for some time, try going back and giving this one a go. And don't worry - it won't make you deaf, dumb or blind.

The Magazine of the decade is about to take-off

PC Leisure

The complete guide to entertainment for the IBM PC and compatibles.

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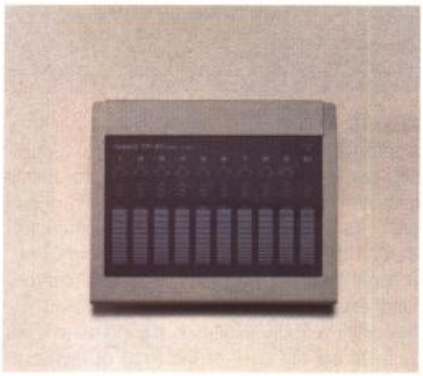
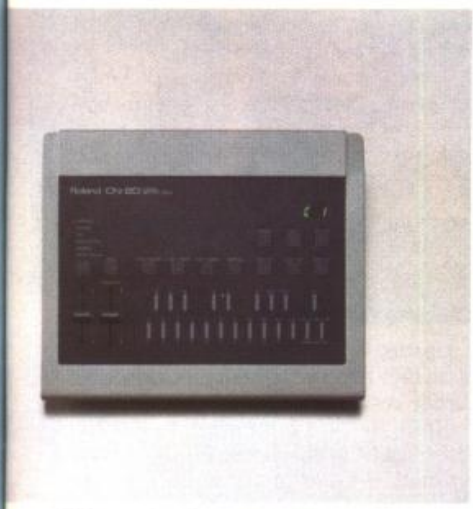


Roland CF-10 and CN-20: turn your simple music programs into state-of-the-art with these specially designed Roland computer mix and edit modules



110 sample player and come in families of instruments: pipe organs and harpsichords, Latin percussion, orchestral strings, orchestral wind, etc.

EFFECTS

Contained on the LA side of the tracks is the rhythm section which incorporates 30 percussion sounds and an entertaining 33 sound effects. The latter cover a wide range from the sound of car crashes, punches being thrown, footsteps, thunder, screams, trains, jets, water, sea, etc. The drum sounds aren't too bad either.

The CM-64 also has two built-in digital reverb units which are preset on some voices. Each of the two sections has its own reverb unit, which are quite wide ranging with various room sizes and depths of effect. Unfortunately you will need programming software in order to use them. There are no easy commands to set them up, streams of system exclusive data are needed – that's the heavy end of the MIDI code which needs handshaking routines and check sum data to even get a response, and you will need two entirely separate routines for each reverb unit.

SOUNDS GOOD

The range of sounds on offer is excellent. The LA sounds are quite good at impersonating instruments, though my own preference is to use them for the more synthesizer type of voices: lead solo, bass or general background. For realism the PCM department takes an awful lot of beating. It is also considerably quieter than the LA section which has a fair suspicion of hiss about the sounds on close inspection. I would go for the pianos, choirs and large bass department without any hesitation.

Although the CM-64 is quite expensive, I doubt whether you could have 14 channels of sound and one percussion channel plus reverb for less money.

FM MELODY MAKER
FROM HYBRID ARTS
£69.95

For less than one tenth of the outlay required for the CM-64 tone module, ST owners can purchase the FM Melody Maker. Comprising of a plug-in cartridgesand controlling software, the package does a surprising amount for your money. First of all you have a set of 78 Frequency Modulated sounds to go at output in stereo – well pseudo stereo. FM, by the way, was the method of syntheses spawned by Yamaha. Secondly, you can write you own songs in step-time and have them accompanied in no less than 16 styles. Thirdly, you have a drum programmer which supports MIDI, and finally there is a real-time sequencer. Its development company, Richard Watts Associates, were responsible for the very successful bolt-on FM 'Sound Expander' for the C64 a few light-years ago.

SEQUENCER

On booting up the program you are presented with the step-time sequencer. As the name implies, step-time sequencing is the process where notes are inserted individually – rather in the manner of a typewriter. All notes are inserted by selecting the correct note value from the lower part of the screen and inserting in the single stave in the upper half of the screen. This could be a slight problem if you don't happen to read music. On the other hand you could always copy the music from one of the many books available in any music store. To help you position the note, the name of the note is displayed above and below the stave as you move it about. On clicking it into place it will sound and it has a range of four octaves you can choose from. You can perform the same trick for rests also. The spacing of the notes is automatically worked out for you and notes can be tied, although there is no option for joining the tails of notes – 'beaming' as it is known in the notation business. I found that you could fool the notation scoring a little without too much effort though. Bum notes can be condemned to the trashcan and you can scroll back and forth through the music either by using the scroll bars on screen or the left and right cursor buttons. Most of the mouse features of Melody Maker are duplicated on the QWERTY keys.

The clever part of this section comes when you add the chords. If you are copying from a score this should present few problems as the range of chords offered is quite wide from the simple straightforward chords to the outer limits of diminished sevenths and augmented chords. Wherever you want the chord to sound you simply click and it appears above the note on the stave in shorthand form: e.g. AM7. The reason for this is that Melody Maker has the ability to accompany your ditties in any one of sixteen styles – rather like a single keyboard. Having entered your song – complete with repeat sections, number of beats per bar and repeat sections – you can then play the whole work back and the accompaniment will chug merrily along with you in the style you have chosen, inserting drum breaks every eight and sixteenth bars for you. Even better is its ability to let you mix the relative volumes – but you can also change the four voices. Click on the mixer icon and not only can you alter their relative volumes but you can also change the voices. You can assign MIDI channels to the voices used and select velocity sensing. This I found to be of great advantage as I found that the FM drums were lacking in depth. If you have a synth or tone module lying around then plug it in, and expand on the sound already wacking out of the speakers.

OTHER SECTIONS

The other parts of the program are sadly not integrated with the main part. The drum machine has an excellent grid display that lets you set up to 20 patterns with ease, using not only the internal drums but also several extra MIDI drum voices to which you assign both channel and note number to get the correct drum voice. You set the patterns up, then flip screen pages to find the song page which lets you sequence the patterns in any order you like. Up to thirty of the patterns can be sequenced. It is one of the easiest MIDI drum programmers I've seen.

Option number two is a one-track, real-time MIDI recorder with a metronome click option, a selection of number of beats to the bar and the number of bars count-in. Really it is more like a jotter than a sequencer. You can't edit anything or overdub although you can save and reload your scribblings. But it works!

Option number three turns the hardware into a nine-voice expander via any external MIDI keyboard. Each voice can be allocated a separate MIDI channel and there is provision to have only six pitched voices plus five drum sounds. You can beef up the sound considerably thanks to the page which lets you detune the voices and offset them up to two octaves up or down. It has a MIDI thru option as well and the sounds can respond to velocity. No recording possible here but as an expander it works too!

VERDICT

Although it only uses two operators (an FM term) to create sounds, the variety and clarity of them is very good and due to the ability of the internal chip to change one of the operators wave forms to give greater tonal expansion. There is room to improve on the program but it represents excellent value for money. It is a pity that its facilities are not integrated: the various components cannot load into one another. FM Melody Maker is fun – it converts your ST into a low budget single keyboard. It is very easy to use, and the on-screen help pages (in three languages) are most welcome. As an easy-to-use starter music package, FM Melody Maker has very few rivals.

Hybrid Arts
01 444 9126
Kawai
0202 296629
Roland
01 568 4578

DIY MUSIC STUDIO

HOW WOULD YOU LIKE TO SET UP A COMPLETE SOUND FACTORY AT HOME? JON BATES EXPLAINS HOW..

Music companies are now selling tone modules for home consumption. These keyboard-less synthesizers – capable of producing many sounds simultaneously – were previously the domain of the professional studio or serious gigging musicians with lucre to spare. Now they are coming down in price and appearing in nice neat stand-alone boxes with rubber feet to fit on your best bit of Chippendale or MFI.

KAWAI PHM
£299

Top of the list for value has to be the brand new tone module from Kawai, who have been very successful in the synthesizer world with their 'K' series of keyboards and modules. From this they created a series of dinky little fixed sound keyboards – the 'PH' range. They look a bit of a joke – sort of plastic and reminiscent of a Sooty organ. The modular version has 200 sounds on board and at least 70% of them are absolutely cracking. They can sound like real instruments – check out the acoustic guitar harmonics – or like the fattest synth imaginable and there are enough 'spacey' sounds to do the soundtrack for 'Startrek VII'.

SOUND AND RHYTHM

Not only do you get the sounds but you also get 30 built-in rhythms complete with fill-ins and introductions. The percussion sounds can also

A mighty baby, the Kawai Phm is small in dimensions and short on buttons but has more than enough sounds and features

be accessed on MIDI channel 10 as independent instruments, and if this is not enough for you there are additional percussion instruments as part of the 200 sounds on board. These are sensibly arranged so that by picking one of the preset percussion sounds you will have a two or three split across the keyboard. To make sure of complete MIDI compatibility the rhythms can be synchronised to either internal or external clock pulse. It would have been nice to have the nifty patterns output in MIDI notes as well.

Like all tone modules it has multiple function buttons on the front panel – via these you can set up the instrument to your requirements. At its most basic level you simply plug a MIDI keyboard/synth into it – making sure that the MIDI channels match on both pieces of equipment – and play away. The Phm outputs in stereo or mono from the guitar jack sockets on the back, and the overall volume is controlled from the fader on the front. Perhaps a headphone socket on the front might have been a useful – as would a MIDI data light. The latter flashes any time any MIDI data is received by the instrument – very useful when working out why on earth your equipment is failing to work. Under the LCD display are the increment buttons to take you through all the sounds one by one and the Phm comes with a handy plastic card with a sound list on one side and the basic set-ups and percussion notes on the other.

MIDI

The internal MIDI functions are most comprehensive: separate receive and transmit channels, program changes, velocity and after-touch sensing, pitch bend, modulation, volume, sustain pedal. All these are separately switchable from the front panel. Needless to say you can also transpose, fine tune, and alter the rhythm speed. If you are running the module with a sequencer on your computer you will doubtless want to access sounds on separate channels. This too is possible as the Phm is also a multi-timbral instrument capable of playing up to four sounds plus the percussion parts simultaneously. To help you set this up there are 30 'Forms' contained on an internal table. These set up the instrument in a variety of ways. You can't deviate from the preset forms, but they are pretty comprehensive. The forms include various dual settings, with two voices spread over the whole keyboard, and have several preset detunings and transpositions to various split options. The latter will allow you to have several varieties of sound split into areas of the keyboard and sometimes overlapping. There are three presets for use with sequencers and even an optional chord facility where a chord is played under each note depressed. When used with sequencers there is even the possibility to change part of the preset sound and call up other preset combinations of sounds whilst the sequence is running.

MIXING IT DIGITALLY

As well as producing sound modules specifically designed for computers, Roland have taken two more steps down the road for computer based musicians. Both products are a way of 'souping up' a more basic sequencer with tangible hardware without having to learn a new system. The CF-10 is the digital equivalent of a mixing desk, and is a 'hands-on' MIDI mixer that will run up to 10 MIDI channels. As the sequencing software plays back your music you can mix it, altering the relative volumes via MIDI and also set the panning left and right. When used with a sequencer that allows real-time recording of this information (which will mean most sequencers) the effect will be of an automated mix down.

When added to simple sequencers the CN-20 will let you edit the song data in detail and also enter notes and other functions such as pitch-bend, modulation, etc. It also contains data for ten types of chords that you can input at the touch of a button into your song. One area where these products would certainly be effective is the simple sequencers available on the Public Domain libraries. The CF-10 and CN-20 cost £129 each. Roland promise that there are more products in the pipeline for computer musicians.

PRESETS

On the minus side is the fact that you cannot really dive into any of the voices and alter them drastically to your own requirements. In other words its basically a preset tone module. Although there is a definite trend towards preset tone modules with less emphasis on the sound creating side – most players tend to either stick with the sounds in the instrument or buy them off the shelf in the form of memory cards or disks. The other slight boner is that you don't seem to be able to store your favourite combinations for recall later on. Although it memorises the last set-up you made, it can't be encouraged, via MIDI, to recall any of your precious set-up's.

The unit is also quiet. When stuck through a 300 watt professional recording studio monitor system the background noise was negligible. At the price, the Kawai Phm is an excellent buy.

ROLAND CM-64
£789

As reported in the December issue of ACE, Roland have launched a series of tone modules specially designed for use with home computers. There are three in the range; the CM-32L, which is an LA synthesis module and sounding very much like their MT-32 module. The CM-32P is a module of sampled sounds, very much like the U-110 rack mounted module. The Roland CM-64 is a combined version of the previous two. All three are identical in appearance. On the back there are a pair of stereo/mono guitar jack outputs, MIDI in, out and thru and the power input. On the front there is a power switch, a volume control and a MIDI data light. Since they are designed at preset modules, all the sound requesting and set-up routines are performed by your micro's sequencing software. This is achieved by putting the appropriate program number at the beginning of each MIDI channel used in the music. Changes in sound to each channel are inserted wherever you like. All the tone modules have fixed MIDI channels.

INSIDE

The CM-64 is capable of producing a maximum of 63 notes simultaneously, spread across 15 channels of MIDI which can also be run at the same time. The LA section operates on MIDI channels 2 to 9 with drums fixed on channel 10. You can have different sounds on each channel, choosing from the 128 different instrument sounds available. Although in a different box, the LA side of the module is essentially the ever popular MT-32 sound module and is thus compatible with the 32's programming software.

The PCM – that is the sampled sounds – are fixed on channels 11 to 16. Again you can assign a different sound to each part. There are 64 PCM sounds on board, including convincing pianos, strings and choirs. For an extra £45 you can get hold of one of the PCM cards which will add an extra 64 voices to the range. These are the same cards that fit into the U-

IN THE PINK

THE ACE UPGRADE GUIDE 108
At last: a complete, highly detailed guide to the specifications of all the commonly available computers. This is the place to look for information on everything from disk drive reliability to games software prospects. And consoles are listed too...

THE ACE STOCKMARKET 116
Which games are heading for the top of the charts this month? And don't forget – these are the only charts that aren't based on hyped-up sales, they're based on a thorough market survey of the opinions of games reviewers throughout the country.

GAMES YOU'VE GOT TO HAVE 121
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COMPO RESULTS 136
Did you win a Nintendo Gameboy, or a Deluxe Entertainment System, or have you got your paws on some great free games? Find out here...

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Get your brain in gear and win yourself some cash.

THE ACE PRIZE CROSSWORD.....114
Cryptic clues, anagrammatic hints, and a prize to boot.

THE ACE DIARY 130
All the events you need to know about in the coming month...and some you don't.

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Free posters, special offers, and hot promotions. Find out who in your area is giving away the goodies...

THE ACE HARDWARE UPGRADE GUIDE

HERE IT IS: A COMPLETE, DETAILED GUIDE TO ALL THE MAJOR MACHINES AND CONSOLES CURRENTLY AVAILABLE IN THE SHOPS. YOU CAN COMPARE PRICES, POWER, AND POTENTIAL FOR EACH MACHINE, TOGETHER WITH THE GAMES SOFTWARE POSSIBILITIES AND PROSPECTS. WHETHER YOU'RE A MUSICIAN, A GRAPHIC ARTIST OR A PROLIFIC AUTHOR – WHATEVER YOU NEED A MACHINE FOR, THIS IS THE PLACE TO START.

Here it is: the one and only hardware guide to give you COMPLETE details on ALL the machines you're likely to be looking out for in the shops. Not only do we give you essential information on hardware, but we've also included equally vital information on software prospects for each machine – so you don't have to worry about buying a machine that will never have any games to play on it.

ACORN ARCHIMEDES

Models: Archimedes 310, 3000, 410 420, 440
Package: keyboard, mouse and drive: keyboard mouse and drive plus monitor (colour or mono)
Memory: 3000 512K; 310 1Mb; 410 1Mb; 420 2Mb; 4404Mb
Processor: Acorn ARM
RRP: Prices range from £668.85 for A3000 alone to £2645 for A440 with colour monitor
Contact: Acorn 0223 245200

Still the cutting edge of microtechnology. Acorn's ARM is about the fastest thing this side of a Cray. This very exciting machine - although gathering admirers since the introduction of the A3000 - still lacks a good software base and is best left to the enthusiast.

GRAPHICS AND SOUND

Resolution: 320 x 256 or 640 x 256 with normal monitors. 640 x 512 available with multi-sync monitors.
Palette: 4096
Colours: From mono up to 256 (320 x256) or 16 (640 x 512).
TV: No
Monitor Output: Mono composite video; colour - RGB + sync.
Monitor Supplied: Depends on package.
Monitor Options: Acorn dedicated 14 inch medium res.colour; 12 inch high res mono; Multi-sync colour.
Sprites: 1
Speed: Blistering.

SOUND

Speaker Quality: Good
MIDI: With extra hardware.
Stereo Output: Yes
Performance: 16 channels (8 stereo pairs); 6 octaves, 1 internal speaker.

HARD FACTS – SOFT SELL

Disk format: 3.5 inch - 800K
Disk Price: From £1.20 upwards.
Disk Performance: Good and fast.
Keyboard: 103 keys with programmable auto-repeat. Early keyboards have a cheap feel given the quality of themachine.
Joystick/Mouse: 3 button mouse; no support for joysticks.
Interfaces: 25 pin D parallel; 9 pin mouse; 3.5mmstereo headphone jack; 64 way din; 41612 expansion port; IEC 320 video outlet; I/O interface.

SOFTWARE

Existing Software Base: Still very limited. Some games available most software is for productivity and business.
Current Releases: See above.
Games: Most famous are *Zarch* (*Virus*) and *Conqueror*.
Graphics: Potential is enormous. Some excellent packages available
Music: Like graphics, but developers remain shy.
Prospects: Limited. Even the cheaper models find it tough competing with STs and Amigas.
Software Loading: Very reliable.

BUYLINES

Best Buy Price: As RRP
Second Hand: Still scarce, some 305 and 310s starting to appear but expect to pay for them.
Maintenance: One year'sguarantee. Return faulty machines to dealer.

AMSTRAD CPC6128

Package: Keyboard with built-in disk drive and dedicated colour monitor.
Memory: 128K
Processor: Zilog Z80B
Recommended Retail Price: £399
Contact: Amstrad 0277 228888

Amstrad's CPC6128 evolved from the company's first excursion into home computers - the CPC64. Although it proved to be a very popular machine at the time, the dedicated monitor caused problems for people wishing to upgrade to colour. This last incarnation sees the monochrome display dropped, twice as much memory and a disk drive. Nevertheless, at this price level an ST orAmiga is probably a better bet for gamesplayers.

