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ISSUE 15 • DECEMBER 1988 • £1.50

ACE

ADVANCED • COMPUTER • ENTERTAINMENT



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SOFTWARE
DOGS



OPERATION WOLF

FIRST FULL REVIEW - SEE PAGE 42

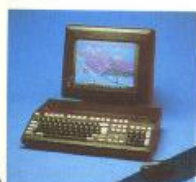
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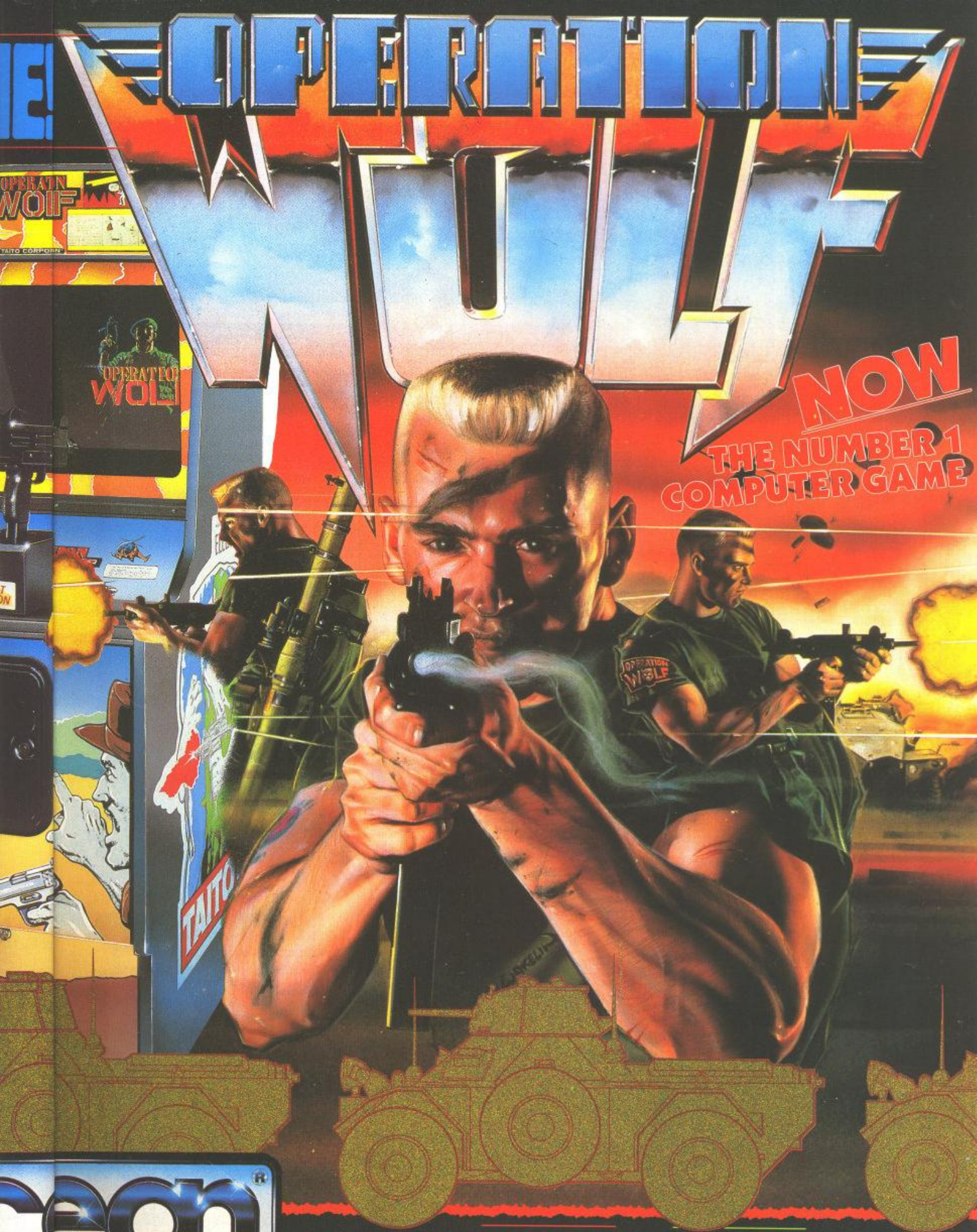


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TAITO
COIN-OP

SPECIALS

26 The PC alternative

Do you really want to get an ST or an Amiga (assuming you don't have one already)? Could it be that the machine for you is actually...gasp...a PC? ACE takes a close look at the IBM hardware spec and asks whether this could be the games standard of the 1990s.



32 Playing games with IBM

If you bought Amstrad's PC200, what would you have to play with? Having checked out the hardware, we take a close, critical look at PC-games.

36 It's a rip-off!

...or is it? Clone software is threatening the future of licensed games. Whatever their legal status, angry protests have recently forced the withdrawal of *Katakis* and *The Great Giana Sisters*. Who's next?

119 The ACE Fido awards

We've seen some turkeys in our time, but these games really take the biscuit. ACE institutes the Fido awards for those rare titles that aspire to unique standards of awfulness. Keep your sick bag handy...



94 Get smart

Andy Wilton calls out for a new kind of game – one that **bites back** (and **doesn't** go woof!).

84 Radiant Role-play?

Pools of Radiance attempts to encapsulate the AD&D experience in an a computer game. Does it succeed?



ACE

114 Play your ace!

We've got some goodies to give away to those who've got the guts to tell us what they really think about ACE, life, the universe, and games software. If you want a real say on what goes in the mag, this is your chance.

INTERFACE

7 News

The biggest secret at the PC Show was a new machine that could change our ideas about consoles. Get your ear to the ground...

18 Previews

A glimpse of *Thunderblade* on Spectrum and ST, plus other goodies snatched from the drawing board.



The ultimate fighting machine? *Thunderblade* flies in from the arcade, and is due to land soon...

107 Letters

The burning issues of today, discussed by the people who matter – you.

170 The Bliffer End

After 170 pages, you need a rest. This isn't it...

SIGHT...

Brian Larkman checks out the new picture-making products at the PC Show, visits the people behind *Knightmare*, and assesses the PC's capabilities as a graphics terminal.

.....AND SOUND

109 Jean Michel Jarre and chips

Just what sort of hardware do you need to produce *Equinoxe* and a string of other hits? Mark Jenkins investigates.

GAMEPLAY

41 Screen Test

Operation Wolf stalks this month's pages; R-Type blasts in, *Rocket Ranger* takes off and what should you stake on *Joan of Arc*? We play the games, you get the verdict.



Page 42: *Operation Wolf* – how much bark and how much bite?

90 Arcade ACE

When it comes to 3D realism, *The Last Apostle Puppet Show* is something else...plus *Forgotten Worlds*, *Gangbusters*, and *POW*.



Kung fu puppets pull the strings in *The Last Apostle Puppet Show*.

127 Tricks 'N' Tactics

The complete solution to *Starglider II* and a map of *Barbarian II*, not to mention *Elite* tips for ST owners and host of other tips and pokes.

99 Adventures

Lancelot from Level 9, *Chronoquest* from Psygnosis, tips on *Lords of Time* and other teasers, plus the final instalment of The Pilgrim's Guide to *The Pawn*.

BUY LINES

15 The Ace Card



Win an Amiga! Plus dozens of other free gifts every month in the great ACE giveaway.

11 The ACE Competition

It's not every month you get a chance to win a prize like this... **Like what?** we hear you cry. Look for yourself – we're not here to spoonfeed readers y'know.

116 Special Offers

OK – you're mean, lazy, and fussy. Too mean to pay full price for your games, too lazy to go to the shops, and too fussy to play anything but top-notch games. These pages, with great titles at up to £4 off, were made for you.

115 Subscription

A subscription to ACE puts you at the front of entertainment technology AND gives you the chance to recover your whole subscription charge by ordering US Gold games at half price. Go for it!

ACE PINK PAGES

139 Buyer's Guide

This month's round-up of recommended titles pinpoints the best puzzle and brain games you can buy. It's all part of ACE's monthly service to help you save money by buying only tried, tested, top-quality software.

148 Upgrade Guide

The machines, the facts, and the prices to help you make that crucial upgrade decision presented in at-a-glance form.

151 Random Access

ACE goes ape with N'Gar Thrombobo, the ACE prize crossword, prize puzzle, and other totally mindless diversions that should keep you busy till the next issue.

165 Reader's Pages

Small ads, big business. ACE readers make deals, offer help on adventures, sell hardware, seek penpals, and form user groups. The hustle of the marketplace in the peace of your living room, brought to you by...you.

PLAYING SAFE?

The whole future of computer entertainment could depend on what happens next. Household name Amstrad have taken no risks by launching a cut-price, unexciting PC compatible aimed at the home market. Meanwhile, a little known hardware firm are taking a terrifying risk with a high-power, completely non-standard console. They'll both want support from the UK's software houses over the next six months – but who's going to get it?

There's a lot more riding on this than just the bank accounts of the two firms involved. The micro scene is crawling with new-age machines – technical wonders like the Acorn Archimedes, Atari ABAQ and Flare One – that can't quite seem to break the stranglehold of compatibility. This month ACE sizes up the opposing forces: how does the incredible power of modern custom silicon stack up against the PC's safety in numbers? Is there still money in being original, or do people just want more of the same?

Originality's not just a hardware issue of course. On the software side of things, cloning can mean big business and even bigger trouble. Do you know your *Ramparts* from your *Rampage*? Can you tell the difference between *Road Blasters* and *Overlander*? Check out our expose of copycat games, and find out why the big software houses *don't* think imitation is the sincerest form of flattery.

Oh, and while we're on the subject, take a look at the ACE masthead (that's the box directly below this one). Notice anything different? In the spirit of originality, we've got ourselves a new editor. Graeme Kidd first wrote for us way back in issue 4, but now we've got his awesome experience and encyclopaedic games knowledge on our side full time. Just as well now that Production Editor Rod Lawton has moved over to work on our startlingly innovative sister publication New Computer Express. We're still looking for a new full-time staff writer, by the way, so if you think you cut the crumpet, write to us and tell us why. You should be over 18, know games backwards, and be able to express yourself well using the written word. Go for it!

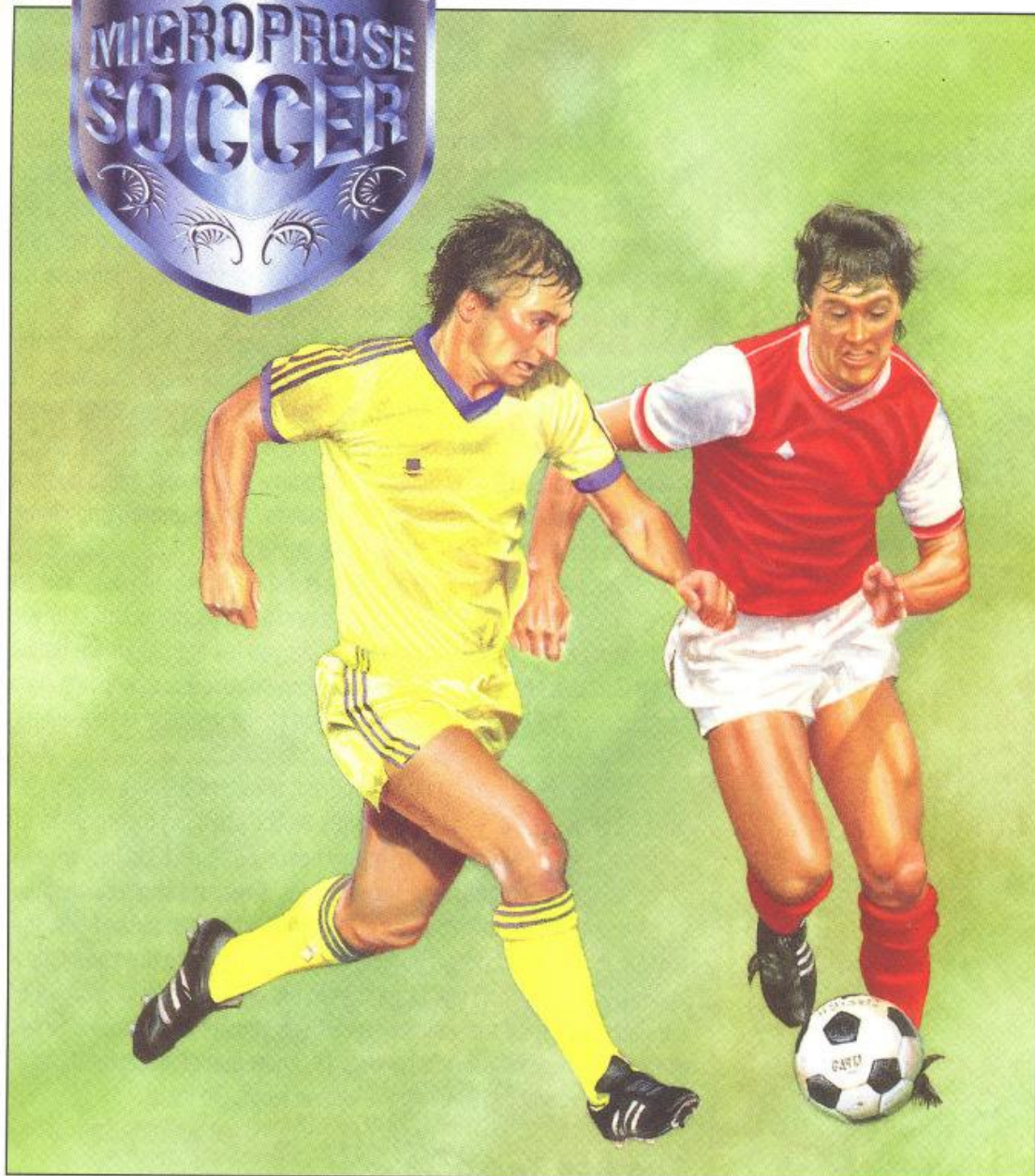
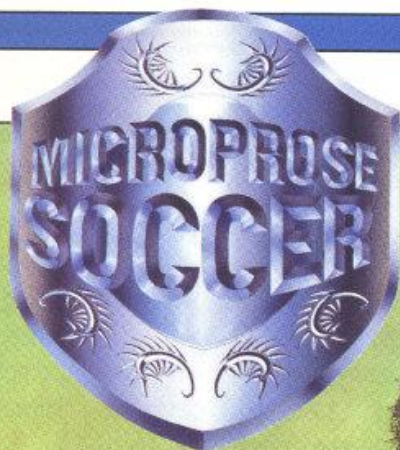
The Ace Team.

Future Publishing Ltd, 4 Queen Street, BATH BA1 1EJ Tel 0225 446034

Fax 0225 446019, Telecom Gold 84:TXT152

Editors Steve Cooke, Graeme Kidd **Reviews Editor** Bob Wade **Features Editor** Andy Wilton
Staff Writer Andy Smith **Consultant Editors** Mark Jenkins (Music and Midi) Brian Larkman
(Graphics) **Art Editor** Trevor Gilham **Additional Design** Angela Neal
Advertisement Manager Jonathan Beales **Advertising Sales Executive** David Lilley
Publisher Kevin Cox

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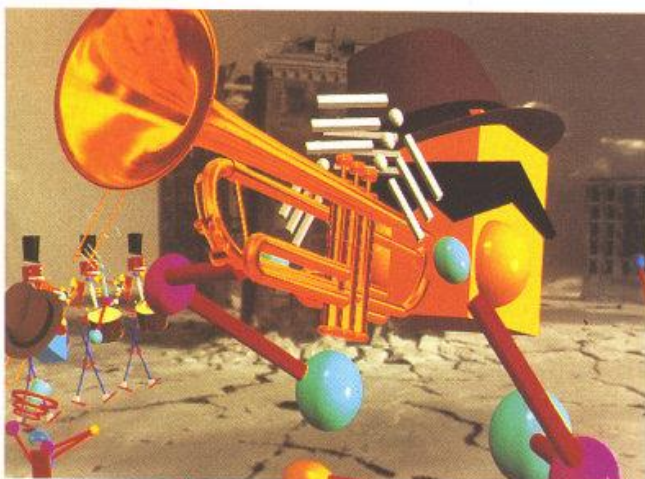
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Overall winner: the **WIRED** title sequence, designed by Matt Forrest and produced by David Botterell of Snapper Films. Computer animation by Digital Pictures Ltd.

GRAPHICS UNLIMITED

■ Matt Nicholson reports from the Computer Animation Film Festival



Computer animation is an expensive business, and the Computer Animation Film Festival – held in Wembley on 11th October – was dominated by the flying logos and flashy advertisements of the companies that can afford it. Here was the Smarties ad and the Crest toothpaste 'Sparkle Singers', but in amongst them was some genuinely inspiring and innovative work.

It soon became obvious that last year's winner 'Luxor' had set a style that appealed to advertisers, so it was the Students section that proved the most

innovative with four entries from the US (this is an international festival) against just one from the UK. From MIT came 'Cootie Gets Scared', Cootie being a little six-legged creature that has been endowed with some of the latest AI techniques, so that the animator can leave the creature to work out what it would do in the next frame. Another entry had been animated by a Cray X-MP, possibly the most powerful computer in the world, and no prizes for guessing it wasn't ours!

It also became obvious that the judges were looking for something a bit different this time round: winner of the Features & Shorts section went to 'Technological Threat' which used computers to generate characterisations straight out of those Chuck Jones shorts drawn 40 years ago. An award could also have gone to Apple Computer here, whose 'Pencil Test' was created solely on its Mac II micro – rather than on the £50,000-plus machines usually employed.

After some rumination, during which an experimental sequence from the Walt Disney labs was given an exclusive showing, it was announced that the title sequence from Channel Four's 'Wired', by Digital Pictures, was judged the overall winner. And so it should be, as it shows what can be achieved in a commercial environment.

SHOW NEWS

The 20th Electron and BBC Micro User Show runs from November 11th to 13th, and if you find the Archimedes an interesting machine, a trip to the New Horticultural Hall, Greycoat Street, London could pay dividends – visit the wittily-named 'Wonderful World of the Archimedes' section and be amazed. Atari owners may prefer a trip to Alexandra Palace for the Atari Show which runs from 25th-27th November in the West Hall, while owners of Commodore machines will find plenty of interest at the Commodore show, running in the Novotel, Hammersmith, between 18th and 20th November. Further details from Database Exhibitions, on 0625 878888.

NAVIGATION AND DENIAL...

Welsh hardware wizards Konix, makers of the mega-selling Speedking joystick, are set to release a pair of products that should make the games-playing world a happier place to inhabit.

Official confirmation is available for the release of the Konix Navigator, a joystick which Konix claim looks and feels even better than the Speedking. "The Speedking is a tough act to follow", commented Sandra Holloway one of Konix's Directors, "and we wanted to be sure that we excelled ourselves with the Navigator" she continued. Designed to fit snugly in either hand, the Navigator contains microswitch-based innards and should be available in your local computer shop as you read this, priced at £14.99.

While happy to wax on enthusiastically about their new joystick, Konix are at pains to deny rumours of a new games console apparently due for launch in the middle of next year. "Console, what console" was about as far as Konix supremo Wyn Holloway was prepared to go when quizzed, but here on ACE we're pretty certain that Nintendo and Sega will find themselves getting a good run for their money in the console market during 1989.

While confirmation for the rumoured console is nigh



An officially acknowledged Konix product - the Navigator, in Artist's Impression form...

impossible to obtain, clearly Konix are preparing to launch a major product of the console variety next year. The 'console that doesn't exist' is set to be a thoroughly amazing piece of hardware packed with custom chips that will give the user more than the computing power of machines such as the Amiga, and will cost about as much as the Spectrum +3.

Expect very, very fast

ACE NEWS

ADVANCED COMPUTER ENTERTAINMENT

graphics and sound like you've only ever previously heard coming out of a dedicated synthesiser. And expect to be playing some amazing games on a Konix-backed console by the middle of next year. Software won't be exclusively cartridge-based, and a variety of interesting peripherals are likely to be released to complement the basic unit. (Much more in the way of controllers than Speedkings or Navigators.)

Despite the fact that the console 'doesn't exist', a number of leading software houses appear to be engaging in intense discussions with Konix. Maybe they're just working on a programmable joystick...? We know otherwise.

ACE ON THE ROAD

Manchester, Home of The Smiths, Granada Television and long-standing software house Ocean. The ACE team jumped in the staff BMW (for BMW read 2CV) and headed up the M6 to see what the Mancunian Big Boys were going to be releasing on an unsuspecting games playing public this Christmas... and early next year.

The official version of the Taito coin-op hit Operation Wolf (reviewed this issue) is the first game due in the shops, and will be swiftly followed by another conversion of a coin-op hit, this time Data East's Bad Dudes Versus Dragon Ninja (which must be



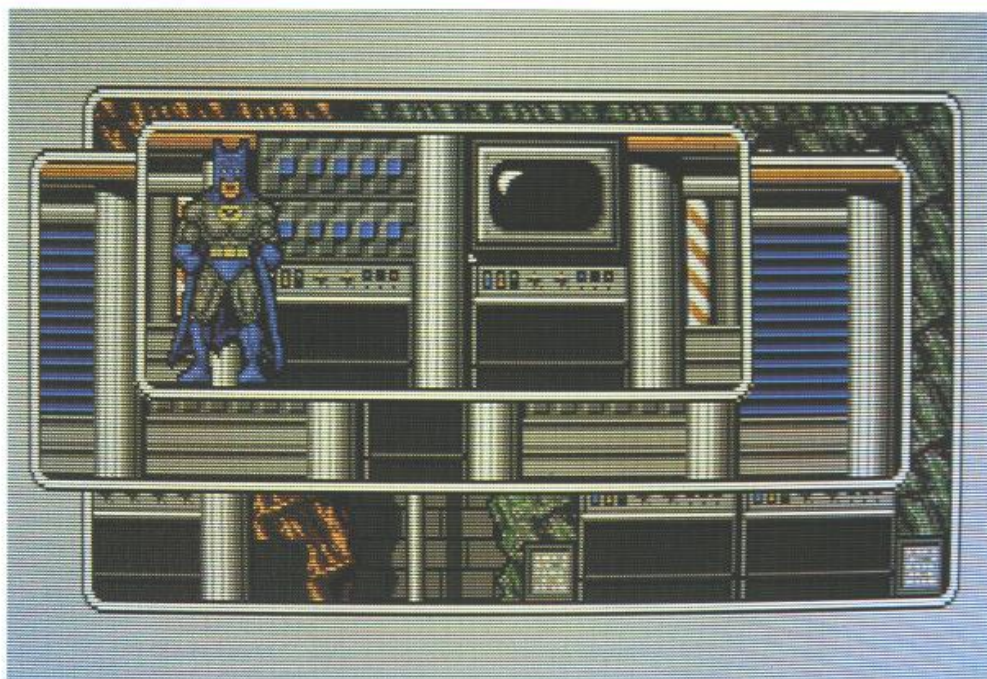
This early shot shows you the kind of graphics you can expect in Dragon Ninja for the Amiga.



Another screen from Dragon Ninja. That's the girl taken care of, but the big guy at the bottom looks tough

in the running for the 'worse game name of the year' award). Because it's such a mouthful it's not surprising Ocean have shortened the name to plain ol' Dragon Ninja. The game is a horizontally-scrolling beat-em-up in which you have to work your way through hordes of baddies (male and female) by punching and kicking them to oblivion. If you're lucky you might be able to pick up a dagger or sword to make your job easier.

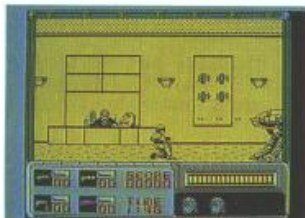
And the Ocean licences don't stop at coin-ops. If you were to learn they were developing a game based on the character Batman, you'd probably think you were reading a magazine that's some two or three years old. But no – not content with producing a superb isometric 3D puzzler written by Jon Ritman, Ocean are currently working on another, new, arcade adventure game based on the Caped Crusader. The game has a strong 'comic book' feel and though the plot(s) haven't been finalised, you'll be controlling Batman and



Batman ready for action. Note the window upon window display that gives the feel of the comic book original.

confronting some of his arch enemies, like The Penguin and The Riddler. Expect plenty of puzzles and objects to collect and manipulate (store them in your Bat Utility Belt!). In keeping with the Batman image, no-one will actually get killed in the game.

Continuing the licence theme, Ocean are also working on the micro versions of two recent cult films, Robocop and Rambo III. Robocop's due on the 8-bit machines just before Christmas with the 16-bit versions following in the New Year. An arcade version of the game is also being developed by coin-op company Data East and although Ocean may be incorporating features of the coin-op, their version of Robocop won't be a straight conversion, but a game that follows the plot of the film closely – including a confrontation with the impressive ED209.



Robocop slugging it out on the Spectrum with the ED209.

Rambo III also follows the film plot and as John Rambo it's down to you to rescue Colonel Trautman who has been captured by the Russians in Afghanistan. Playing with a point-of-view perspective, you see things



Orions Belt on the ST showing the cockpit view of a strange alien structure – should you blow it up or ask it to take you to its leader?

through Rambo's eyes and have to negotiate minefields, lay boobytraps and search a Russian camp, blowing away soldiers and anything else that moves while you do it. Unlike Batman, Sylvester Stallone's image is far from bloodless, so action fans will find plenty to keep them happy.

Ocean's next original product looks set to be a solid 3D strategy/shoot-em-up tentatively called Orion's Belt for development purposes. Mike Crowley and Danny Gallagher, who used to work with Vector Graphics Ltd (Star Wars and Empire Strikes Back) are the men behind Orion. Appearing on the ST and Amiga only, your mission to wipe out aliens will contain at least ten levels – each one set on a different

moon around Saturn. The action is viewed from the cockpit and you'll have over 60 robotic adversaries to contend with, all presented in stunning solid 3D animation. It won't all be all blasting however: expect to contend with puzzles to get extra weapons and equipment for your vehicle, and part of the action will take place in underground mine complexes.

It looks like games players country wide are going to be in for some late nights in front of their monitors over the coming months, courtesy of Ocean. Perhaps The Smiths were thinking of Ocean when they said 'Manchester, so much to answer for'. Tired trigger fingers all round...

MMM! IT'S DANISH...

Danish software development teams have been making a strong pitch for business recently, with the most notable example being *Swords of Sodan*, a horizontally-scrolling hack'n'slash scenario with very large animated figures. Although actually produced in the States, demos of this game were up and running in Denmark long before anyone here saw it. So were versions of *Afterburner*, *Katakis*, and *Amiga Virus*. What's going on?

Anyone visiting Denmark soon wakes up to two facts. First, the Danish are computer-crazy or, more specifically, Amiga crazy. Commodore have really cleaned up in Denmark, first with the C64 and now not only with the Amiga but also with their PC's. It's an odd feeling to walk into a computer store selling 8- and 16-bit computers plus PC clones and see nothing but Commodore hardware, but you can do it in Denmark.

This concentration on a single manufacturer has bred a huge community of enthusiasts, all working on the same machines. The result? A vast network of...gulp...pirates.

And that's the second thing you notice in Denmark – all those games you've heard about but haven't yet been released in the UK are up and running in everybody's bedrooms in pirated versions. There's nothing secret about it – just check out any old classified ad column (like the one shown here, taken from a well-known Danish newspaper) and you'll see dozens of ads for pirated software at absurd prices – often as low as £1, including the disk!

So it was that we saw *Swords of Sodan* demoed, plus the other titles mentioned above – fully playable versions of *Katakis*, *Afterburner*,

Rocket Ranger, and *Virus*. Yeah, but everyone's seen all these games, we hear you cry. Oh yes? On the Amiga?? Sure thing, bud, these were all full-blown Amiga versions at budget Spectrum prices...

FALLING BEHIND

If some of you out there are misguided enough to think that the Danes are onto a good thing, just consider the following. No British software house is ever going to bother setting up in Denmark and producing proper Danish versions of software. In fact no software company with any sense at all is going to even ship its product out there. There are a couple of Danish distributors representing some UK and American software houses, but so far no-one deals direct. With piracy like that, it's hardly surprising. In the long term, the Danes are going to be left with bacon and precious little else.

If you think we're exaggerating, consider this: a good Danish computer magazine sells around 20000 copies. A good game in Denmark sells...wait for it...around 200 copies. No prizes for guessing why...

While ACE sampled the Danish beer and chatted with the hackers, one thing emerged quite clearly. None of them thought they were doing anything wrong – on the contrary, they were quite proud of their efforts – and all of them blamed the Danish Government, who put a 200% import tax on software and other items, making the real thing virtually unaffordable.

Under those circumstances, it's difficult not to be, at the very least, understanding...and it's certainly NOT difficult to guess why these same lads are looking for other countries to publish their games in!

These ads come from a well-known Danish newspaper and show what's available. The prices are in Danish Kroner (about 12 to the £). Pirates even offer subscriptions to customers, so they get a whole series of the latest games – often downloaded over the phone line direct from certain 'dirty databases' in the States.

08 Amiga, Infocom adventures, alle 30 på disk., m. manual disk, kr. 225,-
2 97
55 93 Amiga, Pac. mania, Street 5. Basketb., Star Goose, Turbostracks, Menace Mega T., Cyberoid, Summer OL, Spider Tronic, Netherworld, Nebulus, Bundesliga Man., Rocket R., Zynaps, 25,-/stk. incl. disk.
0 42
1 43 Amiga, Rocket Ranger, Summer OL, Virus, Katakis, Platoon, Major M, Whirligig, Down at the Trolls, Bob Moran, Ring for nyhedsliste. Garanti på spillene. Henv. efter kl. 18:00. Kr. 20,-/stk. incl. disk.
0 51 26
4 61 Amiga: nye spil, progr., kr. 25,- incl. diskette. 06 44 55 55
06 22 02 56
06 43 39 30
07 52 32 47
08 25 68 69
Amiga: Bomb Jack, Minigolf, Zynaps, In-ter, Alien Syndrom, Attack on Lon-don, Rocket Ranger, Platoon, Major



THE MUNSTERS RIDE AGAIN AGAIN

Alternative Software have launched a new label, Again Again, producing full-price games across all formats. First release is to be *The Munsters*, based on the aged TV serial currently being revived on Channel 4.

Programmers Harrop and Hollingworth, previously responsible for Grandslam's *Terramex*, are leading the Teque coding team on this one, which gives Granpa, Herman, Lily, and Eddie the chance to flex their limbs in an arcade-style environment.

Again Again will also be producing a game written by Durell, of *Combat Lynx* fame, for which story see opposite.

Operation Hormuz is an aircraft carrier scenario set in the Middle East where you must destroy 7 enemy bases using the F16 planes at your disposal. In addition to dodging the anti-aircraft missiles, there are also opportunities for air-to-air combat. The game will be released for Spectrum, Amstrad, C64, PC, and ST later this year. If it's as good as *Combat Lynx* was in its day, it should be worth watching out for...

DOMARK GET ATARI COIN-OPS

The terrible twins have scooped a very impressive licensing deal with Atari, giving Domark the rights to produce all Atari's coin-op titles over the next three years. That could mean as many as twenty big releases to follow *Star Wars* and *The Empire Strikes Back*.

How come Domark got the job? After all, us games players are accustomed to seeing coin-op titles being auctioned off to the highest bidders, with little attention paid to the probably quality (or lack of it) of the final release.

According to the Do of Domark (Dominic Wheatley), it's all down to Atari's desire for a long-term relationship – which could mean that the big arcade companies are at last paying serious attention to us gamers at home, rather than simply off-loading their titles onto the market in a devil-may-care, give-us-

the-cash-now-chums app-roach.

So, stand by for *Vindicators*, *Zybots*, *Toobin*, *Dragonspirit*, and *APB*. Coin-op freaks will have already read up on the arcade versions of the first three titles in ACE – and will know that they're not to be sneezed at. *Dragonspirit* and *APB* have excellent reputations as well, and Domark plan to release at least another three titles in addition to the above before the end of next year. All the games will be put out under the new Atari Tengen label, recently

TENGEN

established in the States to handle the company's coin-op conversions.

Since *The Empire Strikes Back* wasn't too bad as coin-op conversions go, this deal looks like being a Good Thing for all concerned.

SNIPPETS...

● UP AND COMING TITLES FOR YOUR MICRO

DARK FUSION

Gremlin

Spectrum £7.99cs £12.99dk

C64 £9.99cs £14.99dk

Amstrad £9.99cs £14.99dk

This scrolling shoot-em-up pits you up against a host of alien attack craft and gun emplacements. Survive the gauntlet of fire and you have to fight the monster from the Pit of Despair before facing the agonising decision of whether to fuse lifeforms with your vanquished foe or face the next challenge alone. Watch out for Dark Fusion in early December.

BUTCHER HILL

Gremlin

Spectrum £7.99cs £12.99dk

C64 £9.99cs £14.99dk

Amstrad £9.99cs £14.99dk

Atari ST £19.99dk

Amiga £19.99dk

A three-part action game due 'real soon now', Butcher Hill begins in an inflatable dinghy. Travelling deep in a jungle, you need to collect supplies and ammunition while avoiding mines and attacks from enemy aircraft. Then a jungle maze full of mantraps and enemy soldiers has to be negotiated before the final showdown takes place in a jungle village.

JOURNEY TO THE CENTRE OF THE EARTH

Soft Gold

Atari ST £19.99dk

Amiga £24.99dk

PC £19.99dk

C64 £14.99dk

Based on the Jules Verne book, this arcade adventure requires you to travel to the Earth's core and return alive. Falling rocks, giant mammoths dangerous pterodactyls and sea snakes are just a few of the perils awaiting the intrepid explorer - zut alors!

THE MUNCHER

Gremlin

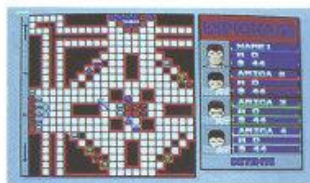
Spectrum £7.99cs £12.99dk

C64 £9.99cs £14.99dk

Amstrad £9.99cs £14.99dk

First billed as T-Wrecks, Muncher is a modified version of a program Gremlin were planning to release before they signed a deal with the manufacturers of Chewits. Now the cute monster from the Chewits TV ads is the hero and the action takes place in Japan. Explorers have stolen your eggs, and you want them back... A real gobstopper of a game.

Muncher



ESPIONAGE

Grandslam

Atari ST £19.95dk

Amiga £19.95dk

PC £19.95dk

Spectrum £8.95cs £14.95dk

Amstrad £8.95cs £14.95dk

C64 £8.95cs £14.95dk

MSX £8.95cs

This one to four player board game conversion takes you into the devious world of industrial espionage. The playing area represents the World's capitals, airports, deserts and so on, and each player has to rush around collecting micro-films that contain details of The Ultimate Weapon. A really nasty player could forget about the micro-films and concentrate on bumping off enemy agents. If the dangerous world of Smiley and his people gives you a thrill, watch out for this one... available soon.

ENCYCLOPAEDIA OF WAR: PART 1 ANCIENT BATTLES

CCS

Spectrum £14.95cs £14.95dk

Amstrad £14.95cs £19.95dk

PC £24.95dk

Ancient battles is a one or two player wargame from the author of Arnhem and Vulcan, R.T.Smith, that simulates pitched battles in ancient times. Armies from the earliest times up to the fall of the western Roman Empire are offered, and

players choose an army then design the terrain over which battles are to be fought. Could prove a real challenge to Universal Military Simulator, but then UMS II is on the way so wargamers will have to wait while the two programs fight it out...

DUGGER

Linell

Amiga £29.95dk

Atari ST £24.95dk

Herbie Stone is back. In his latest adventure, the star of Crack is in a desperate race to catch the stonecrushers and dragons who terrorise his underground lair. To defeat the marauders, he has to attach his inflator to the monsters and pump them up until they go pop. Look out for Herbie in the New Year.

DRAGONSLAYER

Linell

Amiga £29.95dk

Atari ST £24.95dk

(provisional prices)

Despite the title, this arcade adventure has no relationship with the classic books. Featuring some 600 screens and over 50 fully-



animated enemies and boobytraps, the quest involves finding and assembling the parts of a magic medallion and then confronting an evil dragon who is the cause of all the problems in the land. Dragonslayer should be in the shops at the start of January.

NAVY MOVES

Dinamic

Spectrum, C64, Amstrad,

Atari ST, PC

(all prices to be announced)

As the name suggests, this follow up to Army Moves is set in and around the ocean. Starting out in a dinghy, you have to jump waves and avoid aquatic motorbikes before donning scuba gear to penetrate the enemy base Pinch a mini-sub, navigate another underwater cavern crammed with killer octopi and you're onto the second load. The aim of the mission is to capture and destroy a nuclear submarine, and the second stage takes place in traditional arcade adventure style amongst the platforms and ladders of the sub. Wonder if Dinamic will have a gorgeous, pouting frogman on the cover of this one?



SPITTING IMAGE

Domark

Spectrum £9.95cs £14.95dk

C64 £9.95cs £12.95dk

Amstrad £9.95cs £14.95dk

Atari ST £19.95dk

Amiga £19.95dk

Hands up who remembers Domark's old game called Spitting Images? You know, the one they renamed Split Personalities? Well, now Domark are set to release the official Spitting Image game starring some of those wacky puppets. This potentially hilarious licence has to be one of the strangest yet for a computer game. The Walking Circles (ex Design Design) crew are putting the finishing touches to the game as we write, so expect to see it in the shops before Christmas.



THE RULES

1. Employees of Future Publishing Ltd, Infogrames, and their families are not eligible for entry
2. The closing date is 1st December 1988
3. The decision of the judges is final and no correspondence will be entered into.
4. Only one entry per household
5. No purchase of ACE magazine is necessary and photocopies of the entry form are acceptable.

JOIN THE ACTION SERVICE - AND TAKE HOSTAGES

ACE and INFOGRAMES are sending two prizewinners into the killing fields...armed with paint guns!

THE PRIZES

The first two prizewinners will spend an action packed weekend (early in the New Year) with a member of the ACE editorial team on a private estate in war-torn Herefordshire. Why? To shoot people, that's why!

The £300-per-head weekend starts on the evening before the fighting with a sumptuous dinner. Then it's off to a hotel for a good night's kip before an early breakfast and briefing with John 'lofty' Wiseman - one of the three ex-SAS servicemen who'll also be taking part. Uniforms will be issued before the exclusive group of twenty are split into 'Hit Squads' and airlifted, by helicopter, onto the estate. Each group is then set three tasks and by avoiding guerilla forces and a whole range of pyrotechnics - from simulated napalm bombs to thunderflashes - the group must avoid capture and complete their tasks, watched at all times by marshalls.

Between 1 and 2pm everyone meets up for a full survival lunch before being shown the merits of man-traps, mines and basic survival techniques. Now fully trained, the group then gets the opportunity to put new-found skills to the test in a pitched battle amidst an enormous barrage of pyrotechnics. The objective is

simple - capture the enemy...and survive! Remember - there will be other readers and journalists from rival magazines taking part too, so ACE expects every man (or woman) to do his (or her) duty!

At the end of the battle, the war-weary troops will be taken back to the hotel by luxury coach to change and 'freshen up' before boarding the coach again and being whisked to a magnificent moated manor. A six-course banquet that includes carp, venison and grouse, all washed down with lashings of cider follows. After the meal, Lofty Wiseman de-briefs the troops and show the video of the day's events - just like *Action Service*, in fact. Everyone then gets a signed copy of *The SAS Survival Handbook* before returning to the hotel for a well earned rest.

It's going to be tough out there, and only the bravest will survive so get in training now, while there's still time.

In addition to the two main prizes, 10 copies of either *Action Service* or *Hostages* are available for runners-up!

WHAT YOU HAVE TO DO...

Just fill in the form with your age, name and address (and telephone

number for us to contact you during the day if possible). Then answer the three questions correctly before posting your entry to ACE INFOGRAMES COMPETITION, 4 QUEEN STREET, BATH, BA1 1EJ to arrive not later than 1st December. We'll pick 12 correctly-completed forms at random - the first two winners will be off to fight for the honour of ACE early next year, while ten more winners collect the game of their choice. Go for it!

ENTRY FORM

NAME

ADDRESS

TEL NO

AGE

Tick the correct answer to each of the three questions below:

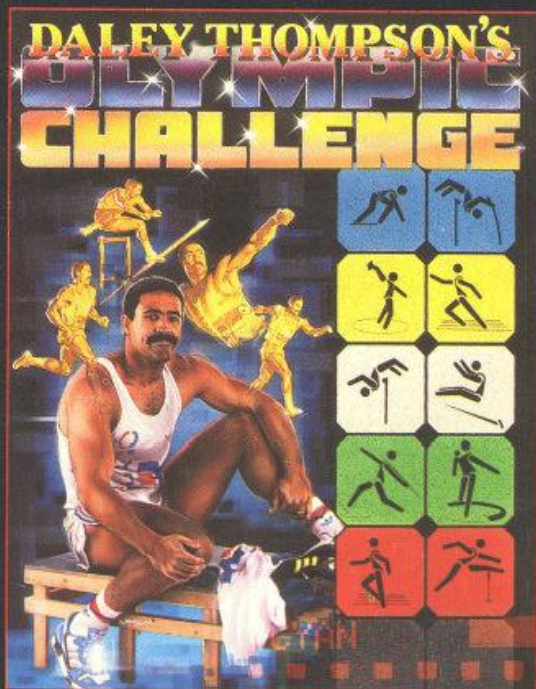
1. The SAS motto is:
a. Never Say Never Again
b. Who Dares Wins
c. Geronimo!