GRAPHICS AND SOUND

Resolution: 160 x 200; 320 x200; 640 x 200
Palette: 27
Colours: 16, 4 or 2 depending on resolution.
TV: No
Monitor Output: RGB
Monitor Supplied: Yes
Monitor Options: Dedicated monitor is supplied.
Sprites: None
Speed: Average

SOUND

Speaker Quality: Fair
MIDI: No
Stereo Output: Yes
Performance: 3 channel stereo sound is reasonable but nothing special by current standards.

HARD FACTS – SOFT SELL

Disk Format: 3 inch - 180Kflippable.
Disk Price: £2.50 - £3.00
Disk Performance: Reliable
Keyboard: 74 raised plastic keys with audible tactile feedback. Separate cursor cluster and redefinable numeric keypad. Very good for word processing etc.
Joystick/Mouse: Standard 9 pin D type; mouse drivers available from third parties.
Ports: Edge connector takes RS232 interface and Centronics parallel printer; sockets for disk drive, cassette and joystick; RBG output suppliescustom monitor.

SOFTWARE

Existing Software Base: Good considering the age of the machine.
Current Releases: Most major titles appearing on 8 bit are converted.
Games: Generally good, but some games run slower than other machines due to a more complex screen. Adventures OK. Runs existing Infocom CP/M based adventures (if you can still get hold of them).
Graphics: A good selection of titles.
Music: Reasonable, but poor when compared to C64.
Prospects: Uncertain, as with all 8-bit formats. Further weakened by lack of US user base: a source of titles that currently support the C64.
Software Loading: Tape is quick and reliable; disk is fast and secure.

BUYLINES

Best Buy Price: Shop around – large chainsoften offer good value but watch out for after sales service.
Second Hand Availability: Very good. Plenty in the classified ads. Beware paying too much for the cassette based or monochrome versions.
Maintenance: One year's guarantee. Faulty machinesreturn to dealer.

AMSTRAD PCW

Models: 8256; 8512;9512
Package: 8256 - keyboard, monitor with built-in single diskdrive and dot-matrix printer. Locoscript word processor. CP/Moperating system, Dr Logo; 8512 - as above with second (dualdensity) disk drive; 9512 - restyled keyboard, monitor with singledisk drive, daisy wheel printer, Locoscript 2 wordprocessor.
Memory: 8256 256K; 8512 512K; 9512 512K
Processor: Zilog Z80
Recommended Retail Price: PCW8256 £343.85; PCW8512£458.85; PCW 9512 £573.85
Contact: Amstrad 0277228888

The PCW was designed purely as a word processor and not a general purpose machine although the CP/M operating system gave it a vast - if outdated - software base. A great deal of third party software was produced as sales rocketed. It is not suitable for games although some do exist.

GRAPHICS AND SOUND

Resolution: 720 x 256
Colours: 8256 &8512 green and black; 9512

white and black
TV: No
Monitor Output: Monochrome only giving 90 columns on the dedicateddisplay.
Monitor Supplied: Yes
Monitor Options: None
Sprites: None
Speed: Slow but adequate for what it wasdesigned to do.

SOUND

Speaker Quality: Dreadful
MIDI: Extrahardware available.
Stereo Output: No
Performance: Beeps only, although some modules are available to improve matters.

HARD FACTS – SOFT SELL

Disk Format: 3 inch - 173K flippable on8256 720K second drive and 9512
Disk Price: £2.50 -£3.00
Disk Performance: Reliable
Third parties have produced some add-on drives to allow ASCII file to be transferred to and from CP/M 5.25 inch format. There is even a hard disk system available.
Keyboard: Includes many extra keys for the word processor. Early keyboards felt cheap, although this was remedied on the 9512
Joystick/Mouse: Not supported. Joysticks and mice can beattached via third party interfaces.

SOFTWARE

Existing Software Base: Limited by the disk format. Most programs are good quality though.
Current Releases: Very few.
Games: Arcade titles arescarce. Adventures are fading although some Infocom games and early Magnetic scrolls titles are still to be had
Graphics: Somelow-end CAD available.
Music: None
Prospects: Grim. A lot of machines in use, but sales are slowing down now. Software support should be alright for the time being.
Software Loading: Fast andreliable.

BUYLINES

Best Buy Price: Usually RRP - still too popular to discount.
Second Hand Availability: Good. Older machines are more in abundance, hold out if you really want the9512. Beware faulty printers.
Maintenance: One year's guarantee. Faulty machines return todealer.

APPLE MAC

Models: Macintosh SE; Macintosh II SE30; IIX; IICX
Package: Monitor with built-in CPU and disk drive, separate keyboard
Memory: 1Mb
Processor: SE Motorola 68000; II Motorola 68020; SE30/IIX/IICX 68030
Recommended Retail Price: SE: from £2,294.25
II: £4329.75 upwards
Contact: Apple 01-569-1199

A very expensive up-market machine for those keen on desktop publishing. WIMP systems and up-market software. Software is very expensive. Imported games from US are very good but very expensive – and in monochrome on cheaper systems. Good for MIDI musicians but be prepared to pay extra for software.

GRAPHICS AND SOUND

Resolution: SE 512 x342; II 10027 x 760
Palette: SE - black and white; II (with colour monitor) 16 million.
Colours: With colour monitor – 16 to256
TV: No
Monitor Output: Integral monitor.
Monitor Supplied: Built-in
Monitor Options: SE - use dedicated model only; II Apple hi-res monochrome or AppleColor hi-resRGB.
Sprites: None
Speed: SE reasonably fast; II veryfast.

SOUND

Speaker Quality: Good
MIDI: Third party interfaces available.
Stereo Output: SE no; IIyes.
Performance: 4 channels give good performance.

HARD FACTS – SOFT SELL

Disk Format: 3.5 inch - 800K
Disk Price: £1.50 - £2.00
Disk **Performance:** Generally fast.
Keyboard: Separate with 81 keys including function keys and numeric keypad. Optional extra is the Apple Extended keyboard with 105 keys.
Joystick/Mouse: Joystick is not supported; high-quality single button mouse is supplied with machine.
Ports: SE - Apple Desktop Bus connector. 2 RS232/RS422 serial; external disk drive; 96pin Euro-Din expansion slot; SCSI - DB-25 connector; external audio amplifier. II - 2 RS232/RS422 serial; DB-25 SCSIT.

SOFTWARE

Existing Software Base: A very wide base exists in all fields except games.
Current Releases: Adequate, though largely of US origin and in the business or DTP field.
Games: Very few arcade titles but otherwise varied.
Graphics: State-of-the-art software for those interested in DIY publishing and colour illustration.
Music: Very well supported for MIDI software - but it's expensive.
Prospects: Excellent -especially in business and DTP.
Software Loading: Quick and reliable.

BUYLINES

Best Buy Price: Generally the RRP - Macs are only sold through dealerships. Try to negotiate a quick sale/cash discount.
Second Hand Availability: Scarce and expensive. A better market exists in older models (esp. Mac Plus) but these are best avoided.
Maintenance: One year's guarantee. Apple offers Applecare - "insurance" you take out to cover the cost of repairs after the guarantee has run out.

ATARI XE

Models: 65XE; 130XE; 4001XE
Package: 65XE + datacorder and joystick; 130XE +datacorder and joystick; 4001XE + datacorder, joystick, keyboard and light gun.
Memory: 65XE 64K; 130XE 128K; 4001XE 64K
Processor: 6502C
Recommended Retail Price: Depends on package. 65XE £79.99; 130XE £89.99; 4001XE £79.99
Contact: Atari 0753333344

Created by some of the team that went on to create the Amiga, the 8 bit Atari was a world leader in its day. It has fallen behind its competitors due to a lack of affordable software and lousy BASIC. Now priced at the bargain end of the market these machines still represent a worthwhile investment for games enthusiasts on a low income, with some classic software titles still available.

GRAPHICS AND SOUND

Resolution: up to 320x 192 in monochrome
Palette: 256
Colours: up to 128. 16 is normally the maximum.
TV: Yes
Monitor Output: Yes
Monitor Supplied: No
Monitor Options: TV; composite monitor.
Sprites: 8
Speed: Not stunning - this depends on software.

SOUND

Speaker Quality: Depends on monitor/TV.
MIDI: No
Stereo Output: No
Performance: 4 channels cover 3.5octaves

HARD FACTS – SOFT SELL

Disk Format: 5.25 inch
Disk Price: 60p upwards
Disk **Performance:** Reliable but slow
The XE range are not supplied with disk drives as standard.
Keyboard: 62 keys with Help key and 4 function keys. Very good tactile feel (at least as good as an ST) and audio feedback for the price.
Joystick/Mouse: Joystick supplied. Mouse and Trackball are extras.
Ports: Software cartridge; monitor; TV; 2 x 9 pin D joystick connectors; serial I/O connector.

SOFTWARE

Existing Software Base: Mediocre
Current Releases: Few - a few companies still specialising.
Games: Most current titles are games but few major releases are converted.
Graphics: Little that exploits the machine's potential.
Music: As graphics.
Prospects: Continues to sell in small numbers so should live for a while yet.
Software Loading: Tape is very slow but reliable; disks are better.

BUYLINES

Best Buy Price: As RRP.
Second Hand Availability: Common. Watch out for very old machines which may not be compatible with newer software due to lack of memory.
Maintenance: One year's guarantee. Return to dealer.

ACORN ARCHIMEDES

Package: Lynx with California Games pack
Memory: 64K
Processor: 6502
Price: £149.95
Contact: Atari 0753 33344

The Lynx was designed by a team including RJ Mical, one of the men behind the Amiga. If that doesn't convince you, consider that it has 8Mb of game storage on its cards and supports multi-player games. The graphics hardware has built-in hardware scrolling and image scaling. Although software is very thin at the moment – about 5 titles – Atari aim to have over 25 titles available by the end of 1990. Quite possibly the hand-held to buy if your wallet can stretch to it.

GRAPHICS AND SOUND

Resolution: 160 x 102
Palette: 4096
Colours: 16
TV: No
Monitor Output: No
Monitor Supplied: Yes - 3.5 inch backlit LCD
Monitor Options: None
Sprites: N/A
Speed: Fast

SOUND

Speaker Quality: Very good
MIDI: No
Stereo Output: Yes
Performance: 4 channel, 5 octave stereo sound has to be heard to be believed.

HARD FACTS – SOFT SELL

Cartridge Format: 8Mb ROM
Cartridge Price: N/A
Joystick: 4 way joypad.
Ports: Cartridge port; multi-player port; miniature stereo headphone jack.

SOFTWARE

Existing Software Base: Very small.
Current Releases: California games is a great freebie.
Prospects: Very good - provided software appears and support increases.
Software Loading: Almost instant.

BUYLINES

Best Buy Price: As RRP
Second Hand Availability: N/A
Maintenance: One year'sguarantee

ATARI ST

Models: Atari 520STFM; 520STE; 1040STE; Mega STs; Stacy
Package: 520 and 1040 have keyboard with built-in disk drive; Mega versions have separate keyboard. Power Pack includes 520STFM with light gun, joystick and £400 of "free" software. New "Discovery" pack includes similar value software to Power pack but with an educational bent.
Memory: 520STFM and 520STE 512K; 1040STE 1Mb; Mega ST 1, 2 or 4Mb; Stacy 2 or 4Mb. STE machines expand internally to 4Mb.
Processor: Motorola 68000
Recommended Retail Price: 520STFM £299; 520STFM (Power Pack) £399; 520STFM (Discovery Pack) £TBA; 520STE TBA; 1040STE £499; Stacy N/A
Contact: Atari 0753 33344

Excellent as a general purpose home machine for games, small business and productivity. It's the number one choice for MIDI musicians. The new baby ST - Stacy - is tipped by Atari to be the musician's portable since it is a complete 2Mb or 4Mb ST with hard disk and mono monitor in a small box.

GRAPHICS AND SOUND

Resolution: Low- res 320 x 200; medium-res 640 x 200; high-res 640 x 400
Palette: STFM 512; STE 4096; Stacy 2
Colours: Black and white in high-res; 4 colours in medium-res; 16 in low- res.
TV: Yes. Not Stacy.
Monitor Output: STFM models only, others through TV modulator
Monitor Supplied: No; Stacy has integral LCD monitor
Monitor Options: Atari monitors SM124 high-res mono; SC1442 med res colour.
Sprites: 1
Speed: Fast

Note: High resolution display is only available on monochrome monitor; medium and low resolution displays only available on colour monitors or TVs. Blitter fitted to late STFMs (standard on STE) (improves the GEM access.)

SOUND

Speaker Quality: Depends on monitor.
MIDI: Yes
Stereo Output: STEonly.
Performance: 3 channel sound is average to good depending on software. STE features 8 bit PCM sound but no current software uses it.

HARD FACTS – SOFT SELL

Disk Format: 3.5 inch - 720K
Disk Price: £1.20 to £1.50
Disk Performance: Reliable and fast. Note: Early machines were supplied with a single-sided disk drive.
Keyboard: 96 keys including 10 function keys. Has a cheap feel which can be improved with third party springkits.
Joystick/Mouse: 2 Joystick ports are standard; 2 button mouse is supplied with machine. Stacy is supplied with a trackball.

SOFTWARE

Existing Software Base: Very good. A few budget titles are starting to appear now.
Current Releases: None of the major software houses ignore the ST so it is well served with plenty of good software.
Games: Range of arcade titles is constantly improving. Adventures remain thin - but the few available are generally excellent.
Graphics: Very good with some excellent software to manipulate them.
Music: Excellent. Plenty of sound samplers, editors and MIDI software make this the musician'schoice.
Prospects: Excellent. Recent hardware improvements and price cuts make the ST range more competitive.
Software Loading: A hangover from the original machines is the 360K disk format which means few companies bother to supply double-sided disks. This means large games require two or more disks with all the tedious diskswapping this entails.

BUYLINES

Best Buy Price: As RRP. Watch out for the twice yearly bundles.
Second Hand Availability: Very common and quite cheap. STs do not hold their value well - beware very old, single-sided machines.
Maintenance: One year'sguarantee. Return to dealer if faulty.

ATARI VCS

Package: TBA
Memory: N/A
Processor: 6507 (2600)/6502(7800)
Recommended Retail Price: VCS2600 £39.99; VCS7800 £79.99
Contact: Atari 0753 33344

The VCS2600 is a reboxed version of the original Atari games console which until quite recently remained the best selling home video games system of all time. The VCS7800 is a revamped version of the VCS2600 with a faster processor, slightly better sound and vastly improved graphics. More recent offerings in the same price bracket have largely superceded these machines.

GRAPHICS AND SOUND

Resolution: 192 x 160(2600) 320 x 242 (7800)
Palette: 16 (2600)/256 (7800)
Colours: 4 (2600)/16 (7800)
TV: Yes
Monitor Output: No
Monitor Supplied: No
Monitor Options: No
Sprites: N/A/64
Speed: Slow

SOUND

Speaker Quality: Depends on TV
MIDI: No
Stereo Output: No
Performance: Limited to 1 channel on 2600 and two on 7800.

HARD FACTS – SOFT SELL

Joystick: Supplied
Ports: 2 x 9 pin Dfor joysticks; TV; cartridge port.

SOFTWARE

Existing SoftwareBase: Small
Current Releases: Rare
Games: A few
Prospects: Unsure in the light of new competition from Nintendo, NEC and handheld machines.
Software Loading: Instant

BUYLINES

Best Buy Price: As RRP.
Second Hand Availability: Rare.
Maintenance: One year'sguarantee.

COMMODORE 64

Package: C64 Light Fantastic pack includes: C64 base unit, joystick, 3D glasses and light gun; plus a lot of software - some written specifically for the 3D glasses. There is even some "parent-pleasing" non-violent software like a pop quiz, typing tutor, music editor and art-package.
Memory: 64K
Processor: 6510
Recommended Retail Price: Light Fantastic pack £149.99; existing owners can upgrade to the pack excluding C64 for £39.99
Contact: Commodore 0628 878888

The Commodore 64 is an excellent machine for playing games because even though its hardware is outdated, programmers have learnt how to get the very best from it. It is not however, a good machine to learn to programon due to a dire version of BASIC.

GRAPHICS AND SOUND

Resolution: 320 x200
Palette: 16
Colours: 8. N.B. attribute system places some limitation on the use of colours.
TV: Yes
Monitor Output: Composite video Monitor Supplied: No
Monitor Options: C1900M £119.99 mono; C1901 £249.99 colour; C1084 medium res colour £349.99.
Sprites: 8
Speed: Good for scrolling and sprites,poor otherwise.

SOUND

Speaker Quality: depends on monitor/TV.
MIDI: Many third-party interfaces available.
Stereo Output: No
Performance: Quite sophisticated sounds are possible thanks to custom sound hardware. Although sound from BASIC is very hard to produce, many software packages make good use of the machine.

HARD FACTS – SOFT SELL

Disk Format: 5.25 inch; 1541 140K formatted; more recent 1571 340K formatted.
Disk Price: Around 60p
Disk Performance: Slow and noisy - improves considerably with 1571
Keyboard: Raised plastic keys with audible tactile feedback plus function keys. Cursor key arrangement is very awkward.
Joystick/Mouse: Provision for two standard joysticks. Commodore 1350 mouse available, plus some third party manufactured models.
Ports: 2 x 9 pin D joystick; expansion; cassette; non-standard serial; composite video; TV; userport.

SOFTWARE

Existing Software Base: Still excellent, rivalled only by the Spectrum.
Current Releases: Most titles still converted, but as with all 8-bit machines, there are an increasing number of more ambitious 16-bit titles which cannot be converted.
Games: Arcade action second to none. Adventures - good selection.
Graphics: Good selection. Quality of graphics means that programs can be reasonably sophisticated.
Music: Good range of sound editors, some samplers. Many MIDI utilities available.
Prospects: Supply will slow eventually, but titles have a longer life due to portability to/from US machines.
Software Loading: Slow as always on cassette. **Disk** loading not as fast as it should be due to serial drive. Most software incorporates faster loading routines.

BUYLINES

Best Buy Price: Very old C64s can be picked up for a song (Stock, Aitken & Waterman?) otherwise look out for the special packs which represent very good value for money.
Second Hand Availability: Common. Older models and C128 machines are rarer though.
Maintenance: One year's guarantee. Return faulty machines to dealer.

COMMODORE AMIGA

Models: Amiga A500; A2000
Package: A500 has keyboard and built-in drive with s eparate PSU; A2000 has separate keyboard with built-in (fan assisted) PSU. Batman pack consists: A500 with modulator, joystick and mouse plus *Deluxe Paint II* and other entertainment software. Class Of The 90's pack includes A500, modulator, mouse, mouse mat, MIDI interface, Dr T's music software, *Deluxe Paint II*, *Superbase Personal*, Amiga LOGO and BBC Emulator.
Memory: A500 512K; A20001Mb
Processor: Motorola 68000
Recommended Retail Price: A500 £NA; A2000 £1236.25; Batman Pack £399.99; Class Of The 90's pack £579.99
Contact: 0628 878888

A stunning specification with custom chips to rival almost everything around, the Amiga is stillthe first choice for the most exigent of games players and videoprofessionals. After an initially shaky start the machine continuesto sell extremely well. A very serious competitor for theST.

GRAPHICS AND SOUND

Resolution: From 320 x 200 to 640 x 400 (more possible in software)
Palette: 4096
Colours: 2, 4, 8,16, 32, 64 or 4096
TV: With modulator.
Monitor Output: SCART +composite video in monochrome.
Monitor Supplied: No
Monitor Options: C1084 £349.99
Sprites: 16 in hardware + unlimited BOBS from soft/hardware.
Speed: Very fast with goodsoftware.

SOUND

Speaker Quality: Depends on monitor.
MIDI: No. Third party interfaces available.
Stereo Output: 2 phono connectors.
Performance: Among the best around. Custom hardware squeezes 9 octaves of 8 bit digital sound into the four channels.

HARD FACTS – SOFT SELL

Disk Format: 3.5inch - 837K formatted.
Disk Price: £1.20 - £2.00
Disk Performance: Noisy and sluggish. Third party software is available to improve matters.
Keyboard: 94 keys. 10 function keys and separate cursor cluster.
Joystick/Mouse: 2 button mouse supplied as standard.
Ports: Two Joystick/mouse; stereo audio; external diskdrive(s); RS232 serial; Centronics parallel printer; SCART RGB/video; composite monochrome video; expansion bus (internal on A2000); clock/memory expansion on A500 only; internal PC expansionon A2000.

SOFTWARE

Existing Software Base: Similar to the ST – gaining a slight edge due to greater support for Amiga by US software houses..
Current Releases: Major software houses converting most titles now - some require extra memory.
Games: Something for everyone here.
Graphics: Quality and range is unsurpassed

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Music: Needs better support for MIDI. Internal sound software is well supported thanks to IFF standards.

Prospects: Excellent now the Amiga 500 has gained a firm footing.

Software Loading: Noisy but usually reliable. Plagued by viruses.

BUYLINES

Best Buy Price: Old Amiga 1000s can be picked up cheaply enough but these lacked the extra graphics modes of later models. Try to find a good value pack. Avoid grey imported Amiga 2000s. Although cheap, they will not be supported by Commodore or their official agents.

Second Hand Availability: Becoming common. Best buys are late Amiga 500s with Kickstart 1.2 -1.3 can cause problems with games and only adds autoboot to hard disks.

Maintenance: One years guarantee. Return faulty machines to dealers.

KONIX MULTI-SYSTEM

Package: Multi-system plus joystick and *Bikers* game.
Memory: 256K + 512K expansion.
Processor: 8086 + 12Mhzcustom RISC chip
Price: £229
Contact: Michael Baxter 0273675503

The Konix multi-system looked a winner when it was first exclusively unveiled in ACE. For the first time, a games console has the option of changing between a joystick yoke, steering wheel and a handle bar - depending on the game being played. There is also a motorised chair - (the Power Chair, changed from ElectricChair!) although it remains to be seen if it can be produced in large enough quantities to bring the price down - currently around £350. The only bug in the lettuce is the constant delay in bringing the machine to market – the competition gets more impressive every day.

GRAPHICS AND SOUND

Resolution: 256 x 200 to 512 x 200 (software programmable)
Palette: 4096
Colours: 512 available at low resolutions; 16 in hi-res.
TV: Yes
Monitor Output: Yes
Monitor Supplied: No
Monitor Options: Analogue RBG + sound; composite
Sprites: No

Note: Multi-system uses four hardware screen-planes (like Amiga's dual-playfield). The blitter is capable of 12 million pixels per second. In other words, over 50 frames per second.

Speed: Very fast

SOUND

Speaker Quality: Depends onTV/monitor.
MIDI: No
Stereo Output: 3.5mm jack toheadphones
Performance: Digital Signal Processor could produce up to 40 channels of sampled sound. If you want a game as well this drops to a 8 channels (4 left, 4 right) over 9 octaves - superb.

HARD FACTS – SOFT SELL

Disk Format: 3.5in - 880K (similar toAmiga).
Disk Price: Applies to developers only.
Disk Performance: Fast + reliable
Keyboard: No
Joystick/Mouse: 3 proportional channels built in.
Ports: Joystick; Sound 3.5mmjack; 8 pin DIN RGB; expansion port for light gun and Power-Chair.

SOFTWARE

Existing Software Base: Almost non-existent.
Current Releases: *Last Ninja II; Bikers; Mutant camels'90; Hammerfist; Star Ray. . .*
Games: All likely to be arcade titles. Jeff Minter (Llamasoft) and Jez San (Argonaut) have beenlinked with the machine so what software eventually appears should be good.
Prospects: Weakening - would improve if Konix can get something on the shelves before the Japanese and Americans take over.

BUYLINES

Best Buy Price: As RRP
Second Hand Availability: Not on sale yet - so no S/H market.
Maintenance: Expect one year's guarantee with normal return procedures.

NINTENDO

Package: Nlintendo Entertainment System: Standard version: console, plus game controllers plus 1 game (*Super Mario Brothers*); Deluxe version - console, game controller, light gun, ROB Robot, 2 games.
Recommended Retail Price: Standard model £99; Deluxe model £149
Contact: Deighton PR 01-836 2973

A reasonable buy if a console is what you want. Interesting too, because we may see more add-ons from Japan that give it extra power. However, at the moment all the software is Japanese in origin and this is not to everyone's taste.It remains to be seen if it will receive any third party support.

GRAPHICS AND SOUND

Resolution: 256 x 240
Palette: 52
Colours: 16
TV: Yes
Monitor Output: No
Monitor Supplied: No
Monitor Options: None
Sprites: N/A
Speed: Average

SOUND

Speaker Quality: N/A
Stereo Output: No
Performance: Average

HARD FACTS – SOFT SELL

Joystick/Mouse: 2 dedicated controllers supplied. IR wireless controllers with 30ft range now available for £39.95.

SOFTWARE

Existing Software Base: Around 50 titles available here. Many more available in Japan but these require a converter to run.
Current Releases: Nintendo predict about 2-3 titles per month.
Prospects: Reasonable. The machines strongest selling point are extras like the ROB robot.
Software Loading: Instant

BUYLINES

Best Buy Price: As RRP.
Second Hand Availability: Rather thin on t ground.
Maintenance: One year's guarantee. Faulty machines return to dealer.

NINTENDO GAMEBOY

Package: Main unit + 1 game (*Tetris*)
Memory: 64Kbit (8Kbytes)
Processor: Custom 8 bit
Price: Not yet released in theUK. US price is around $89.
Contact: Deighton PR 01-836 2973

Nintendo were the first company to produce a dedicated console of this type and now it seems everyone wants to get in on the act. On reflection even the Game Boy was along time coming since the technology employed by the display is starting to look old. Although this means the machine looks like a "Game and Watch" it has not stopped sales in Japan breaching the 1 Million barrier.

GRAPHICS AND SOUND

Resolution: N/A
Colours: 2 (monochrome)
Monitor Supplied: Yes - LCD display is lit by ambient light.
Sprites: N/A
Speed: Fast for what itis.

SOUND

Speaker Quality: Depends on headphones.
Stereo Output: Yes
Performance: Good.

HARD FACTS – SOFT SELL

Keyboard: Select and Start + 2 option buttons.
Joystick: Single 8 way controller.
Ports: Headphone socket; dual-machine interface.

SOFTWARE

Existing Software Base: 12 titles available.
Current Releases: N/A
Games: All games software is arcade type.
Prospects: Not due for UK release until at least September, Game Boy will be hard pressed to beat the Lynx, although it will be cheaper.
Software Loading: Instant

BUYLINES

Best Buy Price: Only availablethrough g imports as yet.
Second Hand Availability: None.
Maintenance: Watch out - grey imported machines rarely have any real warranty.

NEC PC ENGINE

Models: PC Engine, PC Engine 2
Package: PC Engine + controller and 1 game
Memory: 64K internal + 8K video; 2 - 128K internal 32K video
Processor: 8 bit custom
Price: N/A (US price around $199)
Contact: No official contact as yet in UK.

This is one of those machines every one has waited for and by the way things are looking, we will all have to keep waiting. In reality the machine has been available from grey importers for quite some time. If and when the machine does get an official release it is likely the software for the UK version will be incompatible with grey imported machines.

GRAPHICS AND SOUND

Resolution: 256 x 216
Palette: 512;2 - 1024
Colours: 32 - 16 background and 16 shared by sprites.
TV: Yes
Monitor Output: N/A
Monitor Supplied: N/A
Monitor Options: N/A
Sprites: 64; 2 - 128
Speed: Very fast considering this is an 8 bit!

SOUND

Speaker Quality: Depends on monitor.
MIDI: No
Stereo Output: Yes
Performance: 6 channel stereo sound is very impressive.

HARD FACTS – SOFT SELL

Disk Format: CD ROM at extra cost.
Disk Price: N/A
Disk Performance: Superb - the CD ROM adds a new dimension.
Joystick: Supplied with dedicated controller.

SOFTWARE

Existing Software Base: Large
Current Releases: Appearing constantly in Japan.
Games: Arcade only - but they look very good.
Prospects: Very good - if the machine ever appears in the UK officially.
Software Loading: Cartridge is instant; CD very fast.

BUYLINES

Best Buy Price: Only available through grey imports as yet.
Second Hand Availability: N/A
Maintenance: Watch out - grey imported machines rarely have any real warranty.

IBM PC & CLONES

Model: IBM's PC was the first PC to be accepted in large quantities (not the first PC) and remains the standard by which all others arejudged. There are hundreds (literally) of clones and variations on the theme including offerings from Amstrad, Atari and Commodore. The specifications here apply to most models but check first before you buy. In general, with PCs you pay for speed - cheap machines are slow. . .

Package: Depends on the manufacturer although most are supplied with monitors. They can even be bought in kit form at no extra saving

Memory: Usually 512K or 640K. Can be anything from 64K to 1Mb+.

Processor: Intel 8088/8086 in base machine is sometimes replaced with the faster NEC V20/30. More expensive machines are based on Intel's much faster 286, 386SX, 386 and even the latest 486.

Recommended Retail Price: Can be picked up for as little as £299 for a "no frills" machine. With top-of-the-range 486 based clones - and the official IBM versions - the sky's the limit.

Superb value if you want the ultimate all-rounder, the PC still betrays its business origins. Almost every major software house now

port their titles to the PC but these remain limited by the constraints of the basic (most common) machines - which means they tend to be limited in sound and graphics. Definitely NOT first choice if entertainment is your preferred use for computers.

GRAPHICS AND SOUND

The first PCs weren't fitted with graphics as standard but most clones incorporate the necessary hardware and come with a monitor. There are three main standards:CGA - a nasty but all too common colour display, EGA about the lowest colour display worth considering, and Hercules monochrome. To get Amiga/ST graphics you must go for at least VGA which are usually only fitted as standard to more expensive machines (Amstrad's PC2086 is one exception).

Resolution: CGA 320 x 200; EGA 640 x 350; Hercules 720 x 384
Palette: CGA 8 (in two fixed sets); EGA 64; VGA 256
Colours: CGA 4; EGA 16; Hercules 2
Monitor Output: TTL RGB/RGBI (CGA); analogue RGB (EGA)
Monitor Options: Vast. Many monitors are dedicated to just one or two modes - some have amber, green or white monochrome displays - check before buying.
Sprites: None
Speed: From very slow - 8088 to very fast 80486

SOUND

Speaker Quality: Anything from poor to downright diabolical.
MIDI: Third part interfaces available.
Stereo Output: No
Performance: Not a machine for the musically bent - an Atari ST offers more for MIDI, the Amigamore for software sound purists.

HARD FACTS – SOFT SELL

Disk Format: 5.25in -180/360K/1.2Mb; 3.5in 720K/1.44Mb
Disk Price: 60p - £3.00
Disk Performance: Average.
Note: Most PC owners also buy hard disks. Especially for the larger machines since the floppy disk drive isfar too limiting in terms of speed, storage and overall performance. Some PC software refuses to work unless you have a hard disk or second floppy drive.
Keyboard: Almost as many variations as there are clones. Go for the AT or extended AT layouts rather then the XT layout since it's easier to use.
Joystick/Mouse: Neither supplied as standard. The better clones include a mouse or at least a mouse port.

SOFTWARE

Existing Software Base: Vast!
Current Releases: All major software houses now produce something for the PC although few UK companies bother to support VGA – you may still have to play with dreadful CGA colours and resolution.
Games: Many of the latest games are now being converted - older titles will not.
Graphics: Given the right graphics adaptor, the PC has nice graphics and the software is usually excellent. On a standard CGA PC the graphics are very poor no matter how good the software is.
Music: Pathetic. Even the very best PCs can only manage a weak bleep unless fitted with a sound expansion card.
Prospects: The PC is the eternal champion - as others fall by the wayside it carries on getting faster and better all the time. This is aided by Intel constantly improving the machine's processor and the vast user base demanding better equipment.
Software Loading: Fast and reliable; very fast from hard disk.

BUYLINES

Best Buy Price: Watch out for package deals from large chains and mail order companies. If you don't know too much about PCs go for a name you know.
Second Hand Availability: Common, but rarely much below RRP. S/H PCs can sometimes be had at office auctions but be careful you do not get a clapped out monitor/keyboard.
Maintenance: Usually one year's guarantee - but competition has forced the price of maintenance contracts down to an affordable level. This often means they fix the machine in-situ for free.

SAM COUPE

Models: SAM Coupe
Package: T.B.A.
Memory: 256K expands to512K (£39.95)
Processor: Zilog Z80B (6Mhz)
Recommended Retail Price:
£172 with cassette; £251 with single disk system; £329.85 dual disk system; £89.95 second disk drive.
Contact: Miles Gordon Technology 0792 791100

MGT's machine started life as a low-cost Spectrum clone but in response to apparent market trends its specification has changed for the better. Nevertheless, it should still run the majority of Spectrum 48K software bridging the "no software base" rift faced by most new micros. The price is keen and the specification good - but with the price of STs dropping ever-lower only time will decide its eventual success or failure. Check out the ACE review next month.

GRAPHICS AND SOUND

Resolution: 32 x 24; 32 x 192; 256 x192; 512 x 192
Palette: 128
Colours: 16 or 4 depending onscreen resolution. 128 possible insoftware.
TV: Yes
Monitor Output: SCART RGB
Monitor Supplied: No
Monitor Options: Anything suitable for an ST or Amiga will do nicely.
Sprites: No
Speed: Fast in its class

SOUND

Speaker Quality: Depends on TV/monitor
MIDI: In and out. Thru supported in software.
Stereo Output: Yes
Performance: 6 channel stereo sound puts the SAM Coupe at thetop of the tree in terms of 8 bit sound performance.

HARD FACTS – SOFT SELL

Disk Format: 3.5in - 720K using new Citizen ultra-slim drives.
Disk Price: £1.50 to £2.00
Disk Performance: Very good.
Keyboard: 72 full travel keys including 10 function keys. Unusual designplaces the keys further back than normal.
Joystick/Mouse: Yes
Ports: UHF PAL; SCART RGB; Mouse; Lightpen; Lightgun; Cassette; MIDI in and out; Network 7-pin DIN; 64-pin expansion;RS232 and parallel via interface.

SOFTWARE

Existing Software Base: Massive since it can use many Spectrum titles. 10 major software houses are developing for the Coupe.
Current Releases: First release is U.S. Gold's *Strider*
Games: Not much specific Coupe software available yet..
Graphics: Too early for good software to appear - the machine can display static Atari ST low-res picturesthough.
Music: The standard MIDI interface could be a bonus if developers bother to use it. Just look at the ST.
Prospects: Depend heavily on the machine's acceptance among the buying public.If it sells well, then more developers will start to write softwarefor it - if not. . .
Software Loading: Should be reliable. Tape based systems will always be slow.

BUYLINES

Best Buy Price: As RRP -remains in short supply.
Second Hand Availability: Still too early for a lot of machines to be changing hands legally.
Maintenance: One years guarantee. Faulty machines return to dealer.

SPECTRUM

Models: Plus 2, Plus3
Package: Keyboard and build-in tape, plus joystick, light gun and selection of software; Plus 3 replaces cassette with disk drive and adds CP/M compatibility.
Memory: 128K
Processor: Zilog Z80
Recommended Retail Price:
Plus 2 £139.00; Plus 3£199.00
Contact: Amstrad 0277 228888

The Spectrum is games machine and should nowadays only ever be bought as such. Its low memory capacity and 32 column screen display make it unsuited to business applications. For productivity - graphics' and sound - the Spectrum lacks the sophistication of its rivals to make it useful for serious projects. Utilities fair, but serious users will quickly outgrow this generally limited machine.

GRAPHICS AND SOUND

Resolution: 256 x192
Palette: 8
Colours: 8. Only two colours can be used within any one character (8 x 8 pixel) square. This limits the graphics potential although this hasn't stopped some remarkable games appearing.
TV: Yes
Monitor Output: TTL RGB
Monitor Supplied: No
Monitor Options: No dedicated monitor is available but most low- end RGB monitors should suffice.
Sprites: None
Speed: Average to fast for an 8 bit

SOUND

Speaker Quality: N/A
MIDI: Yes - but uses non-standard socket.
Stereo Output: No
Performance: 3 channels give poor sound. This has never been a selling point and never will be. Few software titles attempt much more than a casual beep.

HARD FACTS – SOFT SELL

Disk Format: 3in -180K formatted on built-in drive.
Disk Price: £2.50-£3.00
Disk Performance: Generally fast and reliable. Some problems may arise with commercial software, however none have shown up as yet.
Keyboard: All new Spectrums have a hard plastic keyboard which - although a vast improvement on the original model - still feels a bit "squidgy."
Joystick/Mouse: Non-standard joystick on all models but suitable interfaces are widely available. Mouse interfaces are available but precious few titles use them.

SOFTWARE

Existing Software Base: Vast
Current Releases: Very common - Spectrum versions are almost always the first 8 bit version to appear. Even impossible conversions like *Zarch* have been performed (albeit with major surgery on the graphics and sound).
Games: A huge number of arcade titles exist ranging from brilliant to abysmal. There isalso a wide range of home-brew adventures thanks to the Quill.
Graphics: Fair selection some of which manage to squeeze far better performance from the machine than many would have dared imagine.
Music: A couple of MIDI interfaces are available, plus Cheetah Specdrum drum synthesizer.
Prospects: It must die eventually but still showing signs of life thanks to a healthy software market.
Software Loading: Cassette games still take ages; disk improves matters.