2. The Infogrames logo is:
a. A bat
b. An armadillo
c. A bullfrog

3. In *Hostages*, your aim is to
a. Blow up a building
b. Defuse a bomb in an Embassy
c. Rescue some hostages

AMIGA
£24.95

FUEL FOR EN

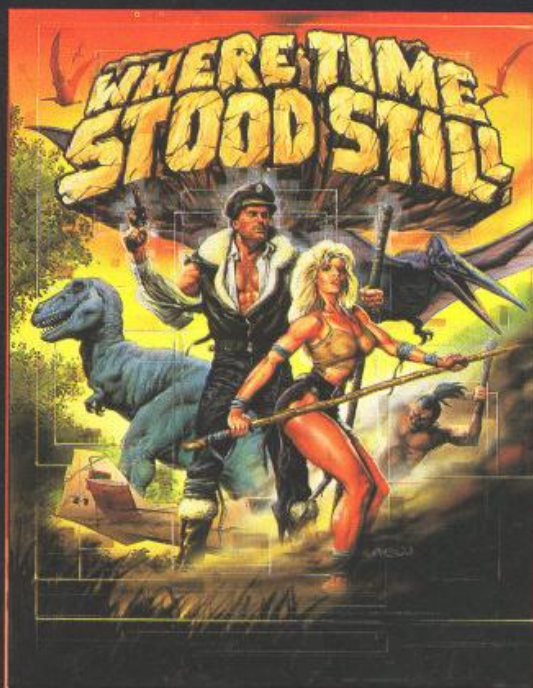


Ten Olympic events include Long Jump, Shotput, High Jump, 100m Sprint, 400m, 110m Hurdles, Discus, Pole Vault, Javelin and 1500m. You will need all your skills to build on what you hope was, an impressive workout, and, as is necessary for all top flight athletes, your judgement to select the most effective equipment for each event is now vital – a decision which can win or lose you a place on the podium. This isn't just another sports simulation, this is a Daley Thompson 'event' where all his talent and humour burst through to make a thrilling and entertaining game play for all the family. Go for the Olympic Challenge!



FROM

ocean

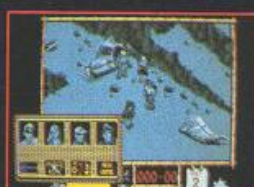


Your plane has ditched on a mountainous plateau somewhere in deepest Tibet. You and your companions are alive. A large shape moves toward you, you rub your eyes in disbelief; a Dinosaur! – where are you ... and when? Stunning, monochromatic 3D graphics and 4 way scrolling, give that '50's cinema mood as you learn not only to survive, but also that your companions are not all they first seemed!

© 1988 Ocean Software

FROM

ocean



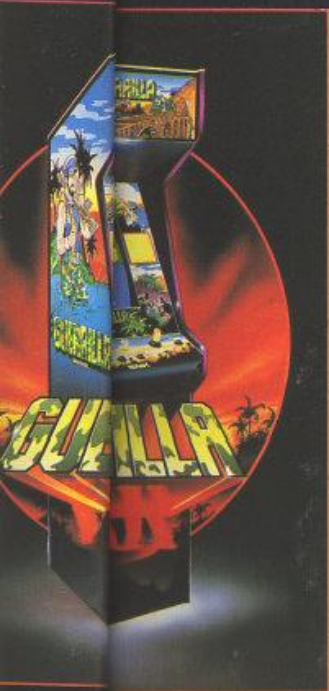
From the SNK star the coin-op smash now for your home micro. This multi-level, vertically scrolling arcade thriller throws you deep into the jungles and ruined cities of a cruel oppressor. Freedom is your aim ... Guerrilla War the means!

16 BIT STATE



ATARI
ST
£19.95

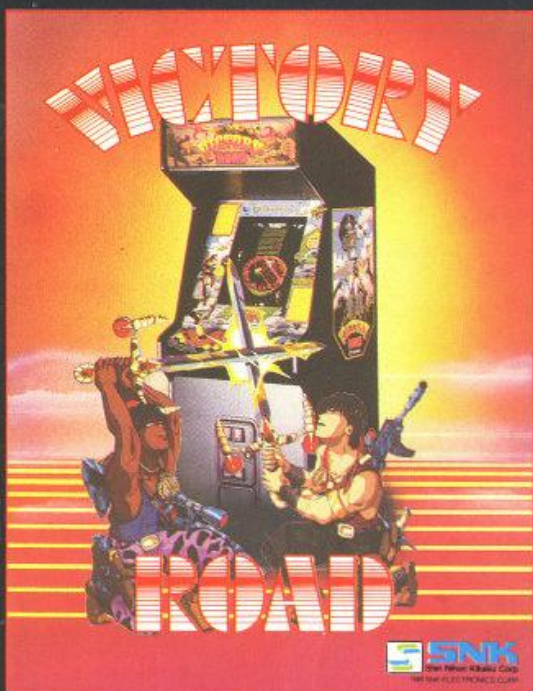
ENTERTAINMENT



The SNK state-of-the-art smash-up your home. This multi-arcade game shows you the jungle and cities of the world in the most oppressive and unusual way. It's your ultimate Guerrilla War!

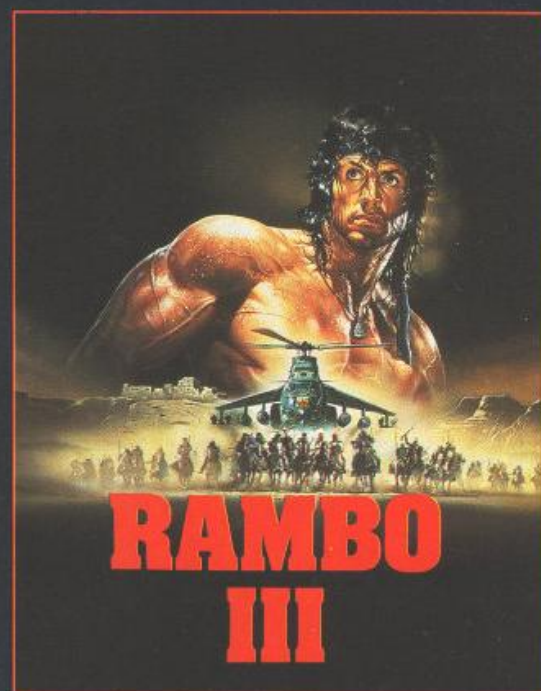


Fight on guerrillas!
Attack the fortress!



This is where the fun really begins. You will meet vampires, two and three headed monsters – the head will fly at you on its own, just when you think you are gaining the upper hand. Trapdoors and elevators transport you – sometimes to your surprise – inside ancient buildings and under lakes and oceans. Build up the firepower necessary to fight off your aggressors. Action and excitement all the way with this macabre and unusual game; which has that elusive extra something to keep you coming back for more.

© 1985 SNK ELECTRONICS CORP.



He's back and this time he's taking no prisoners. Colonel Trautman has been captured by the Russians in Afghanistan and there is only one person capable of freeing him. Negotiate the minefields, explore the Russian camp, lay boobytraps, avoid detection, free the Colonel and then ... move on to the explosive climax!
RAMBO IS BACK!
Rambo III T.M. & © 1988 CARLOCO PICTURES INC. All Rights Reserved.



FROM
ocean

OF THE ART

COMING SOON

SPEEDBALL



ATARI ST - £24.99. AMIGA - £24.99
PC AND COMPATIBLES - £29.99

SPEEDBALL - TOTAL ACTION,
TOTAL AGGRESSION - THE
ULTIMATE SPORT FROM THE
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"SPEEDBALL IS FAST, FURIOUS
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THE DECODER PROGRAM

This short program listing will DECODE the 4-letter codes printed below next to the prizes. It turns each code into a five-digit number such as the one printed on your ACE card. All you have to do is type in the program using the instructions for your computer printed below.

Then RUN the program. It will ask you to input each of the prize codes in turn and will then reveal on screen the winning numbers. If your number comes up, YOU CAN IMMEDIATELY CLAIM YOUR PRIZE!

If you are unable to get the program to work, a list of the winning numbers, correctly decoded, may be obtained by sending a stamped addressed envelope to:

ACE November winners list, 4 Queen Street, Bath BA1 1EJ

C64, CPC, ST, AMIGA version

```
10 FOR A=1 TO 28:INPUT "Code";B$
20 B=0:FOR C=1 TO 4:B=B*26
30 D=ASC(MID$(B$,C,1))
40 IF D>90 THEN D=D-32
50 B=B+90-D:NEXT C:PRINT "Winning
Number is";B:NEXT A
```

SPECTRUM version

```
10 FOR A=1 TO 28:INPUT "Code";B$
20 LET B=0:FOR C=1 TO 4:LET B=B*26
30 LET D=CODE B$(C TO)
40 IF D>90 THEN LET D=D-32
50 LET B=B+90-D:NEXT C:PRINT "Winning Num-
ber is";B:NEXT A
```

TYPING IN THE PROGRAM

SPECTRUM

48K: Power on, and type the Spectrum listing in as shown, pressing ENTER at the end of each line. To get the word CODE in line 30, hold down caps shift and symbol shift keys together and press the letter I key. When you've typed all five lines in correctly, press R (for RUN) followed by ENTER. Now type in the codes one at a time, pressing ENTER after each one: the program will stop after you've typed in all 25 codes.

128K: Select 128K BASIC mode from the start-up menu and type in the Spectrum listing as shown, hitting ENTER at the end of each line. Type RUN, hit the ENTER key again and type the codes in as for the 48K Spectrum above.

C64/128

Type the listing in as shown, hitting the RETURN key at the end of each line. Type RUN (Don't use the RUN/STOP key), hit RETURN and then type the codes in one after the other.

AMSTRAD CPC

Type the listing in as shown, hitting the RETURN key (6128) or the larger of the two ENTER keys (464 or 664) at the end of each line. Type RUN and hit RETURN or the large ENTER key again - don't use CONTROL and the small ENTER key here - and type the codes in one after the other.

ATARI ST

Put the LANGUAGE disk in the drive and switch the ST on. Double-click first on the drive A icon and then on the BASIC.PRG icon to boot Basic. Type EDIT and press the RETURN key. Now type the listing in, hitting RETURN after each line, and press the F10 key when you've typed all five lines in. Now type RUN, press RETURN again, and type the codes in one at a time.

AMIGA

Switch on, put your 'Workbench' disk into the drive and wait for the desktop to appear. Now put your 'Amiga Extras' disk in the drive, double-click on the EXTRAS icon and then double-click on the AMIGA BASIC icon. Type the listing in as shown, hitting RETURN after each line, and then click on the BASIC (rather than the LISTING) window. Type RUN, hit RETURN and then type the codes in one at a time.

OTHER MACHINES

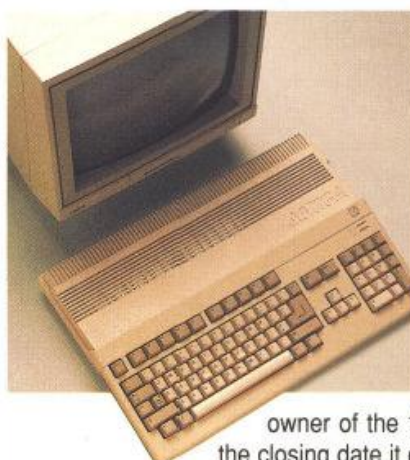
The TOS, CPC etc listing is standard MicroSoft Basic, so it ought to work on most micros. If you can't get it to work on yours, write to us for a list of winners - details of this are printed above.

RULES

1. This promotion is open to everyone with the exception of employees of Future Publishing Ltd and anyone involved in the distribution or retailing of Advanced Computer Entertainment magazine.
2. Ownership of the ACE card is limited to one per household.
3. Each four-letter code printed in the magazine corresponds to a winning 5-digit number on one of the ACE cards.
4. The codes must be correctly decoded using the program printed each month in this magazine.
5. Claims for prizes must be received by first post on the closing date at the latest. The value of any unclaimed prizes will be carried forward to future issues.
6. If, due to a production error, more than one person claims a single prize, the publishers reserve the right to divide the prize between the claimants.
7. In the event of any dispute, the decision of the publishers is final.

WIN AN AMIGA!

Has your ACE card come up trumps this month? There are 25 great prizes.



For everyone who's received a free ACE card (if not, see below on how to get one), here's another great opportunity to win prizes.

Using the program listed on the right, just type in the 28 new 4-letter codes printed on this page. If the program converts one of them into your personal number, you're a winner!!

WE WANT A WINNER!

Note that we are now printing FOUR winning codes for the ACE card. If the

owner of the 1ST CLAIM code hasn't claimed his prize by the closing date it goes to the owner of the 2ND CLAIM code. If he hasn't claimed his prize by then it goes to the owner of the 3RD CLAIM code...and so on. Should the 1st Claim owner claim his prize, the owners of the 2nd, 3rd and 4th claim codes automatically qualify for one of our SECOND PRIZES.

NEW PROGRAM!

If you're a long-standing ACE card-holder, you should make sure you use the listing entered in this magazine and not one you may previously have SAVED. This is because we have to make changes to the program on a regular basis to accommodate the large numbers of people entering the ACE Card scheme each month.

LOOK AT THESE PRIZES!

ONE 1st PRIZE: AMIGA + COLOUR MONITOR

1st claim WMFD 2nd claim WAXD 3rd claim ZTTZ 4th claim XIHY

FOUR 2nd PRIZES: £50 of software - chosen from the ACE

Special Offer pages

The winning codes: YSEJ • XCPV • UQLP • UIBX

TEN 3rd PRIZES: £25 of software - chosen from the ACE Special Offer pages

The winning codes: YXHH • YVIO • YEXP • VXIQ • VUCF • WEGZ • VHQM • VYBF • XMOS • VPVJ

TEN 4th PRIZES: A year's free subscription to ACE magazine

The winning codes: YMUE • VCAH • XJDV • WXTB • WNAP • WEJE • ZKBG • WFZT • XYES • YAAZ

HOW TO CLAIM A PRIZE

If you are one of the winners, you may claim your prize simply by posting us your ACE card together with a note saying which prize you are claiming (and from which issue of ACE).

If your prize is for software, list carefully the software you would like from the selection printed in the ACE Reader Offer pages (115-118).

Assuming your claim is valid, we will forward your prize and return your card within 28 days (probably much sooner).

Post to: ACE CARD PRIZE CLAIM, 4 Queen Street, Bath BA1 1EJ Closing date for claims December 3rd 1988

HOW TO OBTAIN AN ACE CARD

If you missed the April issue of ACE, you may obtain an ACE card free of charge by sending us a stamped self-addressed envelope together with a signed statement saying that neither you nor anyone else in your household already owns an ACE card. Apply to: ACE CARD REQUEST, 4 Queen St, Bath BA1 1EJ (This offer valid while stocks last).

FIVE FIST-FULLS OIS

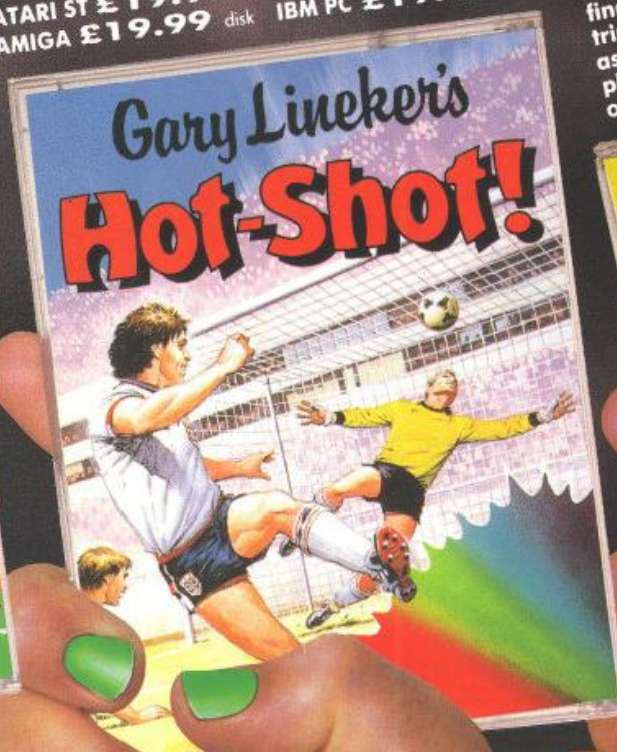
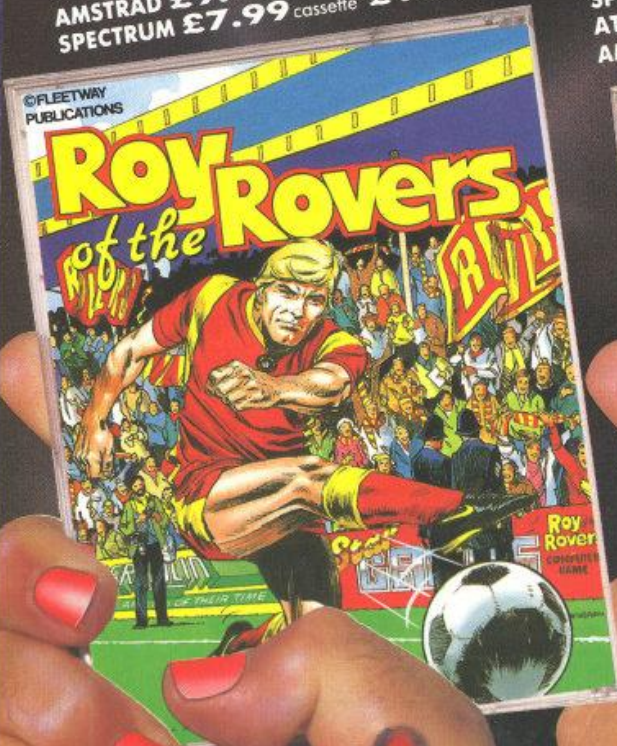
ROY OF THE ROVERS
NEWSFLASH! Four of the Melchester Rovers five-a-side football team have been kidnapped... hours before a crucial fund-raising game to save their ground from grasping property developers. Time is running out and player-manager Roy Race **MUST** rescue his team-mates, dodging danger, escaping ambushes and boobytraps in order to play the most important game of his career!

CBM 64/128	£9.99 cassette	£14.99 disk
AMSTRAD	£9.99 cassette	£14.99 disk
SPECTRUM	£7.99 cassette	£12.99 disk

GARY LINEKER'S HOT SHOT
 The most realistic football game ever produced for your computer. Play in a full-scale eleven-a-side football game complete with sliding tackles, throw ins, corners, goal kicks, fouls and even the dreaded referee with his red card. With all these features to watch out for will you have what it takes to match the shooting skills of England's top striker in Gary Lineker's Hot Shot.

CBM 64/128	£9.99 cassette	£14.99 disk
AMSTRAD	£9.99 cassette	£14.99 disk
SPECTRUM	£7.99 cassette	£12.99 disk
ATARI ST	£19.99 disk	
AMIGA	£19.99 disk	
IBM PC	£19.99 disk	

SUPERSPORTS
 As varied and as bizarre a collection of unique sporting events as you are even likely to find. Have you got a good enough eye to be a 'cross bow' shot; the nerve to attempt the 'devil dive'; the strength to 'smash slates'; the accuracy to shoot the 'cross bow' finally (and unbelievably) triumph over an 'underworld assault course'. Up to four players can compete in this outrageous challenge!



Screen shots from various formats.

DISPORTING POWER

SPORTS

you are even M 64/128
 e you got a 9.99 cassette
 e to be a 'cr 14.99 disk
 to attempt
 the strength 9.99 cassette
 's; the accu 9.99 disk
 oss bow'; a 14.99 disk
 believably! SPECTRUM
 an 'underw 7.99 cassette
 'Up to four 12.99 disk
 compete in
 challenge!

GARY LINEKER'S SUPERSKILLS

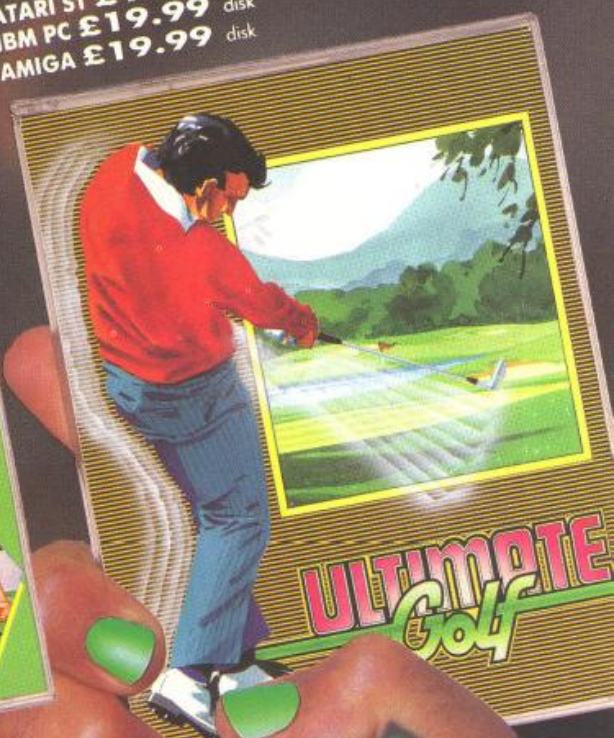
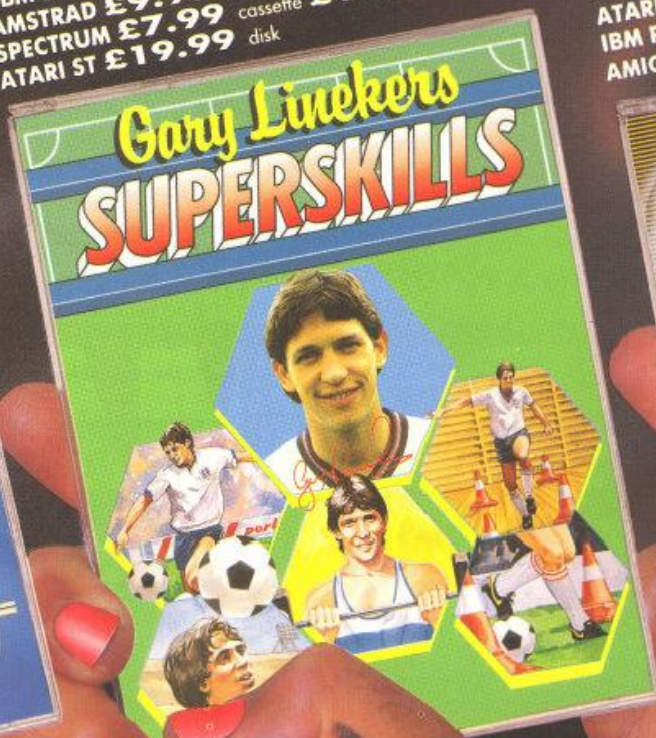
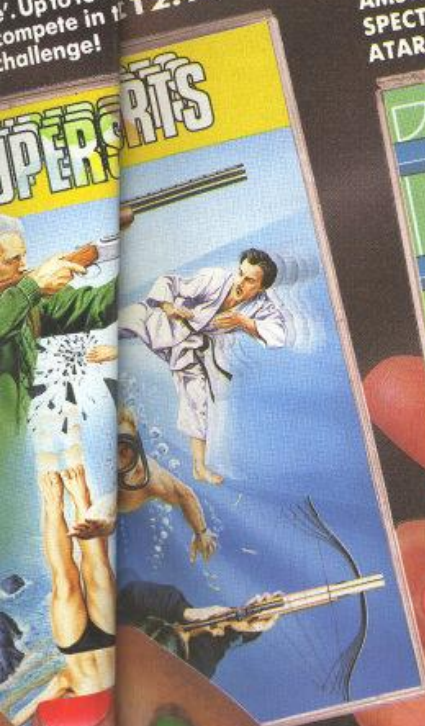
Hot on the heels of the hugely successful Superstar Soccer comes Superskills, again endorsed by England's star striker. To command a permanent place in the national team means dedication - dedication towards hard work and training. The national coach has designed an extensive training programme which will improve your fitness, ball control, sharpness and accuracy. Can you prove yourself to be both physically and mentally agile and alert?