BUYLINES

Best Buy Price: Older Spectrums can be got second-hand very cheaply but the keyboards tend to suffer. If you are prepared to risk the very old machine make sure you get the 48K models - the 16K machine is completely useless for today's software. Better go for a newer model.
Second Hand Availability: Numerous.
Maintenance: Amstrad badged Spectrums have a year's guarantee - take the machine back to the dealer. Other models are now out of warranty.

SEGA MASTER SYSTEM

Package: Console using cartridge or smart card plus game controller and 1game (Hang On).
Recommended Retail Price:
£79.95; £99.95 (+lightgun); £129.95 (+ light gun and 3D glasses).
Contact: Virgin Mastertronic 01-727 8070

Japanese software base is not as good as Nintendo's but what counts is how many titles reach ou rshores. Mastertronic have given good support to the machine so the prospects look good. The only problem is that the machine is getting a little long-in-the-tooth.

GRAPHICS AND SOUND

Resolution: 256 x 192
Palette: 64
Colours: 16
TV: Yes
Monitor: No

SOUND

Speaker Quality: Depends on TV.
Performance: 3 channels give good sound effects on most games.

HARD FACTS – SOFT SELL

Joystick: Game controller supplied.
Existing Software Base: Very good.
Current Releases: Slowing down
Games: All arcade.
Prospects: Continued support ensured, but new machines on the horizon.
Software Loading: Instant.

BUYLINES

Best Buy Price: As RRP
Second Hand Availability: N/A
Maintenance: One years guarantee. Faulty machines return to dealer.

SEGA MEGADRIVE

Machine: Megadrive
Package: Megadrive plus controller and one game.
Memory: 74K main + 64K video
Processor: 68000 +Z80B
Price: "Expected" to be under £200 when it finallyappears.
Contact: Virgin Mastertronic 01-727 8070

The cutting edge in the console market - at least the one we will be able to buy this year. Although the Megadrive is still not officially available, grey importers are laughing all the way to the bank. All will cease when Virgin-Mastertronic start importing the official UK version. If you wait, your machine will run the new software - if not, you may find the software well drying up very quickly

GRAPHICS AND SOUND

Resolution: 320 x 224
Palette: 512
Colours: 64
TV: Yes
Monitor: No
Sprites: 80
Speed: Very fast

SOUND

Speaker Quality: N/A
MIDI: No
Stereo Output: Yes
Performance: 12 channel stereo sound is produced by a custom FM chip and soundsfantastic.

HARD FACTS – SOFT SELL

Joystick: Supplied with dedicated controller.

SOFTWARE

Existing Software Base: Very few titles.
Current Releases: N/A
Games: All arcade - can you tell the difference from the coin-op original?
Prospects: The processing muscle of this machine virtually guarantees it resounding success. Even though the software base is limited what there is, is good. Release date shouldbe around Easter 1990.
Software Loading: Instant

BUYLINES

Best Buy Price: Only available through grey imports as yet
Second Hand Availability: N/A
Maintenance: Watch out - grey imported machines rarely have any real warranty.

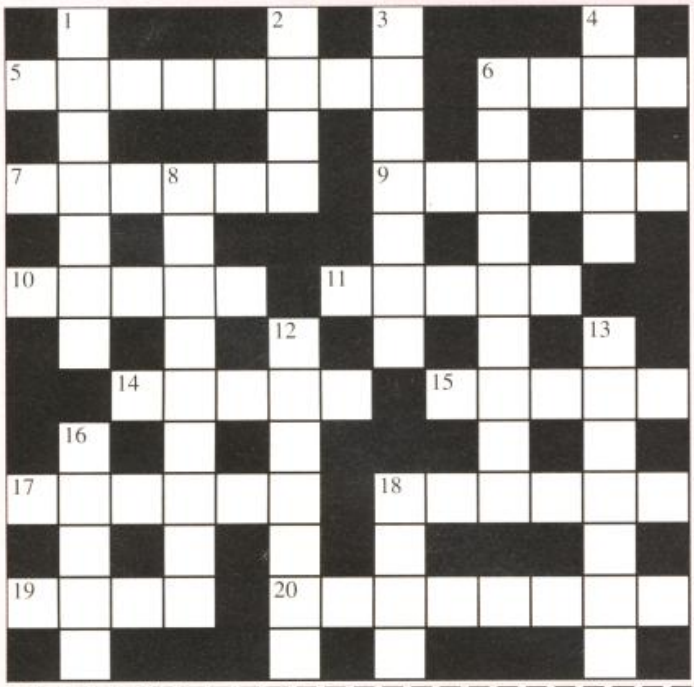
NOTES ON LISTINGS:

All prices are correct at time of going to press – but shop around and try for special deals, especially with bundled software or peripherals.

'Sprites' refers to software sprites and is really only included for specialist interest: most modern programmers use software sprite routines.

Many machines are available via 'grey imports' – units individually imported by retailers. These machines ought to be avoided since you may experience warranty problems or even, with some of the latest consoles, software loading problems when the machine is finally officially released in the UK. This is because Japanese companies frequently engineer deliberate incompatibilities between machines supplied to different territories.

PRIZE CROSSWORD APRIL '90



NAME:.....

ADDRESS:.....

.....

.....

CLUES ACROSS

5. Game played by Rod and I in Bono's house (8)
6. Basic instructions, pe rhaps (4)
7. Person striking joker's enemy in game (6)
9. A few bits – sounds like a bit? (6)
10. Intends to change names. (5)
11. Wired up in a strange way. (5)
14. CIA is cracking the code (5)
15. Nonsense about old boy being an android. (5)
17. The French female gets caught in a senile game. (6)
18. Doctor gets a satellite receiver – it's fashionable. (6)
19. One with branches in every street. (4)
20. Rex notes characters for a game. (8)

CLUES DOWN

1. Ocean traveller's game (7)
2. Indication that top game's in the wrong. (4)
3. One is about to go ahead with game. (7)
4. Solid state of stars. (5)
6. Unusually nice boy Dr. Hewson produces. (9')
8. Mental picture of a software house. (9)
12. Traipse around for a computer game.
13. Addictive game for a marksman. (7)
16. Rolls Royce layabout lounge lizard appears with. (5)
18. Team playing friend. (4)

Completed crosswords should be sent to:

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THE ACE STOCK MARKET

EVERY MONTH ACE PRINTS ITS OWN GAMES CHARTS. UNLIKE OTHER CHARTS, THEY'RE BASED ON REVIEW MARKS AND NOT ON SALES...SO YOU CAN USE THEM AS A RELIABLE GUIDE TO WHICH GAMES TO BUY. NOT ONLY THAT, BUT IF YOU CAN PREDICT NEXT MONTH'S ENTRIES YOU CAN WIN SOME GREAT PRIZES.

Cor blimey! You're getting good at this! Last month, several people got very close to getting all the entries right – AND in the right order. Check out the prize winners for round two on page 120.

One small point for entrants to round four: the closing date for that round was incorrectly printed as 27th March 1990 (that's the closing date for THIS month's round) so we'll do the usual: put all entries into a hat and pick out seven winners at random. Sorry about that, everyone, but it's the fairest way of dealing with the situation. Everything's back to normal this month and we'll take especial care to see it doesn't happen again. Make sure you get your entries for this month in on time...

NOW IT'S EVEN EASIER TO WIN!

You now only need to fill in your predictions for the top **three** entries in each chart and you don't even have to get them all right to stand a chance of winning. The entry form is on p. 118, latest winners on p. 120.

THE COMPANY COUNTER

FTL, which has been basking in some ecstatic reviews for *Chaos Strikes Back*, has managed to hold its own near the top of the Company Counter,while, Micro Style is still riding high on the acclaim received for*Stunt Car Racer*. System 3's high placing comes from a very small number of highly favourable reviews. The Company Counter is based on publishers' performance according to how well received their titles are by reviewers in all the UK'scomputer magazines. The column headed 'Rating' is a rating based on actual review scores received during the previous month.'+/–' indicates whether this rating has gone up or down from the previous month.

The Share Price tells you how well a company is doing relative to itspast performances. Here, '100' is the 'base' amount: if a company'sprice is over 100, the firm's reviews are improving; anything under 100, and this month's batch just aren't up to previous standards. 100 is also the initial share price given to all newcomers to the CompanyCounter; these 'new entries' are marked with an asterisk (*). In order to earn a Share Price, companies must be releasing games and getting them reviewed in the magazines. No releases, no reviews, and we'll dock 10 points from their Share Price until they come up with the goods.

THIS MONTH'S SOFTWARE INDEX RATING: 71.58

Finally, there's the Index figure. The average score for all games reviewed this month is printed below; each publisher's index figure shows how well its games have done compared to the average mark. This month's average mark of 70.33 is the lowest yet in what is often a quiet time of year for games releases.

	Rating	+/–	Shares	Index
Micro Style	96	+18.17	123.35	25.67
System 3	93.5	n/a	112.99	23.17
FTL	93	+0.17	100.18	22.67
Innerprise	92	+11.33	114.04	21.67
Thalamus	86.5	n/a	102.44	16.17
PSS/Mirrorsoft	84.3	n/a	159.06	13.97
Palace	84	n/a	100*	13.67
ARC	82.4	+23.9	140.85	12.07
Microprose	81.75	+3.42	104.37	11.42
Anco	81.5	+10.83	115.32	11.17
Delphine/Palace	81	-8.5	90.5	10.67
Rainbird	80.7	+6.87	109.31	10.37
Goliath Games	79.67	n/a	100*	9.34
Electronic Arts	79.54	-0.88	98.91	9.21
Ocean	79.5	-1.57	98.06	9.17
Virgin	78.17	+3.91	105.27	7.84
Mindscape	77.75	+5.85	108.14	7.42
Sierra On-Line	77.42	-4.08	94.99	7.09
Origin/Mindscape	77.33	-20.17	79.31	7
Leisure Genius	76.75	+11.75	118.08	6.42
Addictive	76.5	+5.3	107.44	6.17
Gremlin	76.25	+4.03	105.58	5.92
Firebird	76	no change	100	5.67
Smash 16	76	+11	116.92	5.67
UbiSoft	74.93	+0.29	100.39	4.6
Digital Magic	73	n/a	100*	2.67
US Gold	72.67	-4.06	94.71	2.34
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Cinemaware		n/a	74.14	n/a
CP Software		n/a	75	n/a
Digital Int'n		n/a	75.6	n/a
Digitek		n/a	55	n/a
Dinamic		n/a	106.72	n/a
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Level 9		n/a	73.91	n/a
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Psygnosis		n/a	57	n/a
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2.....

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1.....

2.....

3.....

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1.....

2.....

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Rules:

All entries must be received by the closing date for this round of March 27th1990.

No employees of EMAP, or of any company involved in the production, distribution, or sale of ACE Magazine are eligible for entry.

Only one entry per household.

The decision of the judges is final and correspondence cannot be entered into.

THE MACHINE COUNTER

AMIGA RATINGS

Stunt Car Racer	Micro Style	90.5
It Came From the Desert	Cinemaware	88.57
Space Quest III	Sierra On-Line	87.75
Battle Squadron	Innerprise	86.34
Dragon's Breath	Palace	84

Stunt Car Racer and *Desert* have been around for several months now, but as Micro Style and Cinemaware stagger their format releases, reviewers continue to be amazed by them.

AMSTRAD CPC RATINGS

Chase HQ	Ocean	86.75
Dan Dare III	Virgin	84.5
Wild Streets	Titus	72
Knight Force	Titus	71
Turbo Outrun	US Gold	61

Better late than never, *Chase HQ* has found general favour, and the Z80 version of *Dan Dare III* (see Spectrum, below) is obviously the one to go for.

SPECTRUM RATINGS

Dan Dare III	Virgin	89.17
Operation Thunderbolt	Ocean	79.38
Turbo Outrun	US Gold	77
Leisure Genius Compnd'm	Leisure Genius	66
Moonwalker	US Gold	61.5

No question where Spectrum owners should be placing their orders this Easter. *Dan Dare III* has cleaned up all the awards, leaving everything else as an also-ran.

COMMODORE 64 RATINGS

Dragon Wars	Electronic Arts	86.75
Ghouls'n'Ghosts	US Gold	76.88
Blue Angels	Accolade	67.25
Dan Dare III	Virgin	67.17
Toobin'	Domark	66.75

It's no secret that many software houses are having difficulties finding top notch Commodore 64 programmers these days and these marks bear this out. C64 ratings have been dropping since we began the Stock Market – come on, programmers, give buyers the conversions they deserve.

PC-COMPATIBLE RATINGS

Conflict	16 Blitz	86.5
Pro Tennis Tour	UbiSoft	85.33
Indianapolis 500	Electronic Arts	84.59
Austerlitz	PSS/Mirrorsoft	77.6
European Space Simulator	Tomahawk	74

In the (admittedly short) history of the Stock Market, the quantity of PC titles has been rising steadily - and, until this month, the quality was consistently high as well. This month, we see a clear split between the top three and the rest.

ATARI ST RATINGS

Chaos Strikes Back	FTL	92.92
Tower of Babel	Rainbird	86.25
Future Wars	Delphine/Palace	85
North and South	Infogrames	83.5
Untouchables	Ocean	83

While current 8-bit games are generally getting a lukewarm reception at present, 68000-based titles are keeping the standards high, although with an unchanged top three from last month, the market isn't exactly flooded with new releases.

THE 16-BIT COUNTER

Midwinter	Rainbird	PC, ST	94.75
Chaos Strikes Back	FTL	ST	92.92
Stunt Car Racer	Micro Style	Amiga	90.5
It Came From the Desert	Cinemaware	Amiga	88.57
Space Quest III	Sierra On-Line	Amiga	87.75
Battle Squadron	Innerprise	Amiga	86.34
Tower of Babel	Rainbird	ST	86.25
Future Wars	Delphine/Palace	ST	85
Lost Patrol	Ocean	Am, ST	85.17
Indianapolis 500	Electronic Arts	PC	84.59

Bubbling under: *Pro Tennis Tour* (UbiSoft) on Am, PC, *Austerlitz* (PSS/Mirrorsoft) on Am, PC, *The Untouchables* (Ocean) on Am, ST.

Look out for *Midwinter* in the machine-specific counters next month. Everyone is raving about the graphics and gameplay in Mike Singleton's latest effort.

THE 8-BIT COUNTER

Dragon Wars	Electronic Arts	C64	86.75
Buggy Boy	Encore	C64, CPC, Sp	86
Dan Dare III	Virgin	C64, CPC, Sp	80.28
Ghouls'n'Ghosts	US Gold	C64	76.88
Operation Thunderbolt	Ocean	C64, Sp	75.19
Leisure Genius Compend'm	Leisure Genius	C64, CPC, Sp	72.67
Duel: Test Drive II	Accolade	C64, CPC, Sp	71.33
Elven Warrior	Players Premier	CPC, Sp	70.75
Chase HQ	Ocean	C64, CPC	69.88
Turbo Outrun	US Gold	CPC, Sp	69

Bubbling under: *Sailing* (Mastertronic) on C64, Sp, *Blue Angels* (Accolade) on C64, and *Toobin'* (Domark)

Some games date very quickly; some still look fresh and exciting two years after their original release. *Buggy Boy*, now from Encore at ú2.99, is a case in point - and now at an irresistible price.

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CHART TOPPERS TOP 30

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Stunt Car Racer	6.99	10.99	6.99	6.99	10.99
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CHART TOPPERS TOP 30

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STOCKMARKET WINNERS!
ROUND TWO

Everyone's getting much better this, you know. In round one, hardly anyone got anywhere close to picking forecasting the names that would appear the following month, let alone which order they would appear in. This month, however, not only did people frequently pinpoint as many as four entries in a section, but R.S. Eadie of Wedmore even managed to get four entries for the Spectrum chart *in their correct places!* Just one more right and he would have hit the jackpot with £150 worth of software. As it is, he is one of our six prize winners this month.

Other winners include R.P.Maxfield of Rotherham, who managed to pinpoint the top three entries in the Amiga chart in their correct order. People with long memories may recall that the closing date for this round was wrongly printed, so that it ws possible to fill in your forms AFTER the next issue had appeared, therefore getting all the answers right! As it was, both RPM and CE got their entries in before the next issue appeared. All other entries, regardless of when they were received, were given an equal chance of winning through random selection from the traditional hat.