CBM 64/128 £9.99 cassette £14.99 disk
 AMSTRAD £9.99 cassette £14.99 disk
 SPECTRUM £7.99 cassette £12.99 disk
 ATARI ST £19.99 disk

ULTIMATE GOLF

The ultimate golf simulation for your computer. See how different shots affect the way the ball is hit. Let the computer determine your skill level. Perfect your technique by following the example of the computer golf player. A must for all enthusiasts who've tried their hand at computer golf but never met a challenge as testing and enthralling as Ultimate Golf.

CBM 64/128 £9.99 cassette £14.99 disk
 ATARI ST £19.99 disk
 IBM PC £19.99 disk
 AMIGA £19.99 disk



AFTERBURNER ● Activision

Take to the skies in your F-14 Tomcat and dog-fight your way through stage after stage of enemy territory. Rip into the enemy fighters with your Vulcan Gun or lock on to them and loose off a missile. You'll hardly have time to think as you bank and dive your way through danger – it's action all the way here folks!



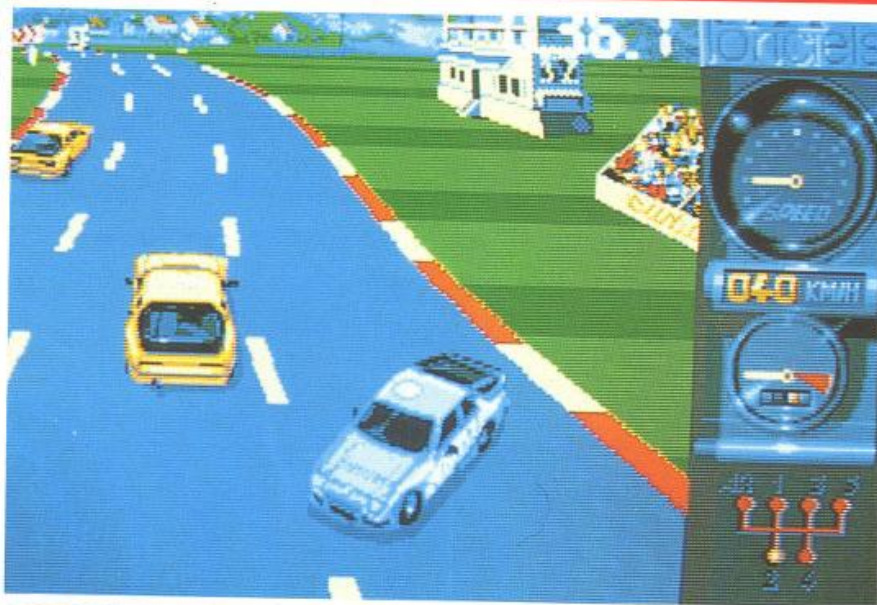
(Right) C64 – Bingo! that's one down, several thousand more to go!

(Left) Spectrum – Banking to avoid the enemy who come at you from in front and behind.



The games are getting hot. ACE takes its monthly look at the products that software houses will be tempting us with in the near future. Let's hope they turn out to be crackers and not turkeys...

CHRISTMAS IS COMING!

**944 TURBO CUP** ● Loriciels

As Loriciels have recently started sponsoring the Porsche 944 Turbo driven by top French racing driver Rene Metge, they've got together with the great man himself and are currently developing a racing game based on the great French racing event. Turbo Cup features several circuits which, Loriciels claim, are as authentic as possible. As all the cars are the same in the real race, it's driving skill that makes a winner, and the same is going to be true in the game.

TOTAL ECLIPSE

● Incentive

The year is 1930, the setting is Egypt and your mission is to stop the curse of the sun god Ra being triggered by the moon that is due to pass between the Sun and Earth. You have two hours to crack the problem. Armed with just a revolver, you'll need quick reactions, cunning and a full water bottle to avoid the curse being activated. This is the third Incentive release to feature the Freescape system and if the other Freescape game, Driller and Dark Side, are anything to go by, this one is going to be a hot contender.

Spectrum – that's your bi-plane parked outside the pyramid at the start of the game.



F-16 COMBAT PILOT

● Digital Integration

Going head-to-head with Falcon this winter will be DI's combat/flight sim based on the American F-16 fighter. Although the game will have a quick-start option, serious pilots will be assigned to the Tactical Fighter Training Squadron where they'll be assessed in five main operations areas. Graduate, and you are assigned one of eight squadrons and each squadron is responsible for sorties within their operations area. The game is due for release on the ST and PC.

Looking forwards on the ST as you come into land.



Looking over your right shoulder as you bank to fly over the airfield.



Spectrum - viewing the action from behind as you weave between tower blocks - not dodging the flak this time!

**THUNDERBLADE**

● U.S.Gold

Following their success with Out Run last Christmas, U.S.Gold are hoping to do the same again this year with home micro versions of the smash Sega coin-op Thunderblade. You're piloting an attack helicopter through several stages of hostile territory, with the view of the action changing with the stage. Sometimes your view is from directly above, sometimes it's from behind. Get your joystick arm and trigger finger in shape now, because this one promises to test even the toughest!

ST - viewing the action from above as you dodge the flak and inflict the damage.

**WEIRD DREAMS** ● Rainbird

Lying comatose in a hospital bed, you drift helplessly into the strange world of your subconscious. In the Dali-esque landscape, everyday objects become distorted and nightmares come to life. Weird is an accurate description of the environment in the game, so the sooner you can solve the intricate and imaginative puzzles and return to the real world, the better.

Andy Wilton on a good day perhaps?

**FALCON** ● Mirrorsoft

One of the best ever PC and Mac combat/flight sims is being converted to ST and Amiga. Added features include improved ground scenery and moving ground targets. The game contains some 12 missions and even gives the player the chance to dogfight with up to three MiGs. Remember, Falcon's the game adopted by the Pentagon to train pilots in 'situational awareness and BVR combat, so it has got to be good...

ST - looking over your left shoulder as you taxi onto the runway.



ARCADE ACTION

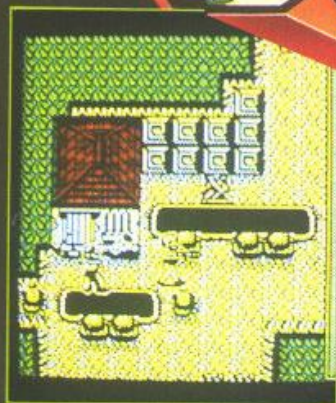
From the SNK stable, the coin-op smash hit now for your home micro. This multi-level, vertically scrolling arcade thriller throws you deep

into the jungles and ruined cities of a nation held in the grip of a cruel oppressor. Freedom is your aim... Guerrilla War is the means!



GUERRILLA

WAR



AMSTRAD
£ 9.95
COMMODORE

SPECTRU
£ 8.9
SPECTRU

Imagine

SNK
Shin Nihon Koku Corp.
1985 SNK ELECTRONICS CORP.

IMAGINE SOFTWARE - 6 CENTRAL STREET - MANCHESTER M2 5NS

..the name
of the game

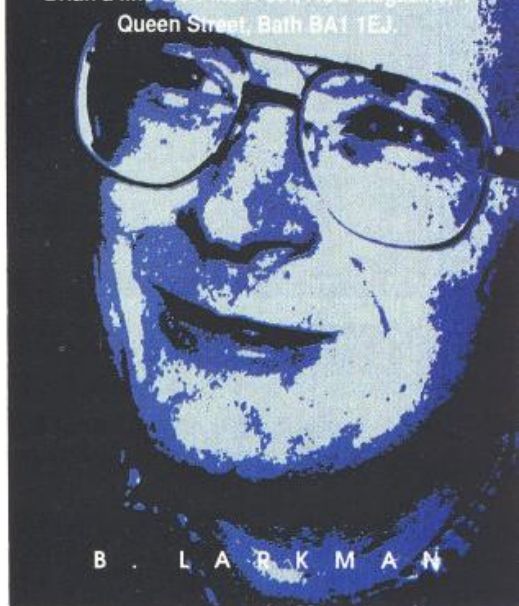
TEL: 061-832 6633 · TELEX: 667799 OCEAN

GRAPHICS GALORE

ACE resident pixel professor, Brian Larkman, tries to tell the future this month by looking at Amstrad's new VGA machines from the artists point of view. The man himself is in doubt as to what HE'D go for.

Brian's also co-opted the help of John Downie in the form of a short piece about the Travelling Matte company, who produce computer-generated images for TV (including Hitchhickers and Nightmare). They probably won't be using the new Amstrads - they go for things in the £200,000 price bracket.

There's even room for a couple of reader's letters, this time about scanners and becoming a computer graphics artist. Don't forget - if you've got a pictorial problem, drop Brian a line c/o Pixel Post, ACE Magazine, 4 Queen Street, Bath BA1 1EJ.



● This month, some of the secrets behind the TV programme Knightmare are revealed, as we interview The Travelling Matte Company, the people who bring creatures like Eric to life. No, not an ACE staff writer, merely a model that is animated and superimposed on live action by a Supernova computer. Turn the page for more details...

Despite a lead of several years in the Desktop Presentation field with the Amiga, Commodore seem to be cutting things a bit fine as now ever Amstrad, together with the other 'A' level companies, Apple, Atari, and Acorn, develop and promote their latest contenders in the graphics arena. With the new challenge of VGA MS-DOS machines from Amstrad, which machine should the graphics fanatic go for?

GRAPHICS WORKSTATIONS

■ CHEAP 'N' QUICK 'N' EASY

A budget graphics workstation has got to be cheap and it's got to get good graphics up on that screen quick and easy. To qualify as budget, it seems reasonable to set a cost limit of about £1000. Most people would think that bit high, but compared to commercial workstations, most of which start at 5 figure sums, £1000 is very cheap. With that limitation it is only the new Amstrad 8086 model that bears comparison - the 8286 and 8386 are too expensive for the average home user.

Although it is much cheaper than dedicated 'professional' systems Apple's MacII also falls at this point. The Mac may be a common 'home micro' in the States but here it's just a fantasy. Similarly, Atari's new

Transputer Workstation ATW (formerly ABAQ) at about £5000 fails the price test. They are also both rather short of software at present, though limited compatibility with earlier machines - the ST and b&w Mac - confuse the issue slightly.

So the only machines able to compare with the new Amstrad on the basis of cheap graphics are the Atari ST, the Amiga 500, and the Acorn Archimedes 300 series. Let's start by examining what the Amstrad has got to offer.

A MESS DOS?

The most exciting development on the Amstrad 2086 is the VGA display. As you will see elsewhere in this month's issue, you can choose 256 colours from a 260,000

shades and display them simultaneously at a maximum resolution of 640x400, apparently beating both the Amiga and the Archimedes static capabilities. In most other respects, however, the 8086 is a fairly ordinary PC clone.

That's the core of the problem. Although at first sight such an impressive display specification should make the Amstrad an excellent graphics workstation, there is more to good graphics than loads of colour. It is also important to quickly and easily transform the screen with a wide range of techniques; the Amiga and Archimedes, and to a lesser extent the ST, can all support painting, 3D modelling, ray-tracing, image processing, and animation. All these require large amounts of computation. As

RISC OBLITERATION?

Computer graphics places the heaviest burden on the computing power of any processor. To get round this computation problem the Amiga and the Archimedes use diametrically opposed solutions - hardware and software oriented respectively.

The Amiga is still the only common home computer to use a BLITTER (Block Image Transfer) chip. This provides a system of optimised instructions that allow large areas of screen memory to be manipulated quickly by a separate chip, ensuring that colour and movement calculations take place independently of the central processor. The Amiga also has several other dedicated chips specifically designed for particular tasks allowing the main processor to operate unimpeded for much of the time. Although this method works well for specific tasks like screen and sound computations, it is of limited use

for many other applications, especially those unforeseen in the design stage. Nevertheless for graphics applications the Amiga is still supreme in this price range. The new Amstrads also have some 'custom' chips but it is unlikely that these will shoulder enough of the computing load to make more than a marginal difference to the 8086's graphics power.

An alternative way to cope with a heavy computational load is to strip the main processor down to its minimum number of essential instructions so that it can operate at very much faster speeds. When a specific task needs to be undertaken, the required 'optimum' instructions are provided in the software so that the computer works most efficiently on any specific job. This sort of reduced instruction set (RISC) chip is one of the current flavours of the month. At present,

the Archimedes range offers the only one available at anything like a budget price. The result of this software oriented strategy is, at least in the case of the Archimedes, an amazingly fast computer than can undertake graphics operations so quickly that its normal operations are hardly impaired.

With software like Clares' Pro Artisan, AMS's Flair, and ACE Software's Euclid all providing superb facilities using the RISC architecture, it is a great pity that the Archimedes is unlikely to make much of an impact outside education and science - and perhaps broadcasting - within the UK. Where Acorn may be able to have more success is with ARC based add-on boards for the PC market. Several of these are already on the market, any of which could provide almost Archimedes power for the Amstrads - at a price.

several of the more advanced graphics oriented packages on the standard Atari ST have shown, working with numerous colours over a large area can tie up the main processor and effectively lock the machine for minutes at a time.

This results in excessive tea drinking, frequent visits to the fridge for fattening munchies, and much boredom and frustration. The Amstrad 8086 chip is considerably slower than the Atari 68000 and it is unlikely that much advanced graphics software will be able to operate effectively on the cheapest Amstrad. The faster 8286 and 8386 should partially overcome this difficulty, but they are much more expensive and still just barely as effective as the basic Amiga 500 with its blitter or the RISC based Archimedes 310 for graphics applications (see box - BLIT or RISC).

In terms of a budget graphics workstation therefore the new Amstrad 8086 has a fine display but probably not enough power to do much with it. Time will tell how limited a graphics engine it really is, that said, there is still a whole lot of graphics software available for it, is there not? Well, yes and no...

SOFT SELL

When it comes to painting, there is only a small choice of software available at reasonable prices for MSDOS machines - and even that is aimed at standard VGA dis-

FANTASY FACTOR

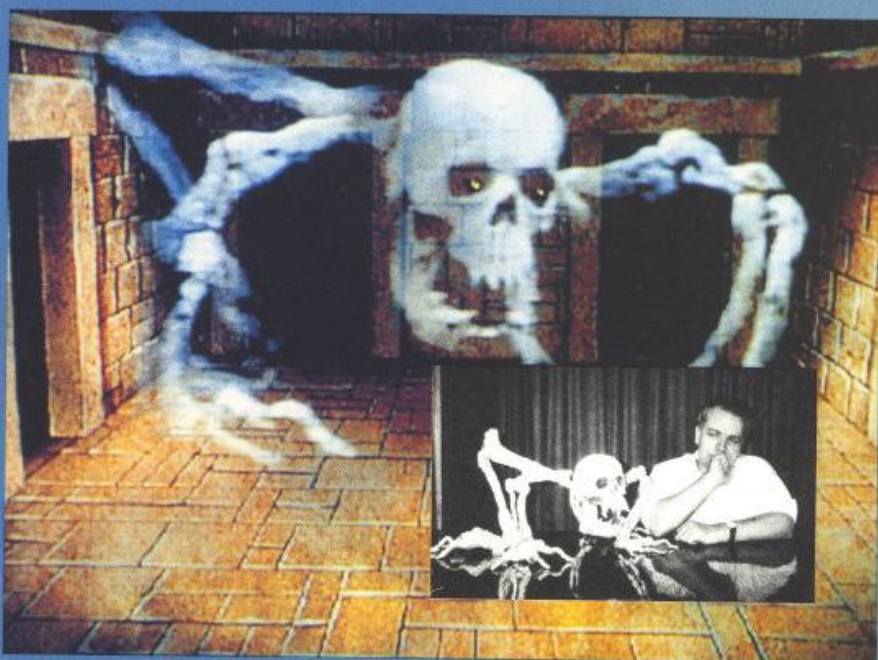
Robert Harris, the techno-brain behind ITV's award-winning Knightmare program, is chief of the Travelling Matte Company and also responsible for, among other things, the computer graphics on the BBC's Hitchhikers Guide to the Galaxy. When we met him on a promenade in Brighton, he was sitting at a graphics terminal displaying a live image of the pier, apparently subjected to electrifying bolts of lightning and clutching a chipped enamel mug topped up with champagne. 'We are committed,' he announced chirpily, 'to dabbling with reality.'

You may already have seen Knightmare, in which real people do physical and intellectual battle with a mix of reality and electronic fantasy in a world peopled with computer animated monsters like Eric. Four skeleton legs surmounted by a skull go to form him, and he exists as 16 video frames which can be subtly animated so that Eric appears to watch the adventurer enter his lair.

This requires some deft work by the animator, for Knightmare is recorded 'live' and is shot on a single occasion to maintain the adventuring team's belief in the fantasy. Only then, says program creator Tim Childs, can the audience feel part of the adventure too.

The Mercedes van, which is Travelling Matte's mobile studio, is a little like the Tardis. The day we visited, during the International

The Travelling Matte Company specialise in passing off fantasy as reality. ACE went to find out more...



Eric, superimposed on a painted background. (Inset) Robert Harris, the man at the controls of the Spaceward Supernova that makes Knightmare possible, eyes up the model of Eric.

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plays at best - 256 colours at 320x200 lines. The Atari and the Amiga can both display approximately 4,000 colours at this resolution as a result of some fairly devious programming tricks. Similar methods might make 260,000 shade displays available on the Amstrad but it requires the will of some enthusiast to do it. The best we can hope for is a 256 colour, 640x400 version of *Deluxe Paint PC* - and even this will be painfully slow and greedy for disk space on an 8086.

As for other requirements - 3D modelling, ray-tracing, animation, and image processing, all these ARE available to run on MSDOS machines - at a price. But in most cases they can only function if hard disks and co-processors are fitted adding further to the cost. In time, just the presence of a vast number of cheap Amstrad MSDOS VGA machines on the market will result in some of this software coming down in price or cut-down versions being released. This has certainly happened with commercial and office packages. MSDOS machines may even end up selling a greater volume of home-oriented graphics software just because of their predictable profusion. Nevertheless, in graphics terms it's the software that counts, so the Amstrad is really only competition for the Atari ST. If you want an effective and versatile graphics workstation for under £1000, an Amiga 500 is still the Pixel Professor's choice! ●

PIXEL POST

This month the Pixel Professor has just enough space to check out scanners and hear how difficult it is to become a computer graphic artist...

Dear Brian,

Do you know of any good but cheap scanners available for the Amiga 500? If so, what equipment would I need and how much would it cost? I've tried looking in the classified ads but there don't seem to be any scanners advertised.

Miss B. Scott, Meols, Wirral

As always, cheap is a very relative term. There are three scanners that I know of for the Amiga at present but none of them is particularly cheap.

Scanners are devices that allow flat artwork, photos, text (or sometimes even 3D objects) to be easily digitised for use in graphics and DTP applications. Two types are currently available: a flatbed scanner and a hand-held 'mouse' scanner. Flatbed scanners are similar to photocopiers in operation, flat artwork being placed face down on the top surface and scanned from below. Mouse scanners are very much like large versions of the normal computer mouse. In operation the artwork is placed face up on a desktop and the scanner is slid slowly over the required area.

Both types are capable of scanning in black and white or a number of grey scales, though the second option usually costs more. In any case, flatbed scanners are more expensive because they usually scan a larger area and often produce higher resolutions. Mouse scanners only 'grab' a strip about 3 or 4 inches wide. Typically the flatbed types cost £800 to £3000 and the mouse type £150 to £600.

For the Amiga, Burocare (01-907 3636) have AMISCAN, a flatbed scanner that doubles as a thermal printer and photocopier costing £800, which is therefore relatively cheap but probably outside your budget. Closer to a realistic price is the Handy Scanner from Cameron UK (01 499 9192) but costing around £360 it is still almost as expensive as the Amiga itself. Even cheaper is the hand scanner (£300) available from the Amiga Centre, Scotland (031 557 4242). All three of these scanners 'grab' at approximately 200 dots per inch.

Dear Brian,

Just a quick letter on the Graphics Front aimed at anyone who is keen on starting a career as a Computer Graphic Artist. Many people think that getting an artist position within a software house is MEGA TOUGH. In most cases this is true, mostly due to the large amount of artists that are about. I started out on an Amstrad 464 and tried to get a GAC game published, but to no avail. After this first attempt I was a bit GLUM but stuck at it.

Rule 1. Keep On Trying. You may lose sleep and time, postage money, cassettes/disks, but in the end your efforts will pay dividends. Of course there is no substitute for a good portfolio. Think of it like a hobby and enjoy it, sooner or later you will develop a style of your own and then this will get recognised.

Rule 2. Make your first portfolio your absolute best. It may have taken you 2 weeks or 2 years (usually the latter), but at least you will know that it is your best effort.

Rule 3. Protect yourself. It is very difficult for a starter to save up loads of dosh for legal advice over breach of copyright. Get yourself a registered envelope and address it to yourself. Then have a word with your (or 'a') bank manager and pop in the disks/cassettes, which will be put in the bank's vault. Any dubious activities with your work, if not returned, can then be proved to belong to you as it is dated and held safe.

My first work was for Exocet Software who received the control panels and title screen for Phantasm. Now I have started work for Ocean Software in-house. This job took me five years to land - so as you can see, it can take ages. There are a hell of a lot of AMAZING artists, 8 and 16 bit out there, why aren't they being snapped up?

Roy Lewis, Warton, Lancs.

TRY

lity. ACE

Broadcasting Convention, a gale was polishing a very clear blue Brighton sky, turning the world into a sort of chroma-key fantasy whilst inside the van a beautifully detailed video world was being developed, albeit one which is divided into rooms with exits to North, South, East, and West...

The Knightmare program uses electronic scenery generated by a Spaceward Matisse System on Supernova hardware (12 Mbyte RAM, 380 Mbyte hard disk). The images are accurately keyed or 'matted' to live shots of a chroma-key studio in which the adventurer pursues his quest directed by his team. The viewers and the team see the scenery superimposed and by techniques of lighting control and subtle matting, creating an effective illu-

sion in which even translucent objects can be electronically introduced.

Harris claims that the technology to create this fantasy world has only been available for the last two years. His training and experience with theatrical set design has, however, been built up over many more years and his artistic flair provides the touch of class which makes the programme work.

The format is being sold to the USA and I'm sure that over the next few years the freedom generated by electronic scenery will blossom into many more TV programs of increasing complexity. The superimposition of a 2D image on a 3D set means that only one fixed camera position is possible but, as software develops, camera movements will be linked to complete 3D generated images allowing much more dynamic action than is currently feasible. Harris says that they would like to store scenes on a laser disk, though this is not currently possible.

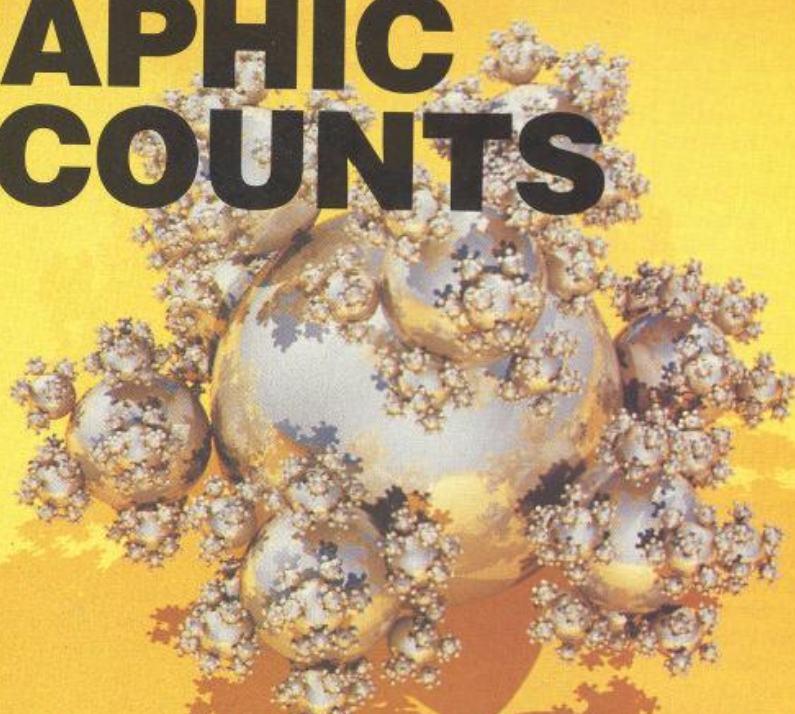
The idea of a mobile graphics studio is a clever one. Next time you're having trouble with your favourite 'paint' program, your artistic efforts are leaden, and your animations are truly awful, just pop out into the garage, slip into your Mercedes van, and boot up a few hundred thousand pounds worth of hardware, not to mention the team of professionals ready at your command. Their rates are really very reasonable...



Travelling Matte's mobile studio - you'd never believe so much techno-gadgetry could be crammed in such a small space.

controls
of Eric.

GRAPHIC ACCOUNTS



Shades of glory from Electric Image. Will they ever make a James Bond movie this way?

Other than the new Amstrads (see elsewhere in this month's issue), the most interesting graphic software at the recent PC(w) Show was the now expanding range for the Acorn Archimedes. Come on a quick trip round the latest developments on the software front...

PRO ARTISAN

The most versatile drawing package so far is the 'professional' version of Clares' *Artisan, Pro Artisan*. Every facility imaginable including 'Bezier curves, a wide range of fill options, irregular cut and paste, extensive colour manipulations, and image processing, has been included.

Using 256 colours on-screen selected from 4096 at a resolution of 640x256, *Pro Artisan* compares well with Amiga packages like *Photon Paint* and *Deluxe PhotoLab*. 26 high-quality fonts and a wide range of printer dumps are also included in this comprehensive package.

Advanced Memory Systems of AMX Mouse and *Finesse* fame are about to release both the ST and Archimedes versions of *Flair Paint* (originally called *Finesse Paint* before Logitech took over). Archie's *Flair Paint* operates in the 16 colour 640x256 resolution to allow faster operation and smaller files. Both versions are specifically designed to optimise printed output with a large page area as well as all the usual drawing tools thoughtfully implemented. For example, variable rotate operates with the cut section visible at all times. At this budget price, *Flair Paint* seems very good value. To be sure, watch this space for a full review. Contact AMS on 0925 413501 for more details.

IT'S ALL GREEK

Continuing the Greek theme Euclid (£45.00 from ACE Computing on 0223 322559) is a 3D modelling and animation system. It is fast, versatile, and relatively easy to use, though without *Sculpt 3D's* user friendliness. It includes orthogonal or perspective projections, line or surface drawing, full hidden line and surface removal,

and instant scene and object transformations. It is even fast enough for some degree of real-time animation of solid 3D objects, something no package on the Amiga can achieve. Ray tracing modules are in preparation. John Downie is getting to grips with Euclid at the moment and his report will be on these pages very soon.

NOT SO TAXING

The name *Forms in Flight* always makes me think of my tax returns winging their way to the tax-man. *Forms in Flight 2* (Amiga + 1 Mbyte, available from the Amiga Centre, Scotland on 031 557 4242) is a vastly improved version of the 3D graphics and animation system from Micro Magic. With surface patches, texture mapping, phong shading, and path extrusions *Forms in Flight 2* seems to hold the crown as the most advanced graphics package for a home computer. However, with *Sculpt 4D* well on the way it may be unthroned soon.

MORE PAINT HYPE

Not seen at the PC Show was the promised Atari ST paint system *Hyperpaint* (Atari £24.99) which claims to 'herald the next generation of graphics packages'. After a week of intensive use it became apparent that Atari have used more hype than paint, for *Hyperpaint* is really just an average paint program - better than *Neochrome* for sure, but no competition for *Degas Elite* or *Art Director*. This conclusion is borne out by the suggestion that *Hyperpaint 2* is already under discussion.

The only unique feature of *Hyperpaint* is its ability to work on really large scanned images. Only on 1 Mbyte machines or larger, though. To

compete, *Hyperpaint 2* must provide a very wide range of colour facilities or concentrate on doing one job really well. Perhaps a cut-down version of Adobe *Illustrator* would be a better role-model for a machine that is being promoted as a cheap Macintosh. *Illustrator* is an object-oriented drawing system somewhere between CAD and 'painting' designed to produce illustrations for DTP applications. Look out for this sort of package soon on the ST and Amiga.

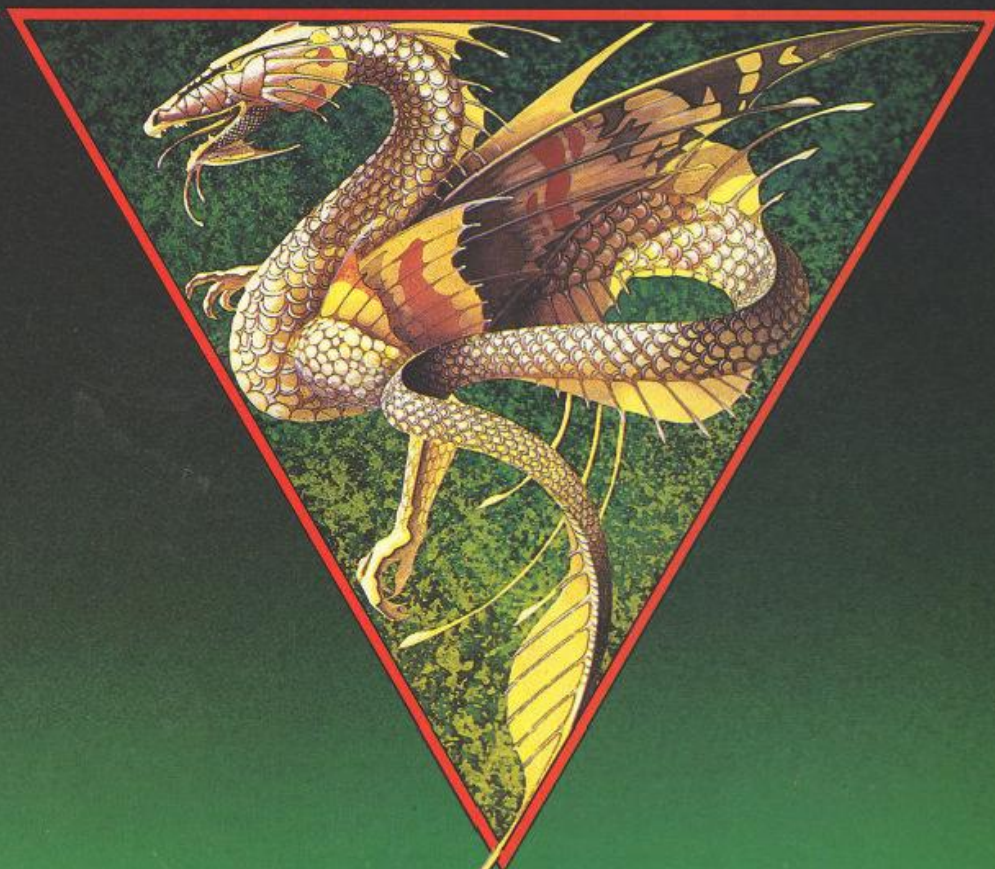
QUANTUM STUMBLE

Another disappointment is the latest version of *Quantum Paint* v1.05c for the ST. After months of waiting with bated breath because of various delays including the postal strike, it is still far from perfect. Bugs haunt the screen including a 'ghost' of the control panel carried over occasionally to the drawing area. Worse there are still no functions that 'actually use' the 512 or 4096 shade 'wide-band colour' mode - i.e. smear and colourising (see *Quantum Paint*, ACE Issue 6). Again, despite its omni-colour modes, *Quantum Paint* is still not as useful as *Degas Elite*.

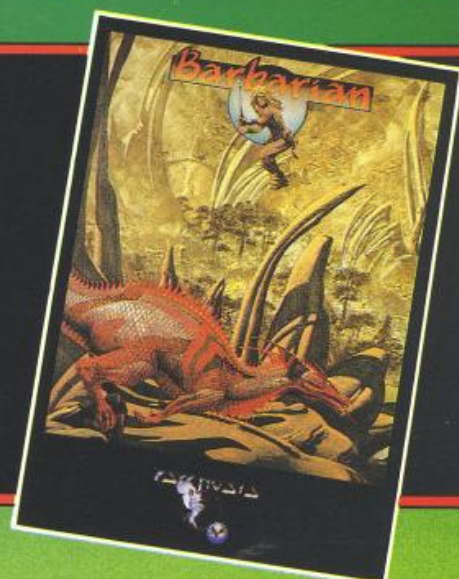
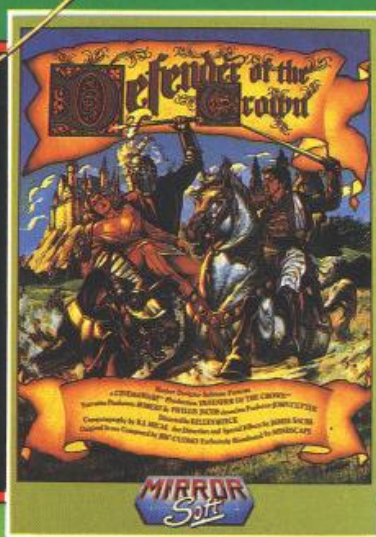
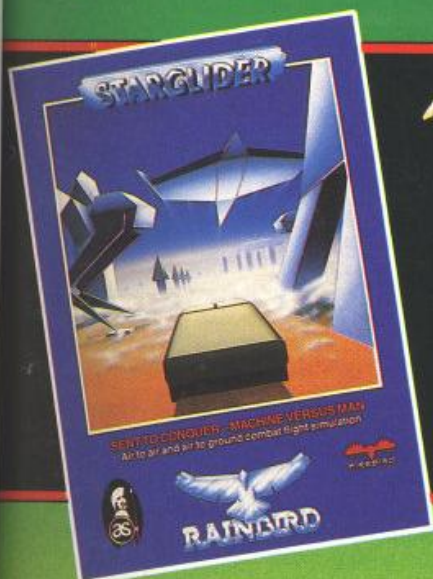
...TO THE SUBLIME

Electric Image, arguably the most innovative producers of broadcast-quality computer graphics in Britain have now acquired the first stage of their new hardware system. Based around an AT&T Pixel Machines parallel processing render machine, they are now able to produce photo-realistic ray-trace type animated graphics in real-time. The potential of this machine is such that we might soon be seeing a full-length animated film with the visual complexity of the Access 'Duck Pond' advertisement. ●

T'R I 'A 'D



V O L U M E • 1



A COMPILATION OF THE THREE CLASSIC
16 BIT HITS FOR THE ATARI ST & AMIGA

£29.99

THE PC ALTERNATIVE

You've been saving all your pennies up so that you can replace your 8-bit machine with an ST, Amiga or Archie. But wait a minute - could you be missing something? Mightn't that hole in your lifestyle be PC-shaped?

How's this for an idea: the world's leading computer companies all build 16-bit micros to a common design so that the same software runs on each of them. Thousands of other manufacturers working to the same design turn it into the number one micro standard, and vast numbers of programmers write software for it. Amstrad, Atari and Commodore all get on the bandwagon, prices plummet and soon everyone can afford one of these universal machines.

Sounds exciting? Well, it isn't: in fact it's very, very boring. It's already happened you see, and the machine everyone settled on was the IBM Personal Computer. Now of course, we all know the PC and its many, many clones are the duller things going. I

mean, you might as well go and buy a Z88 if you want entertainment - mightn't you?

BORING

In the UK, PCs have traditionally been expensive machines. A £1,000+ machine is pigeon-holed in the business sector almost automatically, and even Amstrad's price-busting antics over the last year have done little to change that view of them. It's a self-fulfilling prophecy: game-buyers shun the PC as 'boring', software houses don't find PC games very lucrative, produce fewer of them, and so the PC really is boring.

Left to itself, the British market would probably never break out of this vicious circle. It's not going to be left to itself though, thanks to the totally different attitude to PCs that you'll find on the other side of the Atlantic.

In the USA, home computers have to do all manner of different tasks. People don't just want to play games: they want to do word processing, programming and any number of other things as well. Because of this need for versatility, and because US buyers are typically prepared to spend a good deal more than their British counterparts, the PC makes a natural machine for the American home.

The upshot of all this is that American software houses produce large numbers of PC games, and many of these are very high quality items. (You can check out the best of them, and some strong UK competition, on pp32-33.) Bearing in mind what *Dungeon Master* and *Interceptor* did for the ST and Amiga respectively, a few good imports could certainly help the PC's games reputation over here.

ENCOURAGING

But why, you might reasonably ask, does it matter? At best a games-orientated PC could be almost as good a games machine as an ST or Amiga, and cost about the same. Is that really what the world needs?

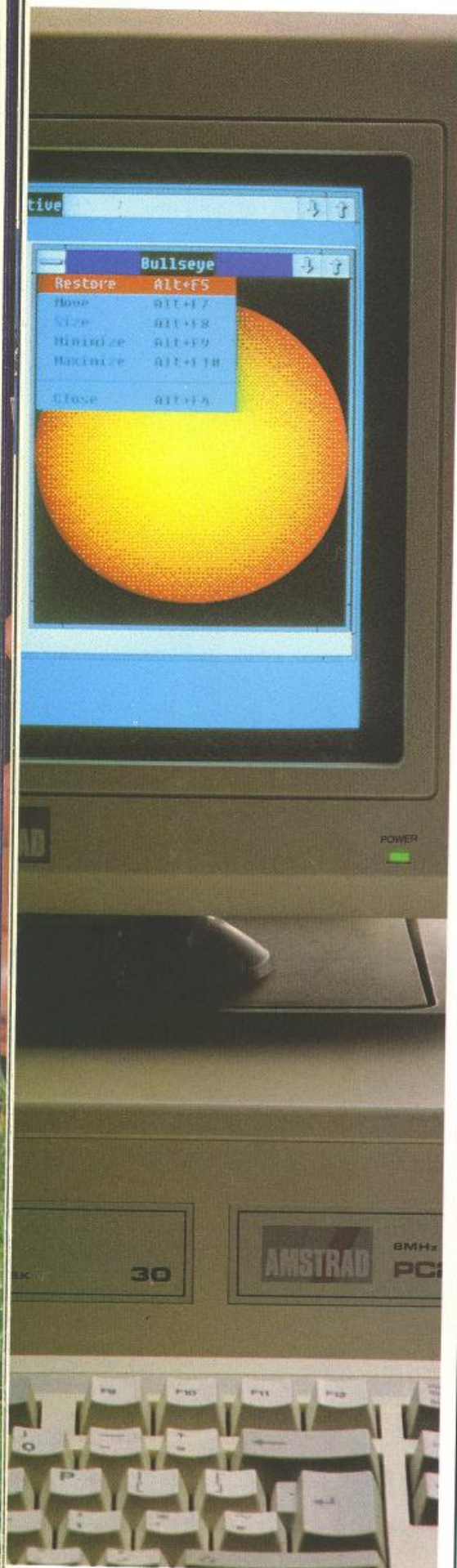
In a word, yes. If graphically powerful PCs were available at a low enough price here, that would probably mean better games and more of them. The enormous American PC user base wouldn't just provide

THE 8086 FAMILY

The PC series is based on Intel's 8086 family of chips. Dating from the late 1970s, the early members of this family took an inelegant approach to the problems of handling large memory sizes. It's hard to dispute that the 8086 is a poor chip for use in micros compared to Motorola's 68000: it's tougher to program, can't handle as much memory (only 1 Meg compared to the 68000's 16 Meg) and is slower at normal clock speeds.

The newer 80286 and 80386 chips are a good deal faster than the original 8086, but they cost more and are still complex beasts to program. The improvement is welcome, but comparable advances in the 68000 series keep Motorola ahead in the 'bangs per buck' stakes.

There's a school of thought to the effect that upgrading the 80x86 line still further is just throwing good money after bad. Why handicap new chips just in order to keep compatibility with old ones? With micro power increasing in leaps and bounds, it's possible for totally incompatible chips like the Inmos Transputer or Acorn ARM to run 8086 programs at a reasonable speed. These emulation techniques are already paying off for Archimedes users, who can expand their machine's meagre range of games with PC titles (see 'Catch 32', ACE issue 13).



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attractive imports, but also offer some very healthy overseas sales for games authors in this country.

With a multi-million machine world market - something neither the ST nor the Amiga has yet achieved - there'd be enough of a return for software houses to take their time developing games. They wouldn't have to top the charts to get their money back, because even the also-rans would be selling in vast numbers.

INTERESTING

The terrific thing about compatibility is that it encourages software development. The bad thing about it is that once the software base has built up, it gets very tough for manufacturers to improve the machine design. Users would rather have an old, low-performance machine that runs the software than a revamped one that doesn't.