The winners of round two were:

R.P.Maxfield, Rotherham
Daniel Grenham, Herne Bay
R.S. Eadie, Wedmore
James Verdier, Welwyn
Darren Garbutt, Leeds
S. Cresci, Clapton

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Conversion from *Arkanoid* the coin-op, in its turn the best version of the classic *Breakout*. Simple in concept: the player controls a bat at the base of the screen, whizzing it left and right. The object is to keep a small ball in play, bouncing it off the bat to destroy formations of bricks in the top half of the screen. Eliminate all the bricks and move on to the next of 33 screens. Clever extra features contribute to the addictiveness. As a faithful coin-op conversion, *Arkanoid* comes out top, but for a different slant on the same theme and some nifty music, try ASL's *Impact*, which also builds up the difficulty levels more gradually.
★ **ACE CLASSIC**

BOUNDER

Gremlin Graphics ● Spectrum £7.95cs ● C64 £9.95cs £12.95dk ● Amstrad £8.95cs £13.95dk

A great arcade bounce-em-up, and very addictive too. You guide a ball as it bounces from one platform to another, high above the vertically scrolling landscape. Land on marked squares and you can stay aloft longer or gain a mystery bonus. Fill in a gap or hit one of the game's many nasties, however, and you'll lose a life. Bonus bouncing sections at the end of each level help vary the pace, and those tough gaps really keep you coming back for more. Bright, witty graphics, great music – and it's so playable.
★ **ACE CLASSIC**

BUBBLE BOBBLE

Firebird ● Spectrum £7.95cs ● C64 £8.95cs £12.95dk ● Amstrad £8.95cs £14.95dk ● Atari ST £19.95dk

Playability is the essence of this two-player coin-op conversion. You and a friend play bubble-blowing dinosaurs, travelling through 100 maze-and-platform screens, fighting off the 'bullies' by encapsulating them in your bubbles to turn them into juicy fruit. More firepower and various bonuses await as you reach the more difficult later screens. Enormously good fun, if a little on the cutesy side. Can also be played as one player against the computer.
★ **ACE RATED 958**

CONQUEROR

Superior ● Archimedes £24.95dk (Amiga and ST versions under development)

Drive around in your very own tank! Blast the enemy in close combat and plan your strategy for the campaign. This is a tricky game to get to grips with, but if you persevere you'll find you soon become mesmerised by the thing. If you ain't got a 1Mb Archie though – forget it!
★ **ACE RATED 931**

ELIMINATOR

Hewson ● Spectrum £7.99cs £12.99dk ● C64 £9.99cs £14.99dk ● Amstrad £9.99cs £14.99dk ● Atari ST £19.99dk ● Amiga £19.99dk

Graphically wonderful roadway blast-em-up by John Phillips, which will twist your joystick inside-out. It'll even have you driving on the ceiling. Though it's tough to get to grips with at first, the addiction level's so great you'll keep coming back for more.
★ **ACE RATED 904**

EXOLON

Hewson ● Spectrum £7.95cs ● C64 £8.95cs £12.95dk ● Amstrad £8.95cs £14.95dk

Graphically superb horizontally scrolling shoot-em-up in which you run, duck and jump your way along a planet's surface blasting away at alien defences. A gun and a missile launcher are used to blast the foes, but if things are still too tough then you can grab an exoskeleton for extra protection and fire power.
★ **ACE CLASSIC**

NEW ZEALAND STORY

Ocean ● Spectrum £8.95cs, C64 £9.95cs, Amstrad £9.95cs, ST £19.99, Amiga £24.99

Although pipped at the post in a head to head with Rainbow Islands, New Zealand Story is not a game to be ruled out. It is immense fun to play, provides lots of varied action across many levels. Definitely worth checking out.
★ **ACE RATED 875**

OIDS

Mirrorsoft ● Atari ST £19.99dk

A magnificent *Thrust*-ish blast. The Oids are relying on you to save them, but the Biocretes aren't going to let them go without throwing missiles, rockets and a number of other weapons at you. Included with the program is an edit facility that allows you to design your own planetoids – great stuff!
★ **ACE RATED 969**

PITSTOP 2

Epyx/US Gold ● Available only on Epyx Epics compilation ● C64 £9.95cs £14.95dk ● IBM PC £29.95dk
(in compilation with *Winter Games* and *Summer Games 2*)
Thrilling racing game where the screen is split into two and you can race the computer or a friend. Lots of different Grand Prix circuits, tyre blow-outs and of course the all-important pitstops guarantee to give you hand cramp and your brain a real racing treat.
★ **ACE CLASSIC**

POWER-DROME

Electronic Arts ● Atari ST £24.95dk

This superb arcade-style futuristic driving simulation will have you enthralled for months to come. It may not be terribly easy to get straight into but it's well worth persevering with. You'll be playing this for months.
★ **ACE RATED 925**

PURPLE SATURN DAY

Exxos ● Atari ST £24.95dk ● Amiga £24.95

A terrific mix of games that delivers punch both audio and visual. The consistently good gameplay ensures you'll enjoy playing each sub-game time and again. It's a little tricky to get the hang off, but master it and you'll be pleased you persevered.
★ **ACE RATED 912**

RAINBOW ISLANDS

Firebird, Spectrum £9.95cs £14.95dk, C64 £9.99cs $14.99dk, Amstrad £9.99cs £14.99dk, ST £24.99, Amiga £24.99

The sequel to Bubble Bobble is nothing short of fantastic. The graphics and sound are superb, as is the gameplay.
One of the best (and cutest arcade conver-

sions of the year that should not be missed.
★ ACE RATED 934

RVF

Microstyle, ST £24.99, Amiga £29.99

RVF offers a near endless supply of fast paced bike action as you race your Honda RVF. Attention to detail is paid out all along the route with your rider giving the bike a push start after a crash. An excellent mix of arcade and simulation.
★ ACE RATED 915

SPIDERTRONIC

Ere International ● Atari ST £19.95dk

Guide your spider-like character around the game area, collecting coloured panels in the correct order. The built-in construction set means you'll be knocking out your own levels till the cows come home.
★ ACE RATED 903

SUMMER GAMES

Epyx/US Gold ● C64 £9.95 cs £14.95dk ● IBM PC £29.95dk

Epyx sporting simulations are of high quality but none have quite captured the playability and style of the original *Summer Games* and its immediate successor, *Summer Games 2*. One to six players can take part in high jump, gymnastics, springboard diving, clay pigeon shooting, swimming, pole vault – and others – with lovely large graphics and smooth animation throughout. Control of your athlete can be complex so practice is recommended.
★ ACE CLASSIC

SUPER SPRINT

Electric Dreams ● C64 £9.99cs £14.99dk Amstrad £9.99cs Spectrum £9.99cs ● Atari ST £19.99dk

One of the better coin-op conversions currently available. With up to three players all competing at once, the action is fast and furious and it will take a finely-tuned car to complete some of the more tortuous circuits that appear later in the game.
★ ACE RATED 907

THRUST

Firebird ● Spectrum £1.99cs ● C64 £1.99cs ● Amstrad £1.99cs

Terrifyingly sensitive controls and a large helping of real-life physics make this budget title an absolute must. Flying down through the caverns of an enemy-held planet, you have to pick up fuel and destroy hostile gun turrets without crashing into the tunnel walls. Tough enough as it is, but then you've got to make the return journey with a heavy load slung under your craft. Very mean, very addictive.
★ ACE CLASSIC

URIDIUM

Hewson ● Spectrum £8.95cs ● C64 £9.95cs £12.95dk ● BBC £9.95cs £14.95dk

The piece de resistance of scrolling shoot-em-ups: blast the dreadnought and attacking ships while dodging around any large structures. Great metallic-looking dreadnoughts and the smoothest scrolling you'll ever see put this head and shoulders above the opposition. A game not to be missed, especially now that C64 versions come packaged with the excellent *Paradroid*.
ACE CLASSIC

ZARCH / VIRUS

Superior Software ● Archimedes £19.95dk ● Firebird (16 and 8-bit versions) Amiga £19.95dk ● Atari ST £19.95dk ● Some 8-bit versions under development

A solid three dimensional shoot-em-up with such graphic perfection and timelessly addictive gameplay that it became an instant classic. Now the 16-bit versions have arrived and they're just as good as the 32-bit versions.
★ ACE RATED 981

ADVENTURES

After a brief surge of RPG_related popularity, the traditional text-entry adventure is rapidly disappearing. But for those of you who savour the powers of the imagination, the verbal twist, and the thrill of encountering other characters, this game genre still has much to recommend it. Here are some of the all-time great computer fantasies...

BEYOND ZORK

Infocom/Activision ● C64 £19.99dk ● PC £24.99dk ● Amiga £24.99dk ● Atari ST £24.99dk

Infocom's attempt to muscle in on the role-playing market is a great success. Locate the fabulous Coconut of Quendor in a game that combines the wit and ingenuity of one of the world's most original software companies with state-of-the-art parsing and gameplay. Text-only, but with an on-screen mapping facility.
★ ACE RATED 902

CORRUPTION

Rainbird ● Atari ST £24.95dk ● Amiga £24.95dk ● PC £24.95dk ● Spectrum £15.95dk ● C64 £17.95dk ● Amstrad 6128 £19.95dk

This tale of insider dealings, infidelity and crooked business deals is unlikely to appeal to adventurers who prefer to wander through vast dungeon networks seeking treasure. But for those who are fed up with traditional adventuring, it's like a breath of fresh air. Superb graphics, great atmosphere and a nail-biting plot makes this a terrific game that grips from the start.
★ ACE RATED 920

FISH

Magnetic Scrolls ● PC £24.99dk Amiga £24.99dk

More gameplay than *Corruption*, better game design than *Jinxter*, and not as quirky as *The Pawn*. This is definitely MS's best release since *Guild Of Thieves*. Good stuff indeed.
★ ACE RATED

GUILD OF THIEVES

Rainbird ● C64 £19.95dk ● Spectrum £15.95dk ● Amstrad 6128 £19.95dk ● Amiga £24.95dk ● Atari ST £24.95dk ● PC £24.95dk

One of Britain's newer adventure software houses – Magnetic Scrolls – managed to produce a traditional treasure hunt with superb graphics and some very tricky puzzles. Powerful parser helps to create a convincing game world with humour and imagination.
★ ACE CLASSIC

INGRID'S BACK

Level 9 ● Atari ST £19.95dk

A great follow-up to *Gnome Ranger*. Level 9 have really got to grips with the use of characters in their games and how to program them very effectively.
★ ACE RATED 920

JEWELS OF DARKNESS

Rainbird ● C64 £14.95cs ● Spectrum 128 £14.95cs ● Amstrad £14.95cs £19.95dk ● PC £19.95dk ● Amiga £19.95dk ● Atari ST £19.95dk

Level 9 have put together three of their classic releases, *Colossal Adventure*, *Dungeon Adventure* and *Adventure Quest* in one bundle. The games have been updated with graphics and larger vocabularies and are as close to the original spirit of adventuring as you're likely to find.
★ ACE CLASSIC

LURKING HORROR

Infocom/Mediagenic ● C64 £19.99dk ● ST £24.99 I Amiga £24.99 ● PC £24.99

Infocom's tribute to H.P. Lovecraft and the horror-fantasy genre sends you into a cold sweat as you discover something very nasty lurking beneath your college laboratory. Superb text-only game that defies you to play it after dark...
★ ACE CLASSIC

TIME AND MAGIK

Mandarin ● Spectrum £14.95cs £14.95dk ● C64 £14.95cs £14.95dk ● Amstrad £14.95cs £14.95dk ● Atari ST £19.99dk ● Amiga £19.99dk ● PC £19.99dk

This compilation of the Level 9 games, *Lords Of Time*, *Red Moon* and *The Price Of Magik* have been re-vamped with better parsing, bigger vocabularies and pictures added. Superb value if you don't already own them.
★ ACE RATED 919

ZORK ZERO

Infocom Versions due out about now. Watch this space for price info. Highly enjoyable with a variety of challenges that make for instant addiction. A bit more character interaction would have made this a real humdinger, but even so it remains one of the best games of the year so far.
★ ACE RATED

PUZZLES

If you're after a game that will provide you with a real challenge, without necessarily requiring large doses of strategic thinking, then it's a puzzle game you want.

BONE-CRUNCHER

Superior Software ● C64 £9.95cs11.95dk ● Amiga £14.95

At first sight this recent release may appear to be nothing more than a boulderdash rip-off. However there are a number of innovative gameplay features which give Bonecruncher a feel all of its own. Highly recommended for those who prefer to solve problems rather than shoot them.
★ ACE RATED 948 – AMIGA

BOULDERDASH

Prism Leisure Corporation ● Spectrum £2.99cs ● C64 £2.99cs ● Amstrad £2.99cs

A game that has everything – instant addiction, long-term challenge, frenetic excitement as the clock ticks down and extremely tricky puzzles. You must collect jewels hidden in caverns, digging away earth and boulders to get tat them. Boulders can drop and cause you serious damage, while the jewels are often hidden by seemingly impenetrable walls. Complex but great fun. Boulderdash is a classic you can't afford to miss in its budget incarnation.
★ ACE CLASSIC

DEFLEKTOR

Gremlin/Vortex ● C64 £9.99cs ● Spectrum £7.99cs ● ST £19.95dk

Optics are the order of the day here (not the spirit dispensers) as the player tries to connect a laser beam to a receiver and at the same time destroy a

number of cells that are on screen as well. You'll need to make full use of the mirrors, fibre-optic conduits and polarising and refracting blocks if you're to achieve your aim. Clear the first screen and you'll only have 59 more to do. Fascinating stuff that's horribly addictive.
★ ACE RATED 906 – ST

NEBULUS
Hewson ● C64 £9.99cs £14.99 dk● Atari ST £14.99 dk

Guide pogo to the top of eight towers using the spiral of platforms, lifts and ledges that form the route. It's a highly original game that strikes a fine balance between frustration and addiction, added to which is the rotary scroll, thus making it a good-looking, playable winner of a game.
★ ACE RATED 943 - C64

SENTINEL
Firebird ● Spectrum £9.95 cs ● C64 £9.95cs £14.95dk ● Amstrad £9.95cs £14.95 dk ● Atari ST £19.95dk ● Amiga £19.99dk

Bizarre and compelling strategy game played over the chequered surface of a planet dominated by the Sentinel. Fundamentally you have to absorb energy while trying to stop the Sentinel from absorbing yours. A clean brain and fast trigger finger are both necessary in this very original and large - 10,000 possible landscapes - game.
★ ACE RATED 963 - AMIGA

SKULL DIGGERY
Nexus● Atari ST £19.95

Boulderdash clone that completely outdoes the original on this particular machine. Again (see Boulderdash above) you're digging for diamonds in caverns over a hundred different screens - with a time limit for each screen. Skulldiggery scores on playability (easier screens to begin with and a choice of starting point) and its entertaining two-player option.
★ ACE RATED 919 - ST

SPORE
Bulldog ● C64 £1.99cs ● Amstrad £1.99cs ● Spectrum £1.99cs

The winning combination of strategy, frenzied blasting and great graphics make Spore a worthy full-priced release - what a bargain then to be able to pick it up for £1.99!
★ ACE RATED 919 - C64

TETRIS
Mirrorsoft ● Spectrum £8.99 cs ● C64 £8.99cs £12.99dk ● Amstrad £8.99cs £12.99 dk ● Atari ST £19.95dk ● Amiga £19.99dk ● IBM PC £19.99dk

A fascinating geometrical oddity, this Russian puzzler turns the obscure mathematical topic of packing into a cult game. One at a time, shapes fall downwards into a rectangular playing area. Left to their own devices they'll pile up until they reach the top of the screen; your task is to guide them down and pack them tightly so that doesn't happen. Different versions have proved to be rather variable in their arcade aspects, but the brilliantly simple idea behind them means they're well worth a look whatever your machine.
★ ACE RATED 959 - C64

THINK!
Firebird ● C64 £1.99cs ● Amstrad £1.99cs ● Spectrum £1.99cs

Originally released by Ariolasoft at full price, but now available for a fraction of that from Firebird. It's a horribly addictive game played on a 6x6 grid - either one or two player - in which you attempt to connect four counters, horizontally, vertically or diagonally.
★ ACE CLASSIC

XOR
Logotron ● BBC £9.95cs £12.85dk ● Amstrad £9.95cs £14.95dk● Spectrum £7.95cs

Extremely tricky maze game involving the player controlling two shields, and collecting masks through 15 mazes, which increase in complexity as you progress. Also in later stages, fish and chickens lie in wait, often blocking the masks and just waiting to fall on you and bring your quest to a premature end. Later still, things hot up as bombs, transporters and dolls conspire against you. Smooth scrolling, simple graphics, this one requires planning to complete successfully.

SPECIALS

Original works that are simply unclassifiable feature in this sec˜ tion.

ATF
Digital Integration ● C64 £8.95cs £12.95dk ● Amstrad £8.95cs £12.95dk● Spectrum £8.95cs £13.95dk

Excellent combat/flight simulator that's a bit of a change for Digital Integration, the simulation specialist. The emphasis is on solid action, the result being a sure-fire hit.
★ ACE RATED 956 - SPECTRUM

DARK SIDE
Incentive ● C64 £9.95cs £14.95dk ● Amstrad £9.95cs £14.95dk● Spectrum £9.95cs £14.95dk

The second game using the Freescape programming system, which sets more of an arcade challenge. The 3-D graphics are again superb as are the tasks and puzzles.
★ ACE RATED 915 - AMSTRAD

ELITE
Firebird ● C64 £14.95cs £17.95dk ● Amstrad £12.95cs £14.95dk● Spectrum £14.95cs ● BBC £13.95cs £14.95dk (available from Superior software)

Still the best space trading game, Elite set a standard for other companies to follow. One of the first space games to use vector graphics, it's a shooting and trading effort set across several galaxies, with plenty of variety to the game play. You can trade legal goods in (relatively) safe systems, or run the gauntlet of pirates in the galaxies' danger spots with your hold full of contraband. Either way there's a nice line in zero-G dogfighting, and as big a task as you'll find anywhere.
★ ACE CLASSIC

INCREDIBLE SHRINKING SPHERE
Electric Dreams ● C64 £8.99cs £14.99dk ● Amstrad £9.99cs £14.99dk ● Spectrum £9.99cs £14.99dk ● Atari ST £19.99dk ● Amiga £24.99dk

A manic maze world where mass, size and inertia combine to provide wicked gameplay. Tricky puzzles and endless nasty obstacles will have you rolling around in delight.
★ ACE RATED 923 - C64

M1 TANK PLATOON
Microprose ● PC £39.99dk

This is a welcome break from flight-sims that boasts enough detail to keep even the most compulsive nitpicker happy, and at the same time has a breadth of challenge and combat scenarios that should satisfy the most ardent gamester. A winner.
★ ACE RATED 926

MAGNETRON-
Firebird ● C64 £8.95cs £12.95dk ● Spectrum £8.95cs £12.95dk

Puzzles and action Steve Turner style. Save the world by dismantling eight satellites. Steal parts from enemy droids to upgrade your own droid and hopefully make your job a little easier. The ideal game for Quazatron fans looking for a similar, new challenge.
★ ACE RATED 904 - SPECTRUM

QUEDEX
Thalamus ● C64 £9.95cs £14.95dk

In this impressively challenging game you must steer a metallic ball through ten different screens of mazes, bonuses and obstacles, all within a set time limit. This simple game concept has a host of added features to make it particularly pleasing: you can carry over unused time to the next screen, for example, and tackle the different screens or 'planes' in any order you wish. Excellent graphics and utterly absorbing play.
★ ACE RATED 934 - C64

SPINDIZZY
Electric Dreams ● C64 £9.95cs £14.95dk ● Spectrum £9.95cs ● Amstrad £9.95cs £14.95 Disk

Tremendous stuff; steer your spinning top over tough obstacles and collect jewels, against a fiendish time limit. The game landscape is a vast system of catwalks, ramps, towers and trampolines surrounded by lethal drops - and NO safety rails. Floor switches activate lifts and bridge traps, but tripping them in the right order can be harder than it looks. A few bad guys and a lot of nice touches, but the explorations the thing.
★ ACE CLASSIC

STARGLIDER II
Rainbird ● Atari ST £24.95dk ● Amiga £24.99dk

One of the finest examples of a game using vector graphics to their full advantage, gets the solid 3D treatment and comes out looking every bit a winner. You've got a large task to complete and there's plenty of Egron's to destroy, making this combination of blasting and exploration that stands head above the competition.
★ ACE RATED 927 - ST

STAR TREK V
Mindscape ● PC £34.99dk ● MAC £34.99dk

This is easily the best interpretation of Star Trek yet. The gameplay provides absorbing and challenging hours of fun. A must for Trekkies and an entertaining space strategy /simulator for everyone else.
★ ACE RATED 930

TAU CETI/ ACADEMY
CRL ● C64 £9.95cs £14.95dk ● Amstrad £9.95cs £14.95dk ● Spectrum £9.95cs ● Atari ST £19.99dk ● Amiga £19.95

Flight simulator/shoot 'em up and its sequel which are both incredibly smooth and well put together. The attention to detail is impeccable as you set off on hair-raising missions as a space cadet. In Academy you get to design your own space skimmer craft as well.
★ ACE CLASSIC

TOTAL ECLIPSE
Incentive ● C64 £9.95cs £12.95dk ● Amstrad £9.95cs £12.95dk ● Spectrum £9.95cs £14.95dk

The third game using the Freescape system is a bit of a departure from the first two, but it's still an incredible game. In total eclipse you're battling against time back in the 1930's trying to prevent the moon exploding. For arcade adventurers who love puzzles, the Freescape system is a godsend.
★ ACE RATED 907 - AMSTRAD

WIZBALL
OCEAN ● C64 £8.95cs £14.95dk ● Amstrad £8.95cs $12.95dk ● Spectrum £8.95cs £14.95dk

Become Wizball and conquer the 'colour creatures' which are intent on eliminating the spectrum and rendering the landscape grey and drab. One of the most playable games around, despite the simple scenario.
ACE Classic

RPG

Role-playing games have exerted an enormous influence on modern game-styles. They combine the atmosphere of text adventures with the action of arcade games and the brain exercise of strategy – but their graphical presentatio tends to be weaker than other game genres. Gameplay centres around developing characters by raising their experience and skill levels in conflict with other, computer-controlled nasties. All that – and a quest too....