Unfortunately the original design of the IBM PC centred around Intel's 8086 family of central processors (see box), and with hindsight that was a very poor choice. While even the cheapest modern PC is a great deal faster than IBM's original machines, present day users are still paying the price for design decisions made some years ago. That said, the typical cut-price PC of today has more than enough processor power for most entertainment purposes: what it lacks is graphic power.

GRAPHIC

Because of the PC's age, and because it wasn't exactly state-of-the-art when brand new, there was no real graphics standard included in its specification. This wasn't the disaster it sounded like: the PC's 'open architecture' meant that you could plug in extra hardware later on if graphics became important.

If this hadn't been possible, the PC would probably be dead and buried by now. As it was, graphic add-ons soon became very big business indeed. A wide range of colour graphic standards appeared from various third-party manufacturers, but the three dominant ones all came from IBM: they were the Colour Graphics Adapter (CGA), the Enhanced Graphics Adapter (EGA) and the Video Graphics Array (VGA).

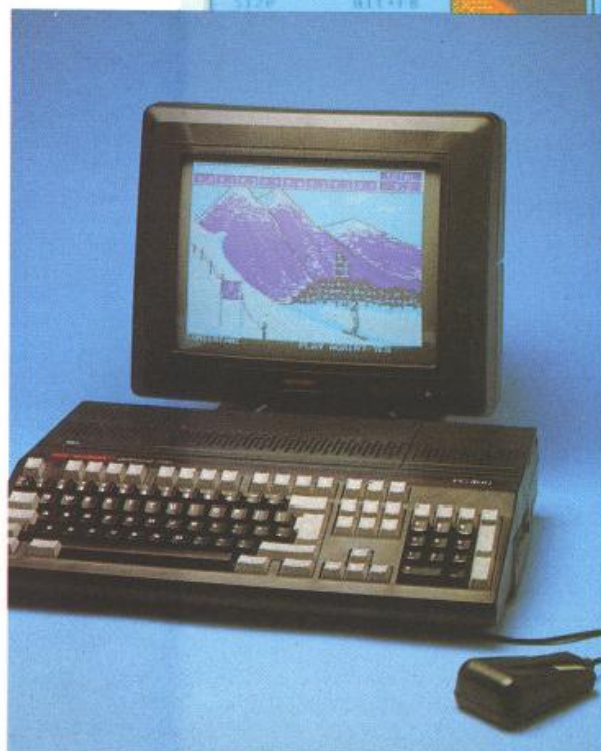
You can check out precise details on the different standards below, but the important points are as follows. VGA can do anything EGA can do, and EGA can do anything CGA can do, so there's no room for argument over which one's best. If you can afford VGA, get

it - but be warned, full VGA facilities call for very expensive monitors. Otherwise, go for EGA if you possibly can.

CGA is very poor stuff by modern standards, but for many PC buyers it's the only game in town. While EGA is gaining more and more ground with games writers, and is unquestionably a whole lot better, there's still no ultra-cheap machine available with built-in EGA. Until there is, serious gamers and budding computer artists will have to carry on paying the extra.

CGA

The original PC colour graphics standard, CGA has looked rather creaky for quite a while now. Most games run on a four-colour 320x200 screen rather like the medium



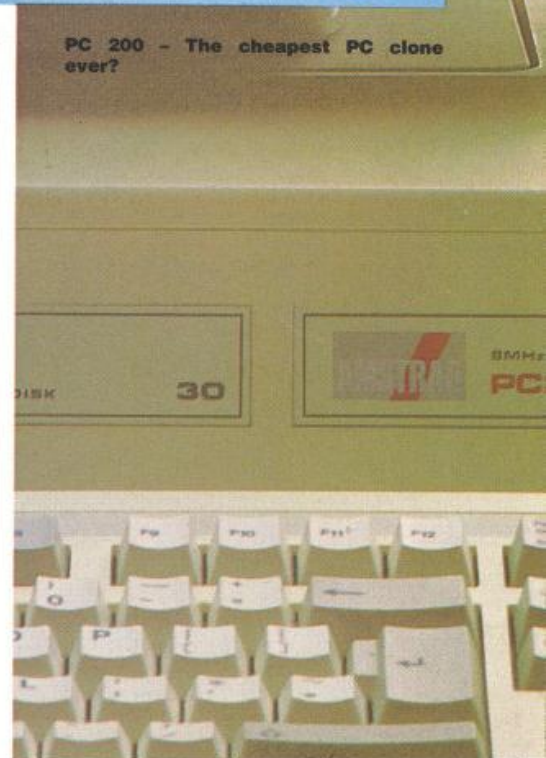
PC 200 - The cheapest PC clone ever?

THE PC 200

Just about the cheapest PC compatible ever sold in this country, the Sinclair Professional PC200 is a bog-standard 8086 machine with a 3.5" disk drive and a CGA display. The use of the Sinclair name suggests that Amstrad see the PC200 as a home machine and are trying to distance it from the parent label's new PC2000 range. It's not surprising then that the cheapest system, weighing in at around £344 including VAT, has no monitor and is fitted with a TV modulator.

In practice it's rather hard to see the benefits of such a set-up. Plugged into a TV, you lose the 80-column definition needed for most serious applications. In return you get a colour display, but that's small consolation given how poor CGA graphics tend to be.

With a monitor, the PC200 will doubtless be a very useful machine to have around for all the usual text-based applications. Its entertainment potential seems low, and anyone looking for an expandable machine would certainly do better with one of the roomier PC1512s or 1640s



resolution mode of the Amstrad CPC. The big weakness here is that there's no palette as such – just two colour schemes, either white-cyan-magenta-black or red-green-yellow-black. Most CGA games use the former scheme because of its higher contrast, but *Elite* got by very nicely in red, green and yellow.

Though it's primitive stuff even by 8-bit standards, the CGA screen does have one big advantage: it's very small. Small in memory terms, that is to say. The advantage here isn't in the space taken up – all PC display cards come with whatever memory they need – but in speed.

The main factor in a micro's speed as a games machine is its power-to-screen-size ratio. Most of the processor's time during a game goes on altering the contents of screen memory: clearly a more powerful processor can get this job done quicker, but equally a smaller screen (in memory terms) speeds things up by leaving the processor with less to do.

On the power front the typical PC central processor can't match the MAST machines' MC68000 (see box), but the CGA's tiny 16K screen more than makes up for this. By contrast the ST has to work with a whopping 32K for a full colour display, while the Amiga may have to handle upwards of 40K.

EGA

If CGA is curling up a little at the edges, EGA is still alive and kicking. As a games standard it's at least in the same league as the ST and Amiga, with a typical game mode of 320x200 pixels in 16 colours. The

THE MAST MACHINES

In America the Macintosh, Amiga and ST – collectively known as the MAST machines – are commonly seen as the next step on from PC compatibles. They certainly offer more power for your money, and don't suffer from the PC's memory restrictions. That said, these 68000-based machines don't come anywhere near challenging the PC's vast user base even when the three of them are taken together.

The whole problem is that the three machines can't really be taken together. They've got incompatible hardware and disk formats, are aimed at different markets, and are built by fiercely protective manufacturers. They've also got different operating systems, and because these are based around WIMP front-ends they're all difficult things for programmers to get to grips with.

EGA-equipped PC does lose out on palette size – you only get 64 colours to choose from – but has useful high-resolution modes the 68000 machines can't match.

Of course, that kind of colour freedom and pixel resolution makes an EGA screen a pretty sizable thing. That doesn't mean EGA games run slowly mind you, even with a bog-standard 8MHz 8086 providing the power. The screen memory is very cleverly organised to help speed things up, so that for many purposes a 32K EGA screen can take less work to handle than its 16K CGA equivalent.

VGA

The hottest display standard around right now, VGA offers screens of up to 640x480 pixels in 16 colours out of 64, or 320x200 in 256 colours out of 250,000 odd. Both of these modes require high-class, high-price monitors, making them rather a small market for games authors at the moment.

The 256-colour mode has other problems too as far as game-writing goes. In particular, the screen is huge (64K) and there's no hardware help to reduce this burden. That kind of load would tax an ST severely, and a typical PC clone doesn't even have the power of an ST. The programmer's left with an unenviable choice: either (a) stick to game styles that don't need large, frequent screen alterations or (b) restrict their games to high-speed 80286 or 80386 machines, cutting the potential market still further. Not surprisingly, most people go for option (c) and stick to EGA modes, on the basis that the VGA can manage these too.

It's on the art side of things that the 256-colour mode really comes into its own. The potential here is enormous: while the Amiga may be able to manage more colours on screen at once, the VGA's freedom of colour use and enormous palette more than offset this. For ray-tracing or hand-painting it'd be a natural.

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The cheapest of Amstrad's upmarket PC2000 series, the PC2086 offers VGA graphics at an impressively low price. A single drive system with high-res colour monitor will set you back a hefty £976 including VAT, but that set-up gives you VGA art power and EGA games potential. It also provides a great workhorse for all those useful, serious applications you'd normally associate with PCs. To justify spending so much money you're going to have to want that serious side of things – but you can still have great fun with *Deluxe Paint II* and *Falcon AT* after hours!

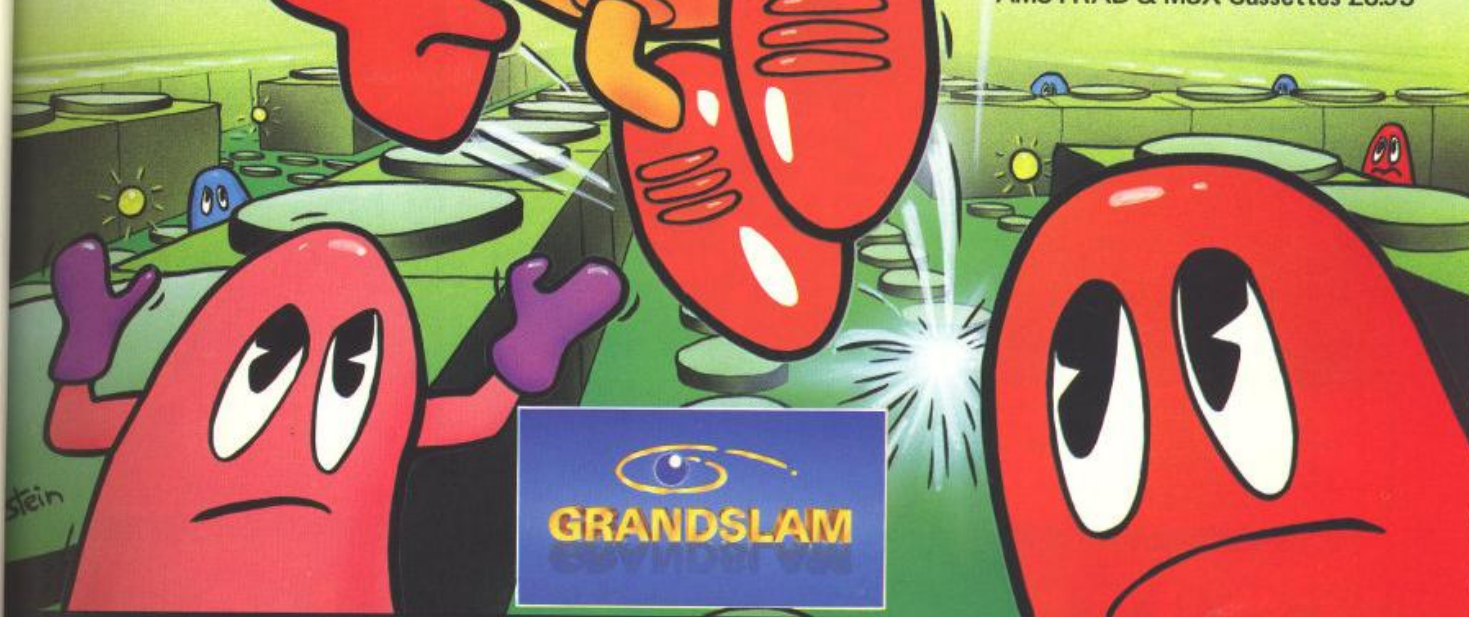
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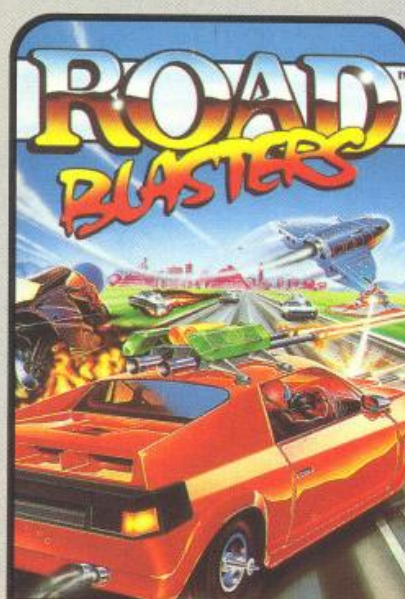


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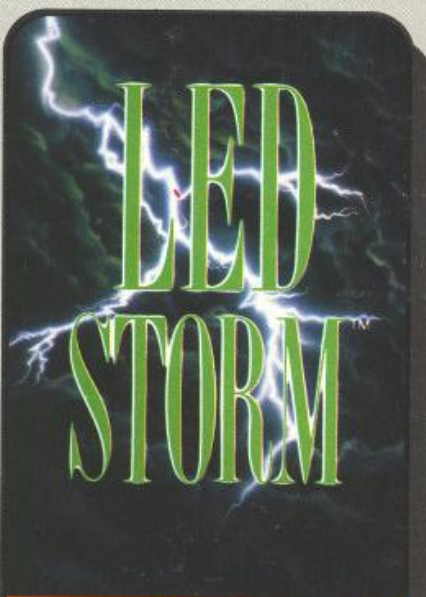
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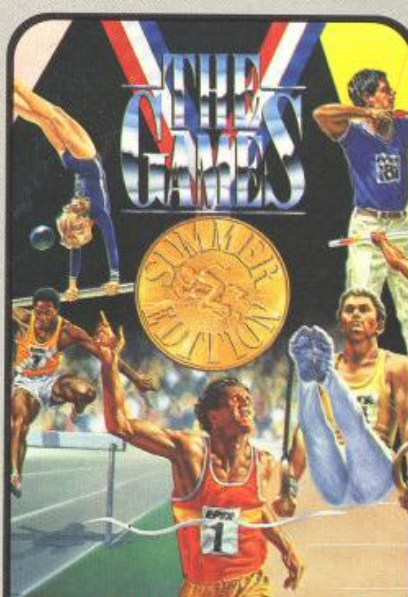
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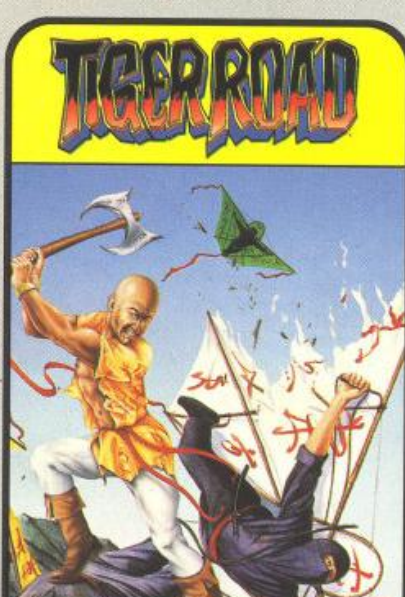
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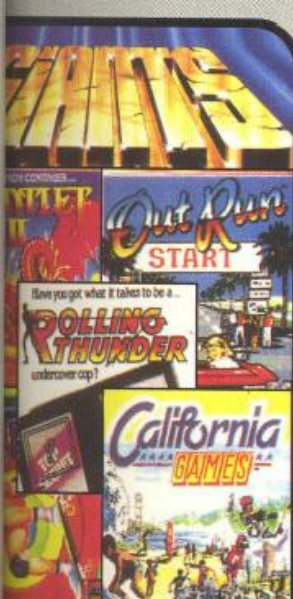
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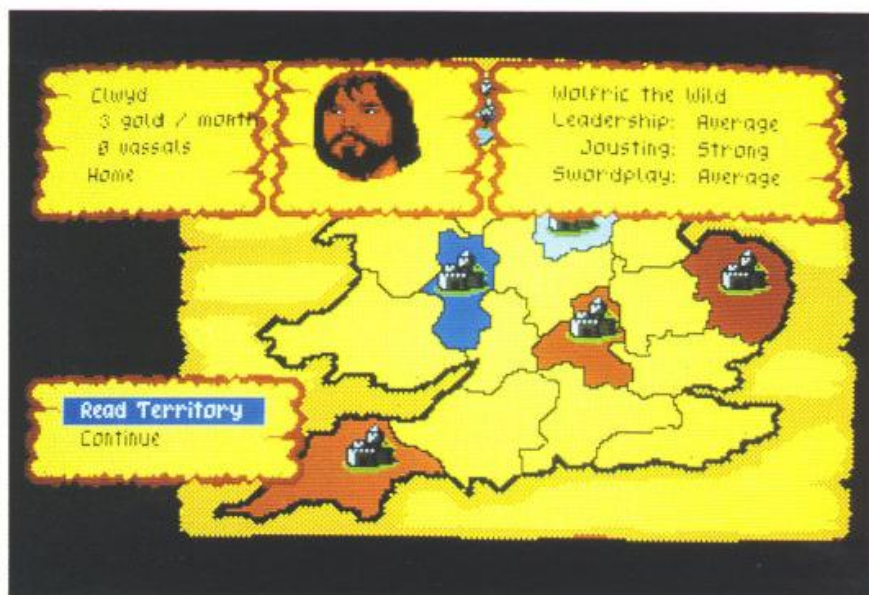
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The British public don't know quite what to make of PC games. If the PC belongs in the office, as most people seem to think it does, what are people doing producing leisure software for it? The odd pop-up, high fun-factor game like *Tetris* makes sense as an executive toy, and on the same basis you could understand adventures with 'boss mode' imitation spreadsheet displays. But what about great epics like *Elite* or *Driller*?

PC games certainly are strange things. While more and more of the big UK houses are converting their mainstream titles to the PC as a matter of course now, these are a recent phenomenon. There's usually little effort made to use the PC's power effectively, and the resulting games tend to make the PC look like an honorary 8-bit micro. The great classics of PC gaming hail from across the Atlantic. This isn't just a legacy of the machine's origins either: the driving force behind PC game development is still the



THE SOFT UNDERBELLY OF THE PC

Never mind the hardware - what about the games? Whether you've got a super-fast 80386 machine with a £1,000 monitor, or just a Sinclair PC200 plugged into a telly, a PC's only as much fun as the software running on it. Andy Wilton investigates the games PCs play.



American market, and it's pushing things forward at an impressive pace.

THE AMERICAN EFFECT

The PC may be a business machine as far as the British are concerned, but across the Atlantic it's big news in the games market. PC games are hardly a novelty in themselves of course - after all, the PC's been around longer than the Spectrum or the C64! What's making the headlines now is the explosion in EGA games, and the enormous improvement in graphics that this means.

A renaissance in PC games is long overdue. The average American PC is a powerful beast, some fair way upmarket of its British counterpart. Fast 80286 central processors are becoming increasingly common, and EGA capability is reckoned to be just about essential. Running a CGA game on this kind of equipment is like using an ST to emulate a Spectrum, so it's only natural that there's a big demand for better looking software.

That's not to say the CGA standard's been bad for the US games industry, mind you. While the obsession in Europe has been with brighter, faster, smoother graphics,

The Bitmap Brothers' *Speed Ball* (Image-works) looks a whole lot better when your PC's got EGA graphics.

(Left and below) The arrival of *Defender of the Crown* (Cinemaware) in EGA form shows just how far the standard's come on over the last year.



game authors in the States have looked to in-depth gameplay as a way of selling their wares.

The effort paid off: role-playing games have flourished, and text adventures are still going strong. Could *Seven Cities of Gold*, the *Ultima* series, or Infocom's *Zork* adventures have topped the charts in the UK? They did in America! You can see the same trend at work in the field of flight sims. Spectrum Holobyte's *Falcon* is immensely complex by UK standards, while Sublogic's definitive *Flight Simulator* series of games are so detailed they aren't really games at all.

OLD GLORY

This depth reflects an important fact about the American computer market as a whole. Computer users in the States are a mature bunch by UK standards, typically in their 20s or 30s. Bob Jacob of Cinemaware reckons, 'The average person who buys one of our products in the US is probably about 32 years old.' This age factor is particularly pronounced with the PC because of its strong office presence: there's a significant 'knock-on' effect of people buying PCs to take work home to.

These older users tend to like brainy games with a lot of long-term appeal, and don't mind spending a few hours wading through a manual. US games players don't go in for hand-eye coordination and fast reaction games so much, partly because their reflexes just aren't up to teenage standards. They also care for a different type of subject matter: toy-related games are rare things in the States, while sports personality licences are much sought-after.

The problem with carefully wrought, heavyweight PC games is that they tend to look rather dreary. PC users will soon get to hear how good games like *Falcon* or *Ultima V* are, and won't be put off by rather uninspiring CGA screenshots. The same doesn't go for people thinking of buying PCs: no Spec-

trum or C64 owner is going to choose a PC over an ST or Amiga solely on the basis of some rather naff-looking screens and a glowing write-up. A classic game won't win upgraders over if it hides its light under a bushel.

Graphic advances can change all this, banishing the 'worthy but drab' image. At long last the heavyweight titles are getting EGA-ised, giving them the visual appeal they so richly deserve. They're being joined by new titles, and conversions from elsewhere in the 16-bit arena. Cinemaware, a software house you'd normally associate with the Amiga, are about to release their glossy Norman-basher *Defender of the Crown* for EGA PCs, and there must be plenty of others eyeing up that huge pool of potential buyers.

OVER HERE

It's not just America that's getting on the EGA bandwagon: we're catching up in the UK too. Solid 3D merchants Realtime have taken a good look at EGA and VGA systems with a view to writing for them, though they say you're unlikely to see *Carrier Command* on the latter!

The Bitmap Brothers are another set of programmers working on EGA products, with the recently released *Speed Ball* shaping up as their PC debut. Bitmap PC expert Eric reckons that EGA's a very handy game standard, and makes for a far better *Speed Ball* than CGA could hope to manage.

Incentive's *Driller* made striking use of that 16-colour EGA screen too, turning an adventure-speed 8-bit classic into a cracking arcade-paced puzzler at the same time. The trend's even reached the continent now, with games like Chip's 900-rated *Joan of Arc* appearing in EGA PC form. The strong graphics potential could even lure those

THE EGA REVOLUTION

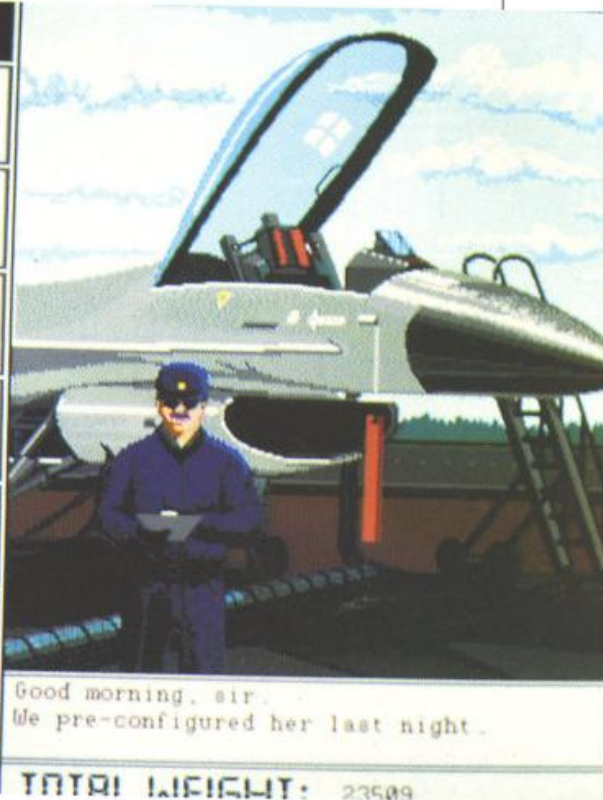
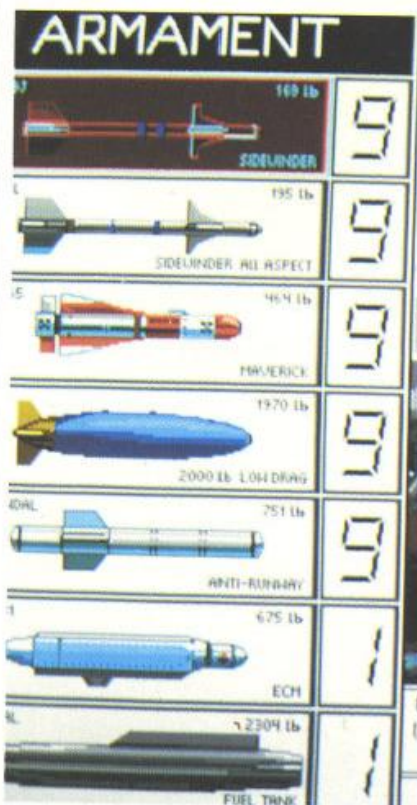
For details on the EGA (Enhanced Graphics Adapter) display, you'll have to leaf back a couple of pages. In a nutshell though, EGA gives the PC a 16-colour high-resolution screen to rival ST or Amiga displays. It also provides cunning hardware help, allowing games to update the screen faster than would normally be possible.

visually orientated French and German programmers away from their Amigas.

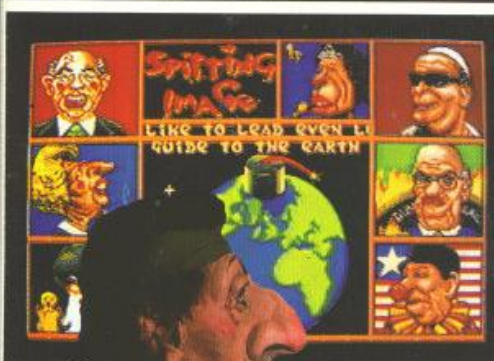
WHAT NEXT?

The hope now is that the EGA PC will become an automatic second or third choice 16-bit machine, getting conversions of major games almost automatically. This process will take time: after all, the Amiga had a struggle for a while back there and ST games will port directly over to it. Converting a 68000 game over to a PC is an enormous task by comparison.

For the time being, EGA machines are the exception rather than the rule in this country. Eventually standards will move on as they have done in the US, so that CGA falls by the wayside and EGA becomes the minimum acceptable set-up. The potential rewards are vast: sales into the US market could give UK software houses a huge boost, if they can provide the depth and realism that American gamers demand.



In four colour CGA, *Falcon* (Spectrum Holobyte) is a game for purists. In 16, *Falcon AT* is great stuff all round.



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LICENSED TO CLONE

Imitation: it's been going on for years. Chaucer and Shakespeare collected up other people's stories and re-worked them, each producing similar versions of *Troilus and Criseyde*/*Cressida* for example. But *Troilus* wasn't a coin-op, and nobody minded much.

Nowadays, pop producers are sampling recordings, borrowing other people's sounds as well as other people's tunes. Software publishers, too, draw inspiration from each other's work, sometimes to the point of abject plagiarism. In 'the trade' corporate piracy of ideas and licences is a hotter issue than home piracy nowadays... With the big companies relying more and more on arcade licences to provide the hits, they're getting aggressively protective about what they regard as their 'property'. But the record of time reveals that the sinned against are as much the software sinners, as we discover...

Official versions of coin-op games stand a good chance of cleaning up at Christmas, to the point where smaller software houses that concentrate on original games can't get a look-in during the festive season. No wonder licence-holders are tetchy about protecting their rights.

Recently, Activision has been getting fiercely protective of its *R-Type* licence, scrutinising five games from other software houses (hardly surprising, when one *Katakis* demo apparently featured a message from the programmers to the effect of 'thank you to *R-Type* and the inspiration it has given us').

A month or so ago, US Gold withdrew *Great Giana Sisters* following pressure from Nintendo who felt it looked a bit too much like *Super Mario Brothers*. Wearing the boot on the other foot, US Gold prompted Elite to make noises about libel after making claims that *Overlander* bore too striking a resemblance to its coin-op licence, *Roadblasters*.

Last year there was a *Breakout Revival*. The official licence to *Arkanoid* acquired by Imagine met up with *Krakout*, *Addictaball*, *Batty*, and *Giganoid* along with a host of others that led a French magazine to review sixteen games that bore a striking resemblance to *Arkanoid*, and admit that they hadn't covered all the possibilities. Ironically, while the owners of the official *Arkanoid* licence growled in defence to their rights, the coin-op company which had sold them the licence was itself sued by the people who brought *Super Breakout* into the arcades. Funny old world, isn't it?

THE OLD, OLD STORY

The only thing that is new, is the fuss. The entertainment software industry came into being with back-bedroom clones of existing

games, and as it grew, it fuelled itself by drawing 'unofficial' inspiration from existing products. For a long time, people didn't even think about buying licences.

Despite today's legal shenanigans, publishers and programmers are set to keep on cloning - or least borrowing and re-working ideas. Maybe there really are only a handful of basic game ideas, which are bound to crop up again and again, or maybe the creative spark that brought games like *Valhalla*, *Knight Lore* and *Manic Miner* has been extinguished by the scramble for coin-op licensing opportunities.

The naughtiness began right at the start, when the first home computers were released. Many of the captains of today's

software industry who are now getting a hot under the collar about clones were involved in small software enterprises that began by selling totally unofficial versions of games like *Space Invaders*. Rod Cousens of Activision, for instance, began his career in the software industry with *Quicksilver*, but more of that later... Programmers now earning very tidy livings from producing official arcade conversions often learnt their craft adopting and adapting games they had seen in the arcades, with never a whiff of a licence agreement in the air.

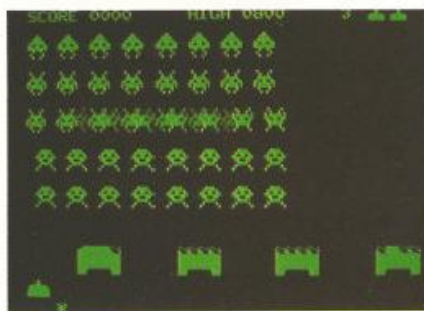
Industry veteran Andrew Hewson recalls the early days: 'It simply didn't occur to people that there was any kind of problem with rights. Everyone was doing versions of arcade games, so you just joined in.'

Some companies changed the gameplay and fiddled with the title - like Interceptor, with *Krazy Kong*, PSS with *Crazy Kong*, or Artic with *Monkey Bizness* - even Ocean started that way, but at least they were the first company to buy the an arcade licence (for *Hunchback*, with Superior Software who went for the BBC rights). Others just went out and cloned shamelessly. Like Quicksilver, who produced *Defender*, *Invaders*, *QS Scramble*, *Asteroids* and *Galaxians*.

As official licences were acquired, direct cloning of 'classic' games continued. Just before its demise, Mikro-Gen was preparing to launch a series of budget 'arcade classics', and a few years ago Bubble Bus had the same idea, releasing *Classic Muncher* as a budget *Pacman*. Classic cloning still hasn't died out. About a year ago, Firebird released *Arcade Classics* and enjoyed great success with its quartet of clones - *Space Invaders*, *Asteroids*, *Snakes* and *Space Wars* - which apparently became one of its top-selling budget titles. And not an official licence in sight.

"Larger companies, like ourselves and Activision are beginning to realise that if you're going to pay large amounts of cash for licences, you're not going to put up with other firm's duplication of the game." David Baxter, US Gold.

Firebird's version of Space Invaders



SEEKING INSPIRATION

Looking to the arcades for inspiration was common in the early days of games programming, as David Llewellyn of Walking Circles (nee Design Design and Crystal) recalls: "When we started Crystal nobody thought two hoots about bringing out *Space Invaders* and calling their game *Space Invaders*. We didn't do exact copies, but borrowed here and there." *Tank Busters* owed quite a lot to *Battlezone*, and then the line vector routines from *Tank Busters* were improved and adapted for a space game, which appeared a little while after the arrival of *Star Wars* in the arcades: *Dark Star*.

"In those days, we were just kids getting on with it", David remembers, "every now and again we heard of someone being warned off but we were a bit naive - for instance, we wrote a game and called it *Nemesis*, not even knowing that there was an arcade game with that name. It would have cost a lot of money to fight the issue in court, whether we won or lost the case, so we called the game *Nexor*."

"You must have heard it said that there are only six jokes in the world, and every joke is directly related to one of those six. Well, there are probably only six or seven games in the world too." Steve Wilcox, Elite

If challenged, companies tended to back off. Microdeal, for instance, ran up against Activision with *Cuthbert in the Jungle*, as John Symes remembers: "they said our game was a copy, and that they were going to sue. Talking to our solicitors, we learnt that it would probably cost us £18,000 to go to court, before we got a decision, so we said okay, we'll kick it into touch." In the absence of legal aid for companies, as John points out, a large company can bankrupt a small one before a case gets to court.

John still believes that you shouldn't be able to copyright an idea. "Copyright exists in the artistic content - if someone copies game graphics then there's reason for people to get upset."

Atari was amongst the first companies to get protective about the rights to a game - in 1982, it produced a version of *Pacman* for its consoles, and started making noises about home computer clones of the game. Bug Byte was warned off and withdrew *Vicman*, while arch hardware rivals Commodore got into a spot of bother with Atari over *Jelly Wars*.

The cloning continued, however, in a fairly unashamed manner. *Pacman* is one of the 'great game themes', which has appeared over and over again - while Grand Slam has done the decent thing and collected official licences to the more recent *Pacman* arcade machines, other companies have continued to borrow Pacinspiration, right up to US Gold with their recent *Pepsi Mad Mix Challenge* game, reviewed this issue.



Giganoid: judged to be 'a mirror image' of Arkanoïd in Issue 12

SOFTWARE PROTECTION

Buying arcade rights has become a highly competitive and expensive business. Leading software publishers bid against each other for the opportunity to produce the official version of coin-op games; the stakes are high, and are getting higher. Last year, for instance, the *Out Run* licence is rumoured to have cost US Gold in the region of £250,000 - add in the cost of programming five versions,

tot up the advertising bills, count in the expense of producing the disks, tapes, inlays and so on, and you realise that an awful lot of US Gold money was riding on the success or failure of the title.

Publishers need to sell a lot of units in order to recoup that sort of investment, and they are understandably wary of having an expensive hit title undermined by a 'clone', or 'lookalike' game produced without a licence. The arguments that there's plenty of room for everyone, or that a real fan of an arcade game will buy the official version along with unofficial versions doesn't convince the owners of expensive licences.

Last year, there was a fair bit of up-front sabre-rattling in *Computer Trade Weekly*, the industry newspaper - several companies announced the acquisition of licences with aggressive adverts pointing out that their solicitors would be watching for clones. This year the issue has gone slightly more public.

But where does drawing inspiration end and cloning begin? Were programmers such as John Ritman and Steve Crow guilty of

THE SAGA OF MONOPOLY

Arcade games were not the only source of inspiration in the early days of the software industry. Traditional entertainments, such as card games and board games were converted for the home computer in droves. Clearly, no-one owns the rights to chess, draughts or bridge - they are 'in the public domain' and anyone can come up with a computerised version without fear of alienating someone who holds rights.

Property-trading games, like chess, go back a long way - as far back as Egyptian times - but Monopoly, produced in this country by Waddingtons under licence since the 1930's, has enjoyed a monopoly on commercial property-trading boardgames for around fifty years. In the early 1980's, a handful of software houses produced monopoly-style property-trading games without approaching Waddingtons. Waddingtons got upset - even though the US Appeal court had ruled that Parker Brothers, the company that granted Waddingtons their Monopoly licence, had no right to the 'Monopoly' trading name, and despite the fact that property-trading games have a long history.

In the Museum of Childhood in Edinburgh, for instance, there's a boxed boardgame called *Brer Fox an' Brer Rabbit* which was manufactured in 1910 by Newbie games. It has a square board with a Treasury in the centre, proper-



ties are ranged around the edges of the board, Public Services are featured, players have to deal with a Go To Jail square and collect £200 for completing a circuit of the board. Sound familiar? And this game was on commercial release some 20 years before American boardgame giants Parker Brothers bought up the rights to three games - one called Monopoly and two others on which it was based, *The Landlord's Game* and *Finance*.

In May 1983, Mel Croucher and Christian Penfold released a game called *Automonopoly* on the Spectrum - published by their company Automata, it was just one of a number of computerised property-trading games released around that time. Waddingtons reacted with an injunction, so Automata changed the name to *Go To Jail*. Late in 1983, just as the peak Christmas selling period was looming, Waddingtons threatened Automata with another injunction, to prevent the marketing of *Go To Jail*.

Automata made it clear that they intended to fight, defending

their case on the grounds that their computer game was not based on Monopoly, but on a tradition of property-trading games that was nearly as old as chess. The injunction was withdrawn 'at the doors of the High Court' according to Mel Croucher, and about six months later it became clear that Waddingtons didn't intend to take the matter any further. By this time, most of the other small software companies backed off, however, withdrawing their property-trading games. Sadly, the boss of one such software house committed suicide around that time - the pressures of running Rabbit Software became too much for Alan Savage, one of the first casualties of the entertainment software industry.

Nowadays Leisure Genius publish the official, licensed version of Waddingtons' Monopoly, and have the market to themselves.

Interestingly, between April and November 1983 a period when the 'opoli' computer games were selling well, sales of the Monopoly board game also went very well for Waddingtons, apparently increasing by 36% over the same period in the previous year, so the argument that imitation is not only the sincerest form of flattery, but actually increases sales may have some grounding...

plagiarism with *Batman* and *Wizard's Lair*, or were they just programming in the Ultimate School in much the same way as Monet painted in the Impressionist style? And does the same hold true of *Rainbow Arts*, the people behind *Great Giana Sisters* and a number of other 'lookalikes'?

Personalities come into copyright rows, too, it seems. Mark Cale of System 3 had a spot of bother in the States over *International Karate*, which Data East thought resembled their arcade game *Karate Champ*. "I think that might have been a personal thing between Data East and Epyx (who released *IK* in the States). The men were different and the moves were different, but there is only so much you can do in a *Karate* game - karate is karate, after all", Mark observes.

So long as the theme for a game is in the public domain - like chess, backgammon,

"We will not tolerate infringement of our copyright. To prove this requires an enormous amount of work and time - often looking at games frame by frame - but we are willing to do it." Rod Cousens, Activision

traditional cardgames or sports - there can't be much of a case for copyright infringement. Or can there? Monopoly caused quite a row five years ago (see box). Sometimes it's difficult to determine who owns what - as in the case of the *Arkanoïd/Super Breakout* row that broke out in the arcades after the *Arkanoïd* licence had been sold for home computer conversion.

Activision had the rights to *Rampage*, bought from the coin-op company, and then US Gold came up with *Ramparts* while Gremlin were working on *T-Wrecks* (now to be released as part of a licensing deal with the manufacturers of Chewits). Three games involving monsters smashing the place up, but where does the copyright lie? As Ian Stuart of Gremlin points out, Chewits have been running a commercial that stars a *Rampage*-type monster for fifteen years.

There's certainly an element of publicly flexing corporate muscle in the disputes about licences, along with the desire to nurture the fruits of an expensive licence deal. Sometimes the big boys can co-exist in harmony, as happened with US Gold's *Gauntlet*, *Firebird's Druid* and *Electric Dreams' Dandy*. Sometimes they fall out. And sometimes they don't care - like *Ultimate*, who did nothing about the host of imitators that fol-

lowed leaders like *Knight Lore*, *Atic Atac* and *Sabrewulf*. But then *Ultimate* came from the arcades in the first place, made their money and went back...

ALTERNATIVE STRATEGIES

Spending money on a licence nowadays is a speculative investment, a form of venture capitalism in effect, with work often subcontracted to programmers. No wonder the giants of the software industry are protective of their rights. Under British copyright law, as it exists at the moment, taking action is expensive and the outcome against a clone arranger is uncertain.

One strategy that no-one has tried yet is to buy an licence, announce the acquisition to the trade and sit tight. After six months or so, several companies would have produced clones from the coin-op, so the licence holder could step in, annexe the best version for publication and issue injunctions on all the others, thereby saving all the expense and hassle of hiring programmers...

THE WOLF PACK

The 'military shoot-em-up' is hardly new to the home computer or the coin-op machine, and *Operation Wolf* is the most recent in a line of soldier-killers that include *Commando* and *Ikari Warriors*. This Christmas, Ocean is set to wow shoot-em-up fans with its official licence of Taito's machine-gun mayhem game. This issue, *Screen Test* looks at *Wolf* from Ocean, and also casts a critical eye over two other games that could easily have been inspired by the arcade machine: *POW* and *Veteran*. But where does the chain end? *Operation Wolf* itself is hardly amazingly original...

Gary Bracey of Ocean is philosophical - it's highly unlikely that Ocean will be rushing off to the courts to take action against *Wolf*-like games. "It's a shame", he comments, "we're paying for a licence, and other people may be cashing in on the back of the arcade machine's success, but we don't feel too threatened by it". Ocean's line seems to be that they will pass on any potential *Wolf* clones to Taito rather than take action themselves.

Gary Bracey's strategy in the clone wars is to produce the best game, making

sure that any Ocean licence makes unofficial imitators look just like pale imitations. "We've tried to get as close as possible to the feel of *Operation Wolf* - you can't do games like *WEC Le Mans*, *Outrun* and *Wolf* and actually simulate the controls, but we've got as close as possible. Our game stands up - we've created the feel and atmosphere of the coin-op in so far as it is possible to do so."

He's not too impressed by *Veteran* "to be very objective, our game stands up well in comparison - we've got better graphics, better control", nor is he too worried by *POW* "we saw it a while ago, and again didn't feel too threatened - it's all small splinters in the distance."

Mungo Amyatt-Leir of Software Horizons, the people behind *Veteran*, can see some similarities between his game and *Operation Wolf*: "Obviously, it has a similar type of gameplay - nobody can deny that". But it seems unlikely that any arcade cloning has taken place... "Our programmer lives and works in Yugoslavia, and I doubt he's had the opportunity to play the arcade machine. The brief we gave him was to make an exciting 3D commando shoot-em-up, and *Veteran* is just what he came up with."

Actionware's Howard Newmark sighs when he is asked about *POW* in the context of *Operation Wolf*. "It's going back to the same old subject", he says, "like how many different types of *Karate* game are there, or how many different types of game can you have that involve using a gun. *POW* is certainly not plagiarised from *Operation Wolf*". Although he admits that *POW* might have drawn some inspiration from games like *Wolf*, Howard Newmark points out that it was being designed and written months ago as a game to go with Actionware's lightgun peripheral.