THE BARD'S TALE II

Electronic Arts, C64 £16.95, Amiga £24.95dk

The highly successful predecessor to Bards Tale III. BT II has the advantage of being slightly easier to advance. THe Amiga version features some very nice sampled monk chants when you enter a temple and excellently coloured graphics. And of course, you can update your favourite characters, their attributes and equipment for use in BT III.
★ **ACE RATED 920**

THE BARD'S TALE III

Electronic Arts ● C64 £14.95dk

The latest *Bard's Tale* game offers a number of refinements over its predecessors (all of which are still well worth taking a good look at). First, the graphics are better animated. Second, there are ranged combat routines which take careful account of the distance between you and your opponents. Finally, the game's large and represents excellent value for money.
★ **ACE RATED 920**

BATTLETECH

Infocom, PC £29.95, ST

Battletech features some incredible cartoon sequences, arcade style action, role play and strategy. In short a complete, full game. A brilliant RPG purchase even though it missed out on an Ace rating.
★ **ACE RATED 801**

DUNGEON MASTER

Electronic Arts ● C64 £14.95dk

Quoted as being a "milestone in Advanced Computer Entertainment", *Dungeon Master* offers 14 levels, loads of spells, atmospheric graphics and sound. All going to make *Dungeon Master* one of the best roleplaying adventures to have appeared on any machine.
★ **ACE RATED 949**

POOL OF RADIANCE

US GOLD /SSI ● C64 £14.99dk

SSI were very brave to attempt to capture the complex concept of the AD&D system on a computer, but they managed superbly. An RPG-influenced game that will appeal to not only AD&D fans but to anyone looking for an enthralling game that will keep them playing for months.
★ **ACE RATED 921**

ULTIMA V

OriginSystems/Microprose ● C64 £24.95dk ● PC £29.95 ● ST/Amiga to be announced

Astonishing level of detail in this role-playing influenced epic. Travel round Britannia trashing the opposition and learning the magical, tactical, and geographical secrets that will enable you to defeat the forces of evil far underground. Superb romp, great lasting interest, and tough challenges galore.
★ **ACE RATED 928**

WASTELAND

Electronic Arts ● C64 £14.95dk

Charge around irradiated USA whopping mutant bunnies and biker scum in this role-playing epic. The atmosphere may not be as good as the *Bard's Tale* series of games, but the extra dimension of strategy leaves the cut, slash and spell scenario of the *BT* series way behind.
★ **ACE RATED 921**

BRAIN GAMES

Fed up with mindless blasting? Want a game that offers you an opponent who's worthy of your skills? Then this is your section...

CHESS MASTER 2000

Electronic Arts ● C64 £9.95cs £14.95dk ● Amiga £24.95dk ● Atari ST £24.95dk ● IBM PC £24.95dk

Strongest chess game on the Amiga, with excellent graphics, 2D or 3D viewpoint, 12 levels of difficulty and all the playing options you could wish for. Plus some fairly nifty speech synthesis.
★ **ACE CLASSIC**

COLOSSUS CHESS 4

CDS ● C64 £9.95cs £14.95dk ● Amstrad £9.95cs £14.95dk● Spectrum £9.95

Best bet for 8-bit machine owners, with a choice of 2D or 3D view, umpteen levels of difficulty, and a myriad options which enable you to play, watch, work out chess problems, etc against a fine computer opponent.
★ **ACE CLASSIC**

COLOSSUS MAH JONG

CDS ● C64 £9.99cs £14.99dk ● Amstrad £9.99cs £14.99dk

Rummy-like oriental game of stratagy and chance. A tutor program and a short manual make this an easy to use and highly entertaining piece of software for veterans and novices alike..
★ **ACE RATED 937 - C64**

INFOGRAMES' BRIDGE

Infogrames ● Amstrad £12.95cs £15.95dk ● MSX £12.95

Graphically the best of all contract bridge simulations, with large playing cards depicted against a suitably green baize background. Plays a good game (for a computer, which after all is a bit short in the imangination and flair department), and features a wide range of options and bidding conventions which you can toggle of according to your style.
★ **ACE CLASSIC**

POWERPLAY

Arcana ● C64 £8.95cs £14.95dk ● Amstrad £8.95cs £14.95dk ● Amiga £19.95dk ● Atari ST £19.95dk

If you want to try out your general knowledge, we reckon you'd be better off with this original and challenging combination of strategy game and quiz than with the admittedly monster selling Trivial Pursuits. Powerplay is graphically very pretty in its setting on Mount Olympus, home of the Gods.
★ **ACE RATED 935 - Amiga**

SCRABBLE

Leisure Genius ● C64 £12.95cs £14.95dk ● Amstrad £9.95cs £14.95 ● IBM PC £24.95dk

The hugely popular word game translated very successfully onto the micro. Fast, excellent display, and a suprisingly large vocabulary (even if it does include some strange looking words on some occasions). Good enough to give even strong human opponents a tough game at the higher levels.
★ **ACE CLASSIC**

WAR GAMES

Fancy yourself as a master of grand strategy, marshalling hordes of troops and sending them of to do battle on your behalf? Look no further than the ACE war games section...

ARNHEM

CCS, Spectrum £8.95cs, Amstrad £9.95cs, C64 £9.95cs

One of the oldest quality wargames featured in the section, Arnham was easioly the best in the field. It has all the expected atmosphere, five seperate scenarios and one of the toughest computer opponents you could ever wa't to meet. A thoroughly absobing wargame which can be classed as one of the old masters.
★ **ACE RATED 910**

CONFLICT EUROPE

Mirrorsoft, ST 24.99, Amiga £24.99, PC TBA

The 16 bit progression of Theatre Europe. Lots of extra graphical and sound effects. The computer controlled intelligence was marginally sophisticated but still enough to give a challenging game. The correct balance between strategy and exitement throughout. Great for beginners and intermediate players.
★ **ACE RATED 882**

THEATRE EUROPE

PSS, Spectrum £9.95cs, C64 £0.95cs £14.95dk, Amstrad £9.95cs £14.95dk

The perfect game for 8 bit owners who go green with envy when they look at Conflict Europe. Theatre Europe is the forerunner to the excellent 16 bit game. The graphics and overall play are not as sophisticated, but on the whole it still is one heck of a game.
★ **ACE RATED 915**

UMS

Rainbird, ST £24.95, PC £24.95, Macintosh £34.95, Amiga £24.95

Probably the greatest war game to date. UMS' uniqe 3D systems enables the creation of almost any battle in history. As well as a very sophisticated computer opponents yet. On top of this are add on scenarios and a very neat contruction kit to keep you going for even longer. An essential purchase
★ **ACE RATED 907**

FLIGHT SIMULATIONS

How about flying the latest US Stealth Fighter on a mission over Siberia? Or perhaps a quick flight over Hawaii would be more relaxing? Computer flight simulations can fulfill any flight of fancy

BATTLE-HAWKS 1942

Lucasfilm Games/US Gold ● ST £24.95dk ● Amiga £24.95dk ● PC £24.95dk

A WWII NAVAL AIR COMBAT SIMULATOR COVERING THE FOUR MOST IMPORTANT BATTLES OF THE 1942 PACIFIC WAR. FOR KNUCKLE-WHITENING ACTION THIS ONE HAS EVERYTHING – THE SENSE OF 'BEING THERE' IS TREMDOUS. THRILLING AND SURPRISNGLY ADDICTIVE STUFF.

★ ACE RATED 928

BOMBER

Activision ● Spectrum £14.99cs £19.99dk ● C64 £14.99cs £19.99dk ● Amstrad £14.99cs £19.99dk ● ST £24.99dk ● Amiga £24.99dk ● PC £34.99dk

Vector Grafix has spent a long time on this one – and it certainly shows. The game gets the balance just right between convincing simulation and entertaining game. Highly recommended.

★ ACE RATED 925

CHUCK YEAGER'S ADVANCED FLIGHT TRAINER

Electronic Arts ● Spectrum ● C64 ● CPC ● ST ● Amiga ● PC £24.95dk

Fly a multiude of aircraft from an early bi-plane to the Space Shuttle. It's entertainingly different from your standard flight sim and there's so much in this game that it will take many hours of instructive fun to experience and master all the available options.

★ ACE RATED 912

F-16 COMBAT PILOT

Digital Integration ● ST £24.95dk ● Amiga £24.95dk ● PC £24.95dk

This took nine person years to develop, and you can feel that quality of work when playing it – it's one of the most realistic flight sims on the market. If you are a connoisseur of flight simulators then this is an essential addition to your collection.

★ ACE RATED 970

FALCON

Spectrum Holobyte/Mirrorsoft ● ST £24.95dk ● Amiga £24.95dk ● PC £24.95dk ● MAC

If you really want the terror, exhilaration and sheer everything-happens-at-once confusion of combat flying, this game delivers. Make no mistake, this game is the real thing. An essential purchase for fast-jet fans.

★ ACE RATED 945

FLIGHT SIMULATOR II

Sublogic ● C64 £39.95dk ● ST £49.95dk ● Amiga £49.95dk ● PC £49.95dk ● MAC £49.95dk

The flight sim that put the genre on to the map. Thoroughly realistic flight sim of a domestic Cessna plane, which is even used by flight schools to train would be pilots. Can be enhanced by a variety of Scenery Disks.

★ ACE CLASSIC

INTERCEPTOR

Electronic Arts ● Amiga £24.95dk

A low level flight sim with a hi-level of fun.Purists may dispute the label 'simulator' – it certainly wouldn't train you to fly a real life Hornet – but this program combines realism and gameplay far too well for that to matter. If you want seat-of-the-pants air combat action, miraculous graphics and NO six month training period, look no further!

★ ACE RATED 934

RACING SIMULATIONS

In You can't have too much of a good thing, even if the excitement is liable to giv ethe old ticker a good going over. Racing sims have really come into their own over the past couple of years – and this is where you find out how to get the best of motor raciong action – all from the comfort of that armchair in fromt of your computer....

LOMBARD RAC RALLY

Mandarin ● ST ● Amiga ● PC

Race through many types of terrain, such as mountain or forest, and through many types of weather condition, such as fog or night. The game has a nice atmosphere, and though the variety of gameplay may be a little low, it's still a game you'd be playing for a good while.

FERRARI FORMULA ONE

Electronic Arts ● ST £24.99dk ● Amiga £24.99dk ● PC £24.99dk

A bit old this one, but still a game that was way ahead of its time to start with. Take the wheel of a Formula One Ferrari racer on some of the most famous racecourses in the world. A true thoroughbred.

R.V.F.

Microstyle ● ST £24.99dk ● Amiga £24.99dk

The champion in the Best Sprite Based Racing Game stakes, and a superb simulation, this one puts you into the world of performance bike racing on none other than the Honda RVF750. Brilliant graphics, brilliant sound, brilliant game.

STUNT CAR RACER

Microstyle ● Spectrum £9.99cs £14.99dk ● C64 £9.99cs £14.99dk ● ST £24.99dk ● Amiga £24.99dk ● PC £24.99dk

This places itself in the annals of computer history as being one of the most amazing spectacles to watch, let alone play. The game is first-person perspective, with the outside world made up of really fast smooth filled vectors, and the impression of realism is unbelievable. An amazing experience, and a clear winner. Where can things go from here?

SUPER HANG ON

Electric Dreams ● Spectrum £9.99cs ● C64 £9.99cs £14.99dk ● Amstrad £9.99cs £14.99dk ● ST £24.99dk ● Amiga £24.99dk

Not so much a simulation as a perfect arcade conversion of a brilliant bike racing Sega coin-op. Great game, excellent conversion.

THE DUEL - TEST DRIVE II

Accolade ● C64 ● ST ● Amiga ● PC ● MAC

Accolade tried to right all the Test Drive wrongs with this sequel, and to an extent they succeeded. There's nothing serious about the game. It's just a lot of fun. It doesn't claim to be technically or visually accurate, but why should it?

THE BOOKS YOU HAVE TO HAVE!

If you ever find it possible to drag yourself away from your computer and watch the TV instead you might have seen a programme on BBC last month about computer junkies – those people who just can't get enough of their micros and are quite happy to burn the midnight oil just to be with them. The program suggested that such activities might be unhealthy (could it be true?). Never being a magazine to promote ill health ACE has decided to back a sensible, adult activity, namely READING. So here goes with the books you have to have:

1. *Doctor Seuss's ABC* – A very colourful read, and just the right place to start if you've never done any before.
2. *Fox in Sox* – A toungue twisting Dr. Seuss book for more advanced readers.
3. *Dougal and the Blue Cat* – Probably the best book ever written (well, with pictures anyway).
4. *Any Pooh Book* – Any hours you spend with the bear of little brain are hours well-spent. All the philospophy you need for survival is contained herin.
5. *The Tao of Pooh* – All that philosophy explained!

PREMIER MAIL ORDER

8 BIT TITLES

GAME	SPEC CASS	SPEC DISC	CBM CASS	CBM DISC	AMS CASS	AMS DISC
Airbourne Ranger	6.99	9.99	9.99	13.99	9.99	13.99
Altered Beast	6.99		6.99	9.99	6.99	9.99
APB	6.99	9.99	6.99	9.99	6.99	9.99
Bards Tale	2.99		2.99	5.99	2.99	
Bards Tale 2 or 3				12.99		
Batman The Movie	6.99	9.99	6.99	9.99	6.99	9.99
Battlechess				10.99		
*Beach Volley	6.50	9.99	6.99	9.99	6.99	9.99
Bomber	10.99	13.99	10.99	13.99	10.99	13.99
Buggy Boy	2.99		2.99		2.99	
Cabal	6.50	9.99	6.99	9.99	6.99	9.99
Carrier Command	9.99	13.99	9.99	13.99		13.99
Carriers at War				14.99		
Chase HQ	6.99	9.99	6.99	9.99	6.99	9.99
Continental Circus	6.99	9.99	6.99	9.99	6.99	9.99
Crazy Cars 2	6.50				6.50	9.99
Cricket Master	6.50		6.50		6.50	
Curse of Azure Bands				16.99		
*Cyberball	6.99	9.99	6.99	9.99	6.99	9.99
Double Dragon 2	6.99	9.99	6.99	9.99	6.99	9.99
Dragon Spirit	6.99	9.99	6.99	9.99	6.99	9.99
Dragon Ninja	6.50	9.99	6.99	9.99	6.99	9.99
Dynamite Dux	6.99		6.99	9.99	6.99	9.99
Emlyn Hughes FBall	6.99	9.99	6.99	9.99	6.99	9.99
Fighting Soccer	6.99		6.99	9.99	6.99	9.99
Foot Man 2 Exp Kit	5.50		5.50	7.99	5.50	7.99
Football Director	6.50		6.45		6.45	
Football Manager 1	2.99		2.99		2.99	
Football Manager 2	6.99	9.99	6.99		6.99	9.99
Forgotten World	6.99		7.50		7.45	
Fun School 2 (6-8)	7.99	9.99	7.99	9.99	7.99	9.99
Fun School2 (Over 8)	7.99	9.99	7.99	9.99	7.99	9.99
Fun School 2 (Under 6)	7.99	9.99	7.99	9.99	7.99	9.99
Game,Set & Match 2	8.99		8.99		8.99	
Garfield Winter	6.00		6.50	9.99	6.50	9.99
Ghostbusters 2	6.99		6.99	9.99	6.99	9.99
Ghouls and Ghosts	7.50		7.50	10.99	7.50	
* Golden Shoe	6.99	9.99	6.99	9.99	6.99	9.99
Grand Prix Circuit			7.45	10.99		
Gunship	6.99	9.99	9.99	13.99	9.99	13.99
Hard Drivin	6.99	9.99	6.99	9.99	6.99	9.99
Hillstar				13.99		
Indy Jones Crusade	6.99		8.90	10.99	7.50	10.99
Ikari Warriors	2.99		2.99		2.99	
*Klax	6.99	9.99	6.99	9.99	6.99	9.99
Kick Off	6.99		6.99	9.99		
Laser Squad	6.99	9.99	6.99	9.99	6.99	9.99
License to Kill	6.99	9.99	6.99	9.99	6.99	9.99
Mega Mix	8.99		8.99	12.99	8.99	
Micro Soccer	6.99	9.99	9.99	13.99	9.99	13.99
Mini Office 2			10.99	13.99	9.99	13.99
Mr Heli	6.99		6.99		6.99	
Myth	7.99		7.99		7.99	
New Zealand Story	6.50	9.99	6.99	9.99	6.99	9.99
Ninja Warriors	6.99	9.99	6.99	9.99	6.99	9.99
100% Dynamite	9.99		9.99	12.99	9.99	
Operation Thunderbolt	6.99	9.99	6.99	9.99	6.99	9.99
Operation Wolf	6.50	9.99	6.99	9.99	6.99	9.99
Pitstop 2			2.99			
Quaterback	6.99		6.99		6.99	
*Rainbow Islands	6.99	9.99	6.99	9.99	6.99	9.99
Red Heat	5.99		7.50		6.50	
Red Storm Rising			9.99	12.99		
Rick Dangerous	6.99	9.99	6.99	9.99	6.99	9.99
Robocop	5.99	9.99	6.50	9.99	6.50	9.99
Rocket Ranger				12.99		
Run the Gauntlet	5.99		6.50	9.99	6.50	9.99
Shinobi	6.99	9.99	6.99	9.99	6.99	9.99
Shoot em up con Kit			10.99	14.99		
Shoot Out	3.99	6.99	3.99		7.45	10.99
Silent Service	6.99		6.99	9.99	6.99	9.99
Skate or Die	6.99	10.50	7.50	10.99	7.45	10.99
Speedball			7.99	9.99		
Star Wars Trilogy	8.99	10.99	8.99	10.99	8.99	10.99
Strider	6.99		7.50	9.99	7.50	9.99
Stunt Car Racer	6.99	9.99	6.99	9.99		
Super Wonderboy	6.99		6.99	9.99	6.99	9.99
Taito Coin Op	8.50		8.99		8.99	
The Biz	8.99		8.99	12.99	8.99	
The In Crowd	8.99		8.99		8.99	
The National	6.99			6.99		
Tolkien Trilogy	8.99		8.99	13.99	8.99	13.99
Toobin	6.99	9.99	6.99	9.99	6.99	9.99
Tracksuit Manager	6.50		6.99		6.99	
Turbo Outrun	7.50		7.50	10.99	7.50	
Tusker	7.99		7.99		7.99	
Ultimate Golf			9.99	14.99		
Untouchables	6.50	9.99	6.99	9.99	6.99	9.99
Vendetta			7.99	10.99		

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GAME	ST	AMIGA	PC
3D Pool	11.99	11.99	—
8.88 Attack Bub	—	—	19.95
A-Max	—	194.95	—
A-Max with ROM	—	249.95	—
Abrahams Battle Tank	—	—	19.95
Airbourne Ranger	14.99	14.99	—
APB	12.99	12.99	—
Altered Beast	13.99	16.99	—
Alien Strike	—	3.99	—
*Amos	—	34.99	—
Austerlitz	16.99	16.99	16.99
Balance of Power 1990	16.99	16.99	15.00
Bar Games	—	—	18.99
Bards Tale 2	—	17.99	19.95
Batman Caped Crusader	11.99	16.99	—
Battlechess	15.99	15.99	17.95
Battlehawks 1942	16.99	16.99	17.00
Bermuda Project	7.99	7.99	—
Blackjack Academy	—	7.99	—
Blasteroids	9.99	9.99	—
Blood Money	16.99	16.99	
Bloodwych	16.99	16.99	—
Ballyhoo	7.99	—	—
Barbarian (pal)	7.99	7.99	—
Batman the Movie	13.99	16.99	—
* Battle of Britain	16.99	16.99	—
Battle Squadren	—	16.99	—
Beach Volley	13.99	16.99	—
Bionic Commando	7.99	7.99	—
Bloodwych Data	9.99	9.99	—
*Bomber	21.99	21.99	26.99
*Calbal	13.99	16.99	—
Carrier Command	14.99	14.99	26.99
Chuck Yeager AFT	—	—	19.95
Colossus Chess X	9.99	9.99	—
Crazy Cars 2	11.99	14.99	14.99
Chase HQ	13.99	16.99	—
Captain Blood	4.99	4.99	—
Craps Academy	—	7.99	—
Chaos Strikes Back	16.99	—	—
City Defence	—	3.99	—
Continental Circus	13.99	13.99	—
Cyberball	13.99	13.99	—
Day of the Viper	15.99	15.99	—
Degas Elite	17.99	—	—
Deluxe Music Con Set	—	49.99	—
Deluxe Paint 3 (1 meg)	—	49.99	69.99
Deluxe Photolab	—	49.99	—
Deluxe Paint 2	—	49.99	—
Deluxe Production	—	49.99	—
Deluxe Video	—	49.99	—
Don't go Alone	—	—	16.99
Dragon Ninja	12.99	15.99	—
Dragonlair (1 meg)	—	29.99	—
Dungeon Master	15.99	15.99	—
Dynamite Dux	13.99	16.9	—
Double Dragon 2	13.99	13.99	—
Drakkhen	—	21.99	—
Dragons of Flame	16.99	16.99	16.99
Elite	14.99	14.99	—
Empire Strikes Back	7.99	7.99	—
Eagles Nest	4.99	4.99	—
F15 Strike Eagle 2	—	—	26.99
F16 Combat Pilot	16.99	16.99	16.95
F19 Stealth Fighter	—	—	26.99
Flacon F16	16.99	19.99	24.99
Falcon Mission Disk 1	13.99	13.99	—
Fantavision	—	29.99	—
Ferrari Formula 1	16.99	16.99	19.95
Fight Sim 2	26.99	26.99	32.95
Flt Disc? or II	13.99	13.99	—
Flt Disc European	13.99	13.99	19.99
Flt Disc Japan	13.99	13.99	19.99
Flt Disc 1 to 7	—	—	11.95
Football Manager2 Exp Kit	8.99	8.99	8.99
Football Director 2	11.99	11.99	11.95
Football Manager 2	11.99	11.99	11.95
Fun School 2 (6-8)	15.99	16.99	16.99
Fun School 2 (over 8)	15.99	15.99	15.99
Fun School 2 (under 6)	15.99	15.99	15.99
Fighting Soccer	13.99	16.99	—
Fusion	7.99	7.99	—
Future Wars	16.99	16.99	—
Foundations Waits	7.99	7.99	—
*Final Battle	—	16.99	—
*F29 Retaliator	16.99	16.99	—
Fast Break	—	—	7.99
Grand Prix Circuit	—	16.99	—
Gunship	14.99	14.99	25.95
Ghostbusters 2	16.99	16.99	—
*Golden Shoe	13.99	16.99	—
Ghouls and Ghosts	13.99	16.99	—
Garfield	9.99	9.99	—
Hellfire Attack	9.99	9.99	—
Hard Drivin	13.99	13.99	16.99
Hounds of Shadow	16.99	16.99	—
Hillstar	16.99	16.99	16.99
Hollywood Hijack	7.99	—	—
Indy Jones Action	13.99	13.99	13.99
Indy Jones Adventure	16.99	16.99	16.99
Insanity Flight	—	7.99	—
Intercepter	—	15.99	—
Iron Lord	16.99	16.99	—
It Came From the Desert (1 meg)	—	19.99	—
Ins Shrink Sphere	7.99	7.99	
*It Came From the Desert Data	—	9.99	—
Indy 500	—	—	16.99
Jump Jet	—	3.99	—
Jack Nicklaus Golf	16.99	16.99	—
Jet	26.99	26.99	25.95
Joe Blade 1 or 2	4.99	4.99	—
John Maddon Football	—	—	16.99
Keef the Thief	—	16.99	—
Kennedy Approach	14.99	14.99	—
Kick Off	11.99	11.99	—
Kick Off Extra Time	7.99	7.99	—
Kind Words 2	—	34.99	—
Kings Quest 4	21.99	21.99	—
*Klax	16.99	16.99	—
Kristal	17.99	17.99	19.95
Kult	14.99	14.99	14.99
Knight Force	16.99	16.99	16.99
Leaderboard Birdie	13.99	13.99	—
Leisure Suit Larry 1 or 2	19.99	19.99	19.99
Leisure Suit Larry 1 or 2 Hints	6.99	6.99	6.99
License to Kill	12.99	12.99	12.99
Life and Death	16.99	16.99	16.99
Lombard RAC Rally	14.95	14.99	16.99
Lords of the Rising Sun	—	10.99	—
*Loom	16.99	16.99	19.99
Light Force	16.99	15.99	—
Laser Squad	12.99	12.99	—
Lost Patrol	13.99	16.99	—
Las Vegas	7.99	—	—
Leather Goddess	—	—	9.99
Microprose Soccer	14.99	14.99	15.99
Mini Office Comms	16.99	—	—
Mini Office Personal	—	—	22.99
Mini Office Spread	16.99	—	—
Moonmist	7.99	—	—
Mr Heli	15.99	15.99	—
M1 Tank Platoon	—	—	26.99
* Mid Winter	15.99	15.99	15.99
Maria Whittaker	7.99	—	7.99
Magnum 4	16.99	16.99	—
Manic Mansion	16.99	16.99	—
New Zealand Story	13.99	16.99	—
Ninja Warriors	13.99	13.99	—
Nord and Bert	—	7.99	9.99
Nigel Mansell	7.99	7.99	—
North and South	16.99	16.99	—
Nitro Boost	4.99	4.99	—
Operation Wolf	11.99	14.99	11.99
Orbitor	9.99	—	—
Outrun	8.99	—	—
Operation Thunderbolt	13.99	16.99	—
Orbitor	7.99	—	—
Omega	21.99	21.99	—
Papaerboy	12.99	12.99	—
Pirate	15.99	—	—
Police Quest 1 Or 2	16.99	16.99	16.99
Police Quest 1 or 2 Hints	6.99	6.99	6.99
*Pools of Radience	16.99	16.99	16.99
Populous	16.99	16.99	16.99
Populous Promised Land	7.99	7.99	—
Powerdrome	16.99	16.99	—
Precious Metal	16.99	16.99	—
PT 109	—	—	14.99
Powerdrift	16.99	16.99	—
Pro Tennis Tour	16.99	16.99	—
*Player Manager	12.99	12.99	—
Perry Mason	7.99	—	—
Pacland	9.99	9.99	—
P47	15.99	15.99	—
R-Type	13.99	16.99	—
*Rainbow Island	15.99	16.99	—
Red Storm Rising	—	—	25.99
Rick Dangerous	15.99	15.99	15.99
Robocop	12.99	15.99	12.99
Rocket Ranger	16.99	19.99	19.99
Run the Gauntlet	11.99	15.99	—
RVF Honda	14.99	14.99	—
Return of the Jedi	7.99	7.99	—
Rack em	—	—	7.99
Romantic Encounters	—	7.99	—
Sentinel Worlds	—	—	17.99
Shoot em up Con Kit	19.99	19.99	—
Sidewinder 1 or 2	4.99	4.99	—
Silent Service	14.99	14.99	14.99
Silkworm	12.99	12.99	—
Space Harrier 2	13.99	16.99	—
Space Quest 1 or 2	—	—	16.99
Space Quest 3	19.99	26.99	26.99
Space Quest 3 Hints	6.99	6.99	6.99
Starglider 2	14.99	14.99	25.99
Steve Davis Snooker	9.99	9.99	—
Stos	14.99	—	—
Stos Compiler	13.99	—	—
Stos Meastro	16.99	—	—
Stos Sprites 600	11.99	—	—
Strip Poker 2 +	9.99	9.99	—
Stuntcar Racer	16.99	16.99	—
Swords of Twilight	—	16.99	—
Star Wars Trilogy	16.99	16.99	—
Shinobi	12.99	12.99	—
Shadow of the Beast	—	26.99	—
Super Wonderboy	13.99	16.99	—
Strider	13.99	16.99	—
Star Wars	7.99	7.99	—
Serve and Volley	—	—	7.99
SDI (Activision)	7.99	—	—
Sea Stalker	—	7.99	—
Shadowgate	9.99	9.99	—
Skychase	7.99	7.99	—
Soldier of light	7.99	7.99	—
Speedball	10.99	10.99	19.99
Spy v Spy 1 or 3	6.99	16.99	—
Sundog	7.99	—	—
Seconds Out	—	7.99	—
TD2 Supercars	—	6.99	9.99
TD2 California Cheif	—	6.99	8.99
TD2 Muscle Cars	—	6.99	8.99
Testdrive 2 The Dual	—	14.99	14.99
The Cyclops	—	—	16.99
The Third Courier	—	—	16.99
TV Sports Football	16.99	17.99	19.99
Toobin	13.99	13.99	—
Turbo Outrun	13.99	16.99	—
TKO	—	—	7.99
Tetris	7.99	7.99	—
Trivia Trove	3.99	3.99	—
*TV Sports Basketball	—	19.99	—
*Ultimate Golf	16.99	16.99	16.99
UMS Scenario 1	6.99	6.99	9.99
UMS Scenario 2	8.99	8.99	8.99
*UMS 2	16.99	15.99	15.99
Univ Military Sim	14.99	14.99	14.99
Untouchables	13.99	16.99	—
Verminater	14.99	14.99	14.99
Virus Killer	—	6.99	—
Vette	—	—	19.99
Vixen	7.99	7.99	—
W Graizky Hockey	—	14.99	—
War in Middle Earth	14.99	14.99	—
Waterloo	14.99	14.99	14.99
Weird Dreams	14.99	14.99	14.99
Wishbringer	7.99	—	—
Xenon 2 Megablast	16.99	16.99	16.99
Xenophobe	15.99	15.99	—
Xybots	12.99	12.99	—
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GREAT APRIL BARGAINS

There are posters galore available around the country in the next month or so, to promote various games. If you think your bedroom walls could do with brightening up, wander down to your local independent retailer, where some, if not all, of the following should be available free of charge, with the game concerned:

All FORMATS:
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FREE MGT BROCHURE

Many retailers are also stocking free brochures to tell you everything you ever wanted to know about this Sam Coupe beast, the new Spectrum compatible machine from MGT. So, if you're interested in the Sam, pick up some literature - again from your friendly local.

MICROBYTE JACKETS

From the end of March, there will be Blue Angel baseball jackets just waiting to be won from selected branches of Microbyte in a competition organised with Accolade. Freebies will be given away with each Blue Angel purchase, and your name goes into the draw for the big prizes - there's one jacket to be won per store (participating stores are Microbyte in Gateshead, Bradford, Birmingham and Wakefield).

AND THERE'S MORE...

Microbyte has also launched a special card scheme for its regular customers. You can 'earn' some exciting free gifts through your Microbyte purchases when you pick up one of the free Collect'n'Select cards.

Every time you buy a product from any branch of Microbyte software shops (see store list below), your card will be stamped in one of the 60 squares on the card. As you fillup the squares, you can choose when to stop and claim your gift - the more squares you've filled, the bigger the prize!

For example, seven stamps gets you a special Microbyte pen. After that there are T-shirts, sweatshirts, sports bags, baseball caps software vouchers, and joysticks to be claimed.

The Collect'n'Select scheme is operating in all Microbyte stores, and you can join in right away. To get the scheme off to a flying start, the store is offering ACE readers an exclusive headstart. See the voucher below for details.

POT OF GOLD

Ocean is bringing out Rainbow Islands at long last, after the game never made it out of Telecomsoft when the British Telecom division was sold off to Microprose. The Computer Shop chain is offering you a once-in-a-lifetime opportunity to get your hands on your very own special edition Rainbow Islands pen - with every purchase of the game. Whew!

You can find Computer Shop outlets in the Arndale Centre, Manchester; Newcastle, Leeds, Preston, Sunderland, Stockton and Nottingham. Also part of the Computer Shop chain are the two Games Store outlets in Carlisle and Middlesbrough, which stock role-playing games as well as computer software.

There are Microbyte stores in the Arndale Centre, Manchester; the Broadmarsh Centre, Nottingham; Kirkgate, Wakefield; the Metro Centre, Gateshead; the Greenmarket, Newcastle Upon Tyne; the Kirkgate Centre, Bradford; the Bull Ring Centre, Birmingham; and the County Arcade, Leeds.

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PRIZE CROSSWORD SOLUTION

PRIZE CROSSWORD SOLUTION FOR FEB '90

The winner of the February Crossword is **Paul Sinclair, Wimbledon.**

Fans of the Crossword please note that a new puzzle appears on page 114.

Meanwhile, to keep all you brainboxes happy, the Prize Puzzle appears on page 134.

BONUS PUZZLER

I know that a lot of *ACE* readers enjoy the Crosswords and Puzzles in the Pink Pages (quite naturally of course, as you are all a lot smarter than the readership of most other Computer Entertainment magazines). So as we have got a bit of space left over on this page, here is a bit of a quizzer for you to ponder over. The answer will be printed in the Pinks next month.

THE PUZZLE

A short while ago our illustrious editor came into the office in aremarkably good mood (possibly because he had just spent in fortnight in the states researching this special US issue).

Because he was in such a good mood he decided that he would allow one of the editorial team to be unchained from his Mac for the day in order that the lucky individual could go and remind himself what the sun looked like.

To select the person he picked up five 3 and half inch discs (three blue ones and two white ones) and pinned one of them on the back of each of the other three members of the team (leaving two discs spare). None of us were allowed to speak to each other (or look in a mirror), but we could look at each other's backs.

Whoever correctly announced the colour of his disc first would be allowed to go free for the day.

I ought to mention that we were only allowed one guess, and if we got it wrong we'd be consigned to Gary William's desk for the rest of the month. (How horrible!)

Eventually Rik (the management) Haynes piped up and went free. How did he logically work out the colour of the disk on his back.

●

That should keep you thinking till next month. See you then.

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MARCH

WEEK ONE

11 SUNDAY

12 MONDAY

13 TUESDAY

14 WEDNESDAY
Birthday of Michael Caine, 1933

15 THURSDAY

16 FRIDAY
Anniversary of the first English FA Cup final between Wanderers (1) and the Royal Engineers (0).

17 SATURDAY
St Patrick's Day. St Patrick was born on the west coast of Britain and abducted by slave traders at the age of 16. He became a slave in Ireland. After six years, he escaped, but returned to Ireland to preach after being summoned in a dream.

WEEK'S RELEASES AT A GLANCE

Image Works • Gravity (ST, Amiga)
Empire • Pipemania (ST, Amiga, PC, Spectrum, C64, CPC, BBC/Electron, MSX, C16, Archimedes, Macintosh) Puzzle game very loosely based on sliding blocks with Lucasfilm backing.
Titus • Dark Century (ST, Amiga, CPC, PC) Arcade game with sophisticated graphics.
Arcana • Rotor (ST, Amiga, Archimedes) Futuristic shoot 'em up with flight sim elements.
Microprose • Pirates (Amiga) Junketing on the high seas: an old(ish) 8-bit game makes it on to the Amiga.
Microprose • Red Storm Rising (Amiga) Taken from Tom Clancy's book, itself a sequel to Red October (which was computerised by Grandslam).
Micro Style • RVF Honda (PC) Conversion of popular motorbike racing sim.
Rainbird • First Contact (Amiga)

WEEK TWO

18 SUNDAY
Birthday of Alex Higgins, 1949.

19 MONDAY

20 TUESDAY
First day of Spring.

21 WEDNESDAY
Feast Day of St Nicholas von Flue, a Swiss farmer born in 1417. Married and father of ten children, he vowe to become a hermitafter 20 years of family life. As a recluse, he became much in demand as an advisor to politicians and ecclesiastical figures, and his reputation reached its peak when his counsel averted a Swiss Civil War.

22 THURSDAY
Birthday of William "Captain Kirk" Shatner, 1931.

23 FRIDAY
Pakistan Day - celebrated in Pakistan, funnily enough.

24 SATURDAY
How about a quick flutter on the horses at the Lincoln Handicap?

WEEK'S RELEASES AT A GLANCE

Electronic Arts • Imperium (ST, Amiga) Strategy game of global expansion and intergalactic politics.
EA • Starflight (ST, C64 disk only) Strategy cum arcade game set in outer space.
EA • Budokan (Amiga) Martial arts game with heavy emphasis on learning authentic moves and techniques.

WEEK THREE

25 SUNDAY
Mother's Day
British Summer Time begins - clocks forward one hour.
Independence Day, Greece.

26 MONDAY
Independence Day, Bangladesh.
Birthday of Leonard "Mr Spock" Nimoy, 1931.

27 TUESDAY

28 WEDNESDAY
Beginning of Ramadan - Mosle month of fasting during daylight hours.
Birthday of Neil Kinnock, Leader of the Labour party, 1942.

29 THURSDAY
Anniversary of the first London Marathon, 1981.

30 FRIDAY

31 SATURDAY

WEEK'S RELEASES AT A GLANCE

Digital Integration • Advanced Tactical Fighter (ATF) PC/ST Another old 8-bit game is converted to 16-bit formats - can DI repeat the critical success of F16 Combat Pilot?
Activision • Sonic Boom (all formats)
Activision • Warhead (ST, Amiga) Space combat game with 40 linked missions.
Ocean • The Official Liverpool FC Soccer game (all formats) After a right old licensing muddle, this management and playing soccer game features the team of the last decade and quite possibly this one as well.

WEEK FOUR

APRIL

1 SUNDAY
April Fool's Day
Last day of the Ideal Home Exhibition

2 MONDAY

3 TUESDAY

4 WEDNESDAY
Liberation Day, Hungary.

5 THURSDAY
Brush up on your Leaderboard skills - the US Masters begins at Augusta, Georgia.

6 FRIDAY

7 SATURDAY
Armchair racegoers will have their eyes peeled on the 3.20 steeplechase at Aintree - better known as the Grand National. The FA Cup reaches the semi-final stage today.

WEEK'S RELEASES AT A GLANCE

Image Works • Dungeon Master (PC) Role-playing exploration game par excellence.
Cinemaware • TV Sports Football (C64 disk only) Yet more footie.
Domark • Castle Master (all formats) Incentive's latest arcade-adventure based on its Freescape programming system, part of a Domark-Incentive publishing deal.
Domark • Hard Drivin' (C64) Better late than never - the C64 version of the Christmas hit finally sees the light of day.
Electronic Arts • Ski Or Die (PC) Skate Or Die on ice.
EA • Low Blow (PC) Boxing game in which the object is to knock out your foe by fair means or foul.
EA • Inferno (PC)
EA • Ferrari Formula One (C64) Another racing game making a belated appearance on this format.

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PINK PUZZLE

APRIL '90 PRIZE PUZZLE

Set by Archie Medes

Down at the 'Dog and Puddle' the usual Saturday afternoon darts match was in progress. At one point in the game a rather unusual score was noted.

Three darts had been thrown and each had scored a 'single'. What was unusual was that if the three darts had landed in the next sector clockwise from where they actually were, the score would have been the same. Even more remarkably, the same total would also have resulted had they all landed one sector of the board **anticlockwise**.

For example, if a 20, a 5 and a 6 had been score (totalling 31) the next sectors of the board clockwise are 1, 20, and 10 respectively. These also total 31. However, in this case the anticlockwise scores of 5, 12 and 13 only come to 30 – so this obviously was not the position of the darts in the 'Dog and Puddle'.

Can you determine what the score was for each of the three darts? (Remember, there were no doubles or trebles, neither was any 'bull' scored!)

In case you don't have one to hand, a picture of a dart board has been provided for your convenience (aren't we nice?).

SOLUTION TO JAN '90 PRIZE PUZZLE

The winner was **Mr. Saleem Siddiqui, Chiswick, London.**

Answer: In the crossnumber puzzle **A=462** and **B=323**.

Solution: The problem involves finding values for A and B such that the grid can be filled in accordance with the clues given. For example, the second digit of the product A times B must be the same as the fifth digit of the value of A squared. Only if this is the case can the two values fit into the grid and interlock correctly. As both A squared and B squared have six-digit totals, the values of A and B must lie in the range 317 to 999.

These are the boundary values defined in the two FOR/NEXT loops in the program (lines 100 to 130). From these two values the remaining three values in the grid are computed (lines 110, 140, and 180). In each case the numeric variables so calculated are converted to their string equivalents. Note that some computers introduce an extra space at the beginning of the string formed when using the STR$ command. For example, the line X=1234:X$=STR$(X):PRINT LEN(X$) would give the result of 5 and not the expected 4. This is because the string is actually represented as "/1234" (here the space is indicated by the /). To get rid of this simply use thwe command X$=MID$(X$,2). So if your computer produces a length of 5 in the above example you will need to use this technique to bring the first digit of the answer into first position of the string. failure to do so may result in strange answers appearing!

After each string is created the positions of matching digits are checked. The failure of any match will result in that pair of values being ditched. only if all tests are passed is the result printed out at line 210.

```
100   FOR A=317 TO 999:A$=STR$(A)
110   A$=A*A:A$$=STR$(A$)
120   IF MID$(A$$,2,1)<>"1" THEN GOTO 230
130   FOR B=317 TO 999:B$=STR$(B)
140   B$=B*B:B$$=STR$(B$)
150   IF MID$(B$$,3,1)<>MID$(A$,1,1) THEN
      GOTO 220
160   IF MID$(A$$,3,1)<>MID$(B$,3,1) THEN
      GOTO 220
170   IF MID$(B$,2,1)<>"0" THEN GOTO 220
180   M=A*B:M$=STR$(M)
190   IF MID$(M$,2,1)<>MID$(A$$,5,1) THEN
      GOTO 220
200   IF MID$(M$,5,1)<>MID$(B$$,5,1) THEN
      GOTO 220
210   PRINT A;" ";B;" ";A$;" ";B$;" ";M
220   NEXT B
230   NEXT A
```

APRIL '90 PRIZE PUZZLE

NAME: .....

ADDRESS: .....

.....

.....

TELEPHONE: .....

ANSWER

DART ONE SCORED: .....

DART TWO SCORED: .....

DART THREE SCORED: .....

LISTING ENCLOSED (optional): ❑

Send your completed entry to:

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AMIGA CONTACTS wanted to swap latest stuff. Write to Skyfire, 27 New Penkridge Rd, Cannock, Staffs. WS11 1HW.

ASIAN LASS, otherwise very lonely, seek Amiga, ST penpals for swap, chit chat and friendship. Worldwide. SAE for reply appreciated. MS SH Haridas, 33 Rutland Rd, Chesterfield, Derbyshire.

WANT a cool Australian contact? If you're fast and cool contact Judas! c/o 22 Golden Court, Shepparton 3630, Victoria, Australia. (Amiga)

AMIGA contacts waanted wrote to Will 24 Gosplegate, Louth, Lincs.

ST contacts wanted 100% reply. Send lists/disks to Danny Russel, 7 South Close. Burgess Hill, West Sussex. RH15 9PZ.

AMIGA CONTACTS: Garfield, 5 Straand Rd, Clonakility, Co Cork, Ireland. Acid demos (esp) and games also.

AMIGA CONTACTS wanted, send disks and lists to Paul Richards, 63 Manor Rd, Desford, Leicester. LE9 9JQ. 100% reply guaranteed.

AMIGA CONTACTS wanted 100% reply all users welcome. Write now to Adam Shaw, 273 Rush Green Rd, Romford, Essex.

HELPLINE

URGENTLY needed, someone with spare who is over 18 and would like to write a 6 page magazine for free (a computer magazine). It is a free magazine so quite a bit of work must go into it. If you are interested send SSAE with some small pieces of your work to William, 13 West Parade, Norwich. NR2 3DN.

Software exchange service for Amiga/ST/C64/Spectrum/PC/Amstrad CPC/Sega/Nintendo. 50p registration fee, £2 for swap. Send form to: CRB, 22 Roman Rd, Bearsden, Glasgow G61 2SL.

FREE Amstrad CPC464 or 664 computer games for you. Send a £1 coin for a upto date list. In the list are Robo cop: Zynaps, Zub, Batman the movie, Xcel, Blastroids, Jet set Willy 2, Silkworm, Purple Saturn Day, Space Harrier, Jail Break, Red Heat, Stormlord, and loads more over 100. Please only write to Free games of 1990, C Wilson, 64 Fishponds Rd, Kenilworth, Warks, CV8 1EZ, England, Earth, 1990.

HELP I seriously need to sell my C64 (slimline) I have over 100 games, a joystick an a mouse (needs repairing). For £200ono. I also have a radio controlled car up for sale £70. Phone Hornoaurca 49011 ask for Jamie.

SECOND Hand software service for the Atari ST. Even though these games are second hand they retain the standard of new games. For a membership form and full free list of all the games on offer send a SSAE to: William Pacgravemoore, 13 West Parade, Norwich. NR2 3 DN. It will be worth it!!

BLOODWYCH help urgently req'd contact Phil on Bristol 698914 or 109 Pretoria Rd, Patchway, Bristol. BS12 5PY.

PROGRAMMERS! Amiga sprites, music , bitmaps, Blitter, copper ect, Explained in a new book: "Amiga Games Programmers Guide". All you need to know about the Amigas custom Hardware to write that Mega game! All budding and existing games writers must get a copy! Send SAE to: C.J Ditchburn, 12 Eden Court, The Scores, St Andrews, Fife, Scotland KY16 9BD.

HELP wanted does anyone know how to get the missions in Elite (C64) version, once Elite rank is reached. Also has anyone got any pokes or listings for Boulderdash 4. Any help would be appreciiated. Contact: Peter, 42 Brightfield Rd, Lee Green, London. SE12 8QF

HELP needed with Myth and The Last Ninja on the C64. On Myth how do you get past the one headed Green Dragon in Ancient Norse (level 4) and so on? And how do you get past the two fire breathing dragons at the end of level 2 on The Last Ninja? Any assistance gratfully accepted. Paul Nichloas, 206 Neath Rd, Briton, Ferry Neath, West Glamorgan, S Wales.

IBM owner wants help with Hitchikers guide to the Galaxy. I can help with Defenders of the crown plus others. Write to David Butler, PO Box 35771 Menlo Park. 0102. S.AFRICA.

WANTED

ST POWER transformer urgently required or old ST with working power. Contact Phil on 0272 698914. Or wrote to 109 Pretoria Rd, Patchway, Bristol. BS12 5PY.

WANTED Pokes, tips. maps, and cheats for Amiga. Write to Gareth Keyes, 4 Glanmor Cres, Newport, Gwent. NP9 8AX, UK or Tel: 0633 280958

NOTICE!!
DO YOU HAVE ANYTHING TO SELL? NEED HELP ON ANY GAMES? YES? THEN JUST GO TO PAGE 121, FILL IN THE ENTRY FORM AND SEND IT TO US- NO PROBLEM!

PINK RESULTS

YES! Its back again, the bastion of the (soon to be) rich (slightly) and famous (vaguely). Yep, it's the spot where we announce those lucky souls whose postcards, letters, etc have managed to crawl out of the confines of the editor's hat (and who can blame them?), and lustily declare themselves as winners of Ye Olde Pinke Page Compos. So without more ado, read on, and see if you're one of 'em.

NO NONSENSE NINTENDO

Back in the Jan issue we ran a little compo in conjunction with Nintendo. The prizes up for grabs were a Deluxe NES set (oooh!) and a Nintendo Game Boy complete with the absolutely fabby *Tetris* (aaah!).

Winner of the NES set is **Miss K. Stirzaker, Wokingham, Berkshire.**

Winner of the Gameboy, with *Tetris* (yeah!) is **Gareth O' Hara, Lisburn, Co. Antrim, Northern Ireland.**

Congratulations to both of you. Get the kettle on next weekend, 'cose the *ACE* team will be round for a few quick games.

LOGOTRON LOVELIES

Remember last decade? Good, 'cos that's when we ran our Pink Compo with Logotron in which five copies of *Bad Company* and *Starblaze* were up for grabs. The lucky winners are:

Tony Skinner, Newbury, Berks.; Philip Anthony Bram, Gedling, Nottingham; Steve Wood, Penn, Wolverhampton; Nathan Hill, Woking, Surrey; David Exton, Stafford, Staffordshire.

VIRGIN ON THE RIDICULOUS!

Thanks for your good response to our crazy caption compo in the Jan issue. You will remember that we asked you to supply a suitable caption for a piccy of Richard Branson promoting the Sega Light Gun.

The winner (who wins on the basis of his tip more than his caption is **Alan Johnson, Fleetwood, Lancs.**

CAPTION:
Who said this is a light gun? It's really quite heavy!

TIP: Don't go on any balloon trips with this man. Hmmm! Says it all really...

PICTURE THIS!

Back in Feb we had a competition in conjuction with Domark in which there wer five copies of the *Pictionary* board game up for grabs.

To win these wonderful prizes all you had to do was identify three piccies produced by the worst artsist we could find in the building (namely our very own reviews editor!). Unfortunately nearly everybody managed to identify what he meant by his childish doodles, so we have to give away the games rather than keeping them ourselves to play next Christmas. Oh well, C'est La Vie! These are the lucky people who have deprived the *ACE* team of their fun: **Mark Daniel Wake, Southend-on-Sea, Essex; Arthur Owen, Caernarvon, Gwynedd; Sean Glover, Throney, Cambs., Steven Gallagher, Canterbury, Kent; Richard Moore, Leeds.**

O.K. That's all folks! There will of course be more Pink Results next month. Meanwhile, this month's winners can sit back and wait for their prizes!

HOW TO PLACE YOUR ENTRY

All you have to do is send off the form below, together with your payment; Entries to the Pink Pages cost just £4.00 each. (Except for helpline which is free).

- The maximum is 20 words except for Helpline. (Helpline entries can be extended to 100 words max – use another sheet of paper if necessary).
- The service is NOT open to trade advertisers.
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The BLITTER END

◄ **Ye gods! Is this the future of mankind after the great console takeover? We couldn't believe our eyes when this little baby showed up in the office, featuring the 'New Ecto Popper' and 'Ecto Goggles' from the Real Ghostbuster range. With kids like this on the block, who needs ghostbusters?**

CD REVOLUTION

Gor blimey! Can this be true? Are we about to get the games of the future right now? Could it just possibly be that hardware manufacturers are about to blast our woolly socks off with a whole string of exciting new games machines?

The almost unbelievable answer is yes. Last month you would have been forgiven for thinking that here in the UK we were settling down to a couple of years of ST/Amiga dominated gaming. No real CD-ROM development for at least two years, no CD-I, no FM Towns (unless you win one in this month's competition), in fact nothing very exciting on the horizon at all.

How wrong you would have been. In the space of three weeks, there have been three separate developments that together will revolutionise the games scene here in Britain within the next twelve months.

Development number one. NEC are seriously contemplating importing the PC Engine officially into Europe. And why is this so important, dear reader? Aren't we sick to death of the PC wotsit?

Aha, but of the world's entire installed base of CD-ROM drives, *over half* are attached to PC Engines. And lots of people are developing CD-ROM software for the NEC machine. The PC Engine could be the first major CDR-compatible unit in the UK with a decent games software base – and that's the first step towards CD-I, since it gives software companies the CD production experience they'll need for the interactive optical disk games.

Development number two. Commodore are producing a CD-ROM games console. No, it is not (apparently) a CD-ROM with an Amiga attached (or vice-versa) but a stand-alone keyboardless unit, codenamed 'Baby', retailing for under £500, and styled more like a hi-fi unit than a computer.

If this is Commodore's answer to the Japanese (see last month's column) then Blitter takes back everything he said about C64 based consoles last month. In fact, Blitter dashes out and buys Commodore shares. Blitter joins a Christmas Club and starts saving up. Because make no mistake, a standalone CDR unit at that price from a major company with a strong involvement in the games market could, if the hardware spec is OK (if...), prove to be the most exciting item on the market this year.

And finally, Amstrad are planning their own console. Long rumoured, not yet officially announced, it joins a couple of upgraded CPC models capable of taking cartridge software to be released this autumn – or so we hear on the grapevine. Whatever the specs, it'll be cheap, widely available, and probably well supported by UK software houses. The only questionmark hangs (as in the case of Commodore's 'Baby') over the hardware spec. There's a lot of powerful competition looming up in the console market.

One thing's for certain. With at least one, and possibly two CD-ROM compatible systems about to hit these shores, ACE readers are guaranteed some exciting software developments during the next year.

•

Meanwhile, in another significant development for the UK CD-ROM games scene, Mirrorsoft has just taken over the marketing and development of leisure (e.g. Guinness Book of Records) and games CD titles from sister company Pergamon Compact Solutions (now disbanded).

One of the machines Mirrorsoft will be looking very closely at will doubtless be the Commodore unit. According to company boss Peter Bilotta, '...CD based games will be big news within the next two to three years.' He also reckons that Commodore's machine could do '...very well indeed in the European market'. Don't miss next month's special ACE free CD guide...

Blit-Blit!

GREAT FREE GIFT!

We've got a great freebie for you next month that will put you right at the forefront of the CD games revolution. After giving you an exclusive chance to win an FM Towns machine this month, next month we're giving away a special ACE cover-mounted guide to the world of compact disk games technology. You'll be able find out which games are currently on CD, the specs of the machines they run on, how CD games work, and what both British and American software houses are planning for this new medium in the near future.

We're also hoping to bring you our interviews with Cyan, which we had to leave out of this chock-full issue, and AIM – American Interactive Media, plus an in-depth investigation of 'cuteness'. Don't miss it, sweetie pie.

Ooops!

Pepe Merino's system, as detailed last month, boasts 256 colours per *panel*, NOT per page! Sorry, Pepe – it's even more impressive than we thought.

THE MIGHTY LEGEND

Ivanhoe

Enter a mediaeval era in a mystical world where Ivanhoe, our chivalrous hero, pursues a perilous quest ... a quest from which most mortals would run ... an adventure which most men would fear! Strap on your armour, take up your sword and brace yourself to face the magical powers of the most evil of wizards, the plunderous pirates, the most awesome of dragons and a host of hideous 'beings' in this land of legends.

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