It seems unlikely that Software Horizons or Actionware set out to clone *Wolf* (for a start, it could be argued that they would have done a much better job). As Mungo Amyatt-Leir says "It's quite a popular game theme at the moment, to kill a lot of people, and you can't really licence a game theme. The problem in the marketplace at the moment is to come up with an original theme that is popular with the public."



(Top left) *Veteran*.

(Above) *P.O.W.*

(Left) *Operation Wolf*



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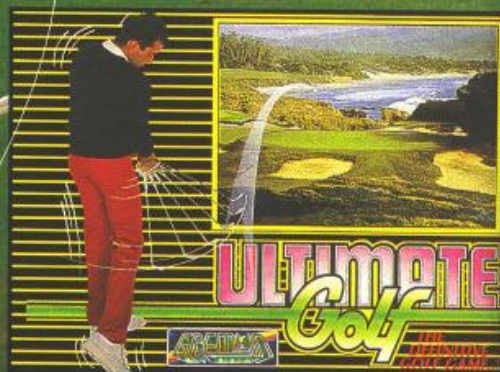
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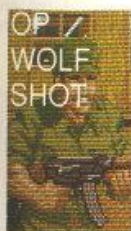
Welcome, to the biggest Screen Test section ever. It's not just big either, it's absolutely bursting with headlining games that will make this the hottest Christmas yet. There are no less than six 900 rated games and another five that got close, scoring over 800.

Among them, are some classic coin-op conversions for which we have devised an additional rating – the new **Arcade Accuracy** rating indicates just how well the programmers have managed to reproduce the graphics, sound and overall feel of an arcade game, given the limitations of the machine been converted for. It doesn't reflect how good a computer game the conversion is: for that you still refer to the ACE Rating. **Operation Wolf**, **R-Type** and **SDI** are the pick of the month's conversions - great programming, great games.

There are some fantastic original titles in the form of **Powerdrome** - futuristic racing action; **Bombuzal** - a puzzle game set to be a classic; and **Joan of Arc** - a marvellous strategy game. They all weigh in with 900 ratings. Still not enough for you? Well, how about the pick of the updates, as **Nebulus** and **Driller**

arrive on the ST and Amiga to rave receptions? Role-players are in for a treat as well, with **Pool of Radiance** also busting the 900 barrier.

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THE RATINGS

HOW they're calculated...

If you buy a game, how much enjoyment will you get out of it, and for how long? Just check out our revolutionary PIC (Predicted Interest Curve) for the full story. Brilliant arcade games start high on the curve, and then steadily tail off as you lose interest; powerful puzzle games may ride the crest of the curve for months – but the moment you solve them they'll come tumbling down; complex strategy games may stump you at first – but climb up the scale as you begin to appreciate the scope of the gameplay. And as for the turkeys – they start low, stay low, and have nowhere to go but down, down, down.

Once you've seen how long the game can hold your attention,

all you need to glance at is the renowned ACE RATING. This is calculated according to the area under the PIC. The bigger it is, the better the game. Add to that our definitive ratings for IQ Factor (will it give your brain cells a workout?) and Fun Factor – a measure of instant appeal and exhilaration as you dive into the game. And, of course, we rate the Graphics and Audio effects too...for EVERY machine the game's available on.

WHY you can rely on them...

The ACE reviewing team covers a broad spectrum of computer entertainment talent. Andy Wilton – ACE's resident technical wizz – is as handy with a smart bomb as he is with hexadecimal. Andy Smith wouldn't know hexadecimal from a hole in the ground, but can wipe the floor with any number of aliens.

Rod Lawton prefers to reason with aliens – then shoot them. Bob Wade (ex-Personal Computer Games, Zzap!64 and Amstrad Action) has played more computer games than any sane person ought to. Add Graeme Kidd, who joins us this month as Editor with a background in computer games that's nearly as wide as his waist is round (he started with Central TV – but remember him on CRASH or The Games Machine? read him in Your Sinclair or The One? Enough said).

Every game on the following pages has been seen by all of us. We compare notes, express differing opinions, and only then do we decide who's to take final responsibility for getting our views into print. What follows, then, isn't just a collection of casual comments, but the definitive ACE verdict on this month's software. We've checked it out – now you can too.

INDEX

ACE RATED

- 59 BOMBUZAL Imageworks
- 78 DRILLER (ST & Amiga) Incentive
- 44 JOAN OF ARC GO
- 79 NEBULUS (ST & Amiga) Hewson
- 84 POOL OF RADIANCE US Gold
- 47 POWERDROME Electronic Arts

REVIEWED

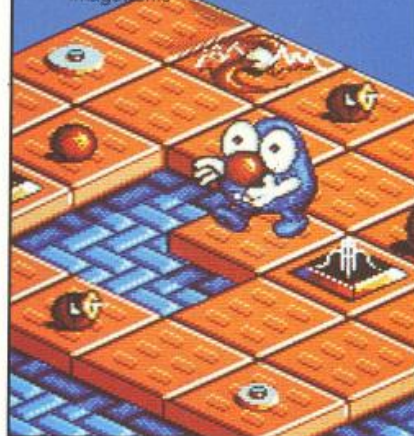
- 58 ACTION SERVICE Infogrames
- 58 ALBEDO Loricels
- 86 ARTURA Gremlin
- 86 CAPONE Actionware
- 82 CYBERNOID II Hewson
- 76 DT'S OLYMPIC CHALLENGE Ocean
- 67 ELEMENTAL Lankhor
- 86 FINAL ASSAULT Epyx
- 62 FUSION Electronic Arts
- 53 FUTURE MAGIC Electronic Arts
- 74 GAME OVER II Dinamic
- 82 GAMES: SUMMER EDITION Epyx
- 56 HOSTAGES Infogrames
- 52 MENACE Psyclapse
- 42 OPERATION WOLF Ocean
- 56 PEPSI MAD MIX US Gold
- 76 P.O.W. Actionware
- 49 ROCKET RANGER Cinemaware
- 50 R-TYPE Electric Dreams
- 75 SDI Activision
- 44 SPACE HARRIER Elite
- 67 SPACE RACER Loricels
- 74 SUPERSPORTS Gremlin
- 62 TRACK SUIT MANAGER Goliath
- 52 TYPHOON Imagine
- 86 VETERAN Software Horizons

UPDATES

● ST

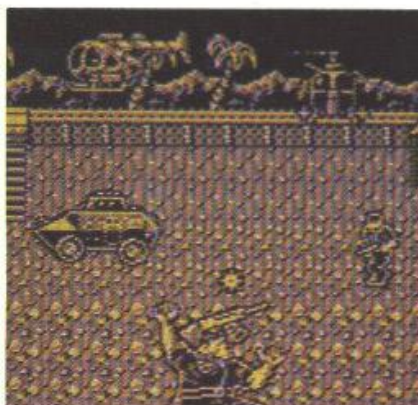
- 78 FERNANDEZ MUST DIE

Imageworks

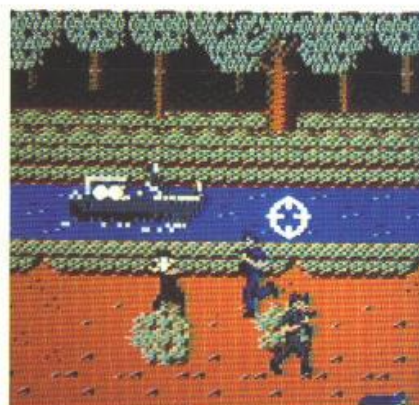




C64 version - If you run out of rockets you can always revert to pumping machine gun fire into the tanks.



Spectrum version - your damage meter has reached the top. Another hit and you'll be finished, here.



C64 version - out of ammo! Line up on that magazine and hope you hit it with one of the few free shots you're given.

OPERATION WOLF

OCEAN spray bullets

OR 'Op Wolf' as it's lovingly known by the thousands of arcade fans who've had amusement halls up and down the country ringing to the sound of hundreds of machine guns bratt-a-tat-tatting. The official version of the game has been a while coming to the home micro, but now the 8-bit versions are complete with ST and Amiga due to follow shortly for an all-formats release. Has Ocean managed to capture the excitement of the coin-op?

The game is divided into six stages and your prime directive is to get to the fifth stage, rescue the hostages held there in a concentration camp and make sure they all get aboard a getaway plane that's found in stage six.

Armed with a machine gun and a fistful of rockets, you have to shoot and blast away at the enemy, killing as many of them as you can before they shoot you. Each horizon-

tally-scrolling stage contains a detachment of enemy forces which has to be blown away before the section is complete. Larger opponents in the form of tanks, helicopters and gun boats back up the foot soldiers, and can only be destroyed with multiple bullet hits or a single rocket.

Targetting the enemy involves moving a crosshair sight around the screen. Hitting the fire button changes the cursor into a bullet hole (or a line of dust spitting up from the floor, if your aim is not that good). Setting out with seven magazines of bullets and five grenades, you are under-equipped - so resist the urge to keep the button pressed as you try to wipe everything out, and make sure to pick up ammunition as you go. This can prove to be tricky at times, because you have to shoot the extra ammo clips and rockets that are lying on floor before they go scrolling off the screen. If the enemy is ganging up on the screen, you have to decide whether you can last until the next clip appears, when you might have fewer opponents on screen and less chance of sustaining hits. Small animals scurry across the screen, and are an extra source of ammunition - if you manage to shoot them you're awarded with extra ammo.

A meter monitors your health, diminishing as you take hits and falling dramatically if you blow away one of the non-combatant natives, nurses or hostages. Shooting small bottles of medicine on the ground reduces your damage level, and completing a section allows for a bit of restorative R&R. Other extras that appear on the ground include sticks of dynamite which act like smart bombs, clearing the screen if you shoot them.

Stage one on the Amstrad - with no rockets remaining and five tanks and four helicopters left to destroy, your chances are slim.



C64 VERSION

The only one of the three reviewed here that gives you the option to play with either mouse or joystick. Playing with the mouse is the easier option, but you do get more ammo and grenades at the start of the game if you play with joystick. The collision detection is the tightest on the C64 so you can find yourself shooting through the gap between baddies' legs if you're not careful. Playing on joystick is very tough to begin with, but like most things perseverance pays off.

GRAPHICS	9	IQ FACTOR	1
AUDIO	8	FUN FACTOR	9
ACE RATING 894			

AMSTRAD VERSION

The most colourful and with the fastest scroll of the 8-bit lot which affects the gameplay quite a bit if you've played the other versions. Terrific, if very mindless, fun.

GRAPHICS	9	IQ FACTOR	1
AUDIO	7	FUN FACTOR	9
ACE RATING 894			

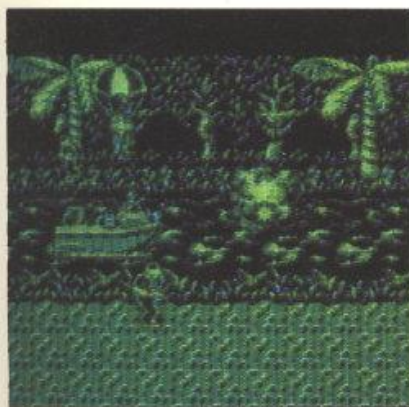
SPECTRUM VERSION

The graphics are all in monochrome (though the colour changes for each stage) so it can be tough to see the baddies sometimes. The game loads in one go on 128K machines but is multi-load on 48K machines. You'll find yourself playing this for a long time to come - even if you manage to complete it you'll find yourself coming back whenever you feel the urge to blast away at some baddies.

GRAPHICS	8	IQ FACTOR	1
AUDIO	6	FUN FACTOR	9
ACE RATING 887			



line up on
it with
given.



Stage two on the Spectrum - you've just destroyed one gun boat and you've one more rocket left for the other one.

WOLF

The stages get progressively harder. After Stage Three some of the baddies get cunning and start wearing bullet-proof vests, so you have to shoot them in the head to despatch them.

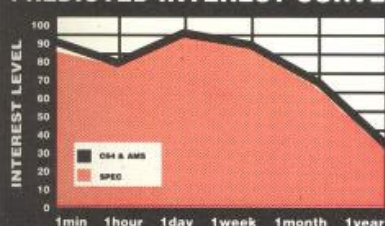
Operation Wolf was never a game to test your brain power - it's undiluted mayhem and mass murder all the way. The 8-bit versions of the game are surprisingly faithful to the original coin-op: not only has all the action and gameplay been captured, but so has the excitement, making it one of the most satisfying and compulsive shoot-em-ups to have appeared in a long time.

● Andy Smith

RELEASE BOX

ATARI ST	£19.95dk	IMMINENT
AMIGA	£24.95dk	IMMINENT
IBM PC	£19.95dk	IMMINENT
C64/128	£9.95cs £14.95dk	REVIEWED
SPECTRUM	£8.95cs £14.95dk	REVIEWED
AMSTRAD	£9.95cs £14.99dk	REVIEWED

PREDICTED INTEREST CURVE



It's not easy to get the hang of, but master the controls and you're hooked



UPDATE SPECIAL

SPACE HARRIER I and II

ST ● Elite £19.99dk each

SPACE *Harrier* is one of the fastest, most colourful and action-packed arcade games around. On the home computer, it was very successful in its 8-bit forms and is proving just as good in its ST incarnations.

Harrier takes the interesting perspective of having everything coming straight at you out of the screen. You control a man with a jet-pack who can fly anywhere around the screen and shoots from the hip with a laser.

The landscape rushes forwards, bringing static ground objects and all sorts of alien waves straight at you. With the ground objects it's a simple matter of seeing them coming and getting the hell out of the way or blasting them if they're destructible.

The aliens of course aren't such a simple matter. Not only do they follow many different movement patterns but they also shoot accurately, and can come zipping onto the screen from right next to you or gradually advance from the far distance. This element of perspective is what makes the game so enjoyable and yet so difficult. No matter where they are in terms of perspective the aliens can still shoot at you.

There's a very impressive collection of

aliens to deal with, although they haven't been altered much for the additional data disk. They range from massive gun-toting robots to bouncing oranges that look like the alien from the film *Dark Star*. At the end of each level is a massive guardian that has to be hit many times before it expires.

The basic game is certainly a great one for sheer speed and zapping action. *Space Harrier II* - essentially a second data disk - doesn't really offer much that is new, but fans will probably enjoy the extra challenge.

● Bob Wade

ATARI ST VERSION

The sprites are giant-sized and move very fast - too fast at times. It makes excellent use of colour and has some superbly designed aliens. The music is good and there are competent blasting effects.

GRAPHICS 9 IQ FACTOR 1
AUDIO 7 FUN FACTOR 8
ACE RATING 729

PREDICTED INTEREST CURVE



ARCADE ACCURACY



Obviously the ST offers the closest of all the conversions and has all the colour, speed and challenge of the arcade version.

COIN OP SCORE 9

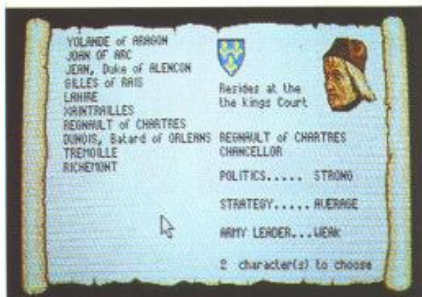
Big, bad robots are just one of the many awkward aliens.



Fortunately there isn't any of that distasteful burning at the stake nonsense in this game. Instead, it concentrates on the battle to crown a King of France and rid the French countryside of the scourge of the English invaders.

After a history of events presented in a pleasant storybook form, you're shown a map of France that reveals the current political lie of the land and the location of armies. Joan of Arc commands an army that is alone and under attack. You take the role of Charles, heir to the throne and can control Joan's army. The first objective is to gain the throne, which involves conquering Orleans and Reims.

The main game menu offers seven options, but at the start, all that is available is



A list of the French characters currently available to you. On the right are the attributes of one of them. Clearly he's a good man to send on a diplomatic mission.

the option to commence a campaign by moving the army commanded by Joan and attacking other armies or towns. Armies meet in combat on the open field, while conquering a town or fortress is a matter of fighting your way inside.

In open field combat you use icons to control soldiers, archers, cavalry and bombards. Generally, weight of numbers will triumph, but a lot can depend on factors such as the weather, who's got the high ground and when you commit the forces. Attacking towns is more arcade-based. First there a combat sequence where you have got to fight past several soldiers at the gates, then the walls must be scaled, avoiding the rocks and boiling oil thrown down at you. The situation is reversed when someone attacks one of your towns - you defend the wall by throwing rocks and oil.

Failure to gain the crown results in Joan being pensioned off and the game ending, but as King you can access the other options on the menu and the real game begins. The King has to liberate the whole of France from the control of English and other rebel forces, and all the commands at your disposal need to be used: diplomacy, espionage, helping hand, Royal Treasury, Royal Justice, raising a

RELEASE BOX

ATARI ST	£19.99dk	OUT NOW
AMIGA	£24.99dk	IMMINENT
IBM PC	£19.99dk	OUT NOW
No 8-bit versions planned		

JOAN OF ARC

A well-done game from RAINBOW ARTS



(Above) The initial map of France showing Joan of Arc's army as the blue flag, and French held territory in blue. The icons at the right access the option menus.

(Inset above) Battling your way into the castle you have to have swordfights with several soldiers and avoid the arrows, in order to get to the gate.

(Right) The battlefield where armies collide. All the figures are tiny, but the action is cleverly put together as the various groups of soldiers, archers and cavalry clash.

ATARI ST VERSION

The graphics and presentation are very slick and atmospheric indeed, rivaling *Defender of the Crown* for quality. The still pictures and animation all look good, but there isn't much sound and no music at all. One problem is the disk accessing which leads to pauses between the action, but this niggle doesn't harm the gameplay much.

GRAPHICS 8 IQ FACTOR 7
AUDIO 2 FUN FACTOR 6
ACE RATING 912

IBM PC VERSION

The EGA graphics are comparable with the ST's and all the gameplay operates in exactly the same manner. The CGA version doesn't look half as good but still plays just fine.

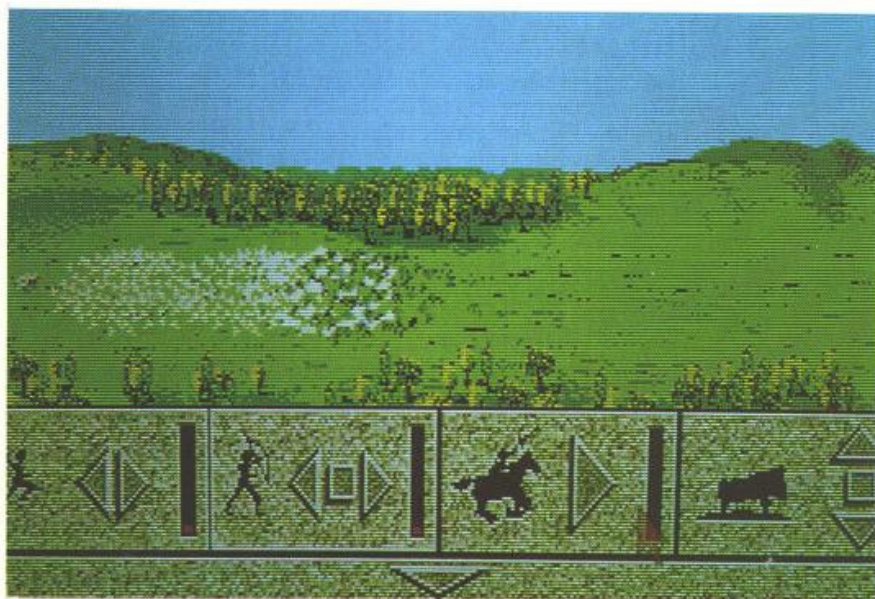
GRAPHICS 8(4) IQ FACTOR 7
AUDIO 2 FUN FACTOR 6
ACE RATING 912

and as a 'helping hand'. Espionage can reveal what's happening all over the country, while the helping hand is a sinister option, that allows the King to bump off or kidnap opponents. If an opponent has been captured, you can dispense some Royal Justice and execute him. French characters can also be arrested and executed, or pardoned if you're in a good mood.

The Royal Treasury is absolutely vital because you can't pay armies, spies or anyone else if you haven't got the loot. The only way to get cash is to impose tithes on the provinces controlled by the King - don't be too harsh, and remember that one type of tithe has to be collected at the appropriate time of year: miss the moment, and you're in trouble.

There's an obvious comparison with *Defender of the Crown*, and *Joan of Arc* wins convincingly. As well as the arcade sequences, the strategy side of the game is well thought out. When you become King the game isn't over - it has only just begun, and it gets better and better.

● Bob Wade

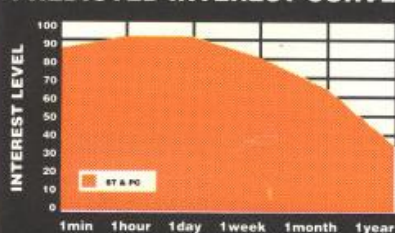


Royal Army and starting a campaign.

Most options involve dealing with the game's 30-odd characters. These split into three main groups: French characters, English and other potential hostiles, and six spies. Each character has strengths for politics, strategy, and as an army leader. Good politicians are useful for diplomatic negotiations for the release of prisoners, peace treaties and alliances. Good army leaders are obviously good commanders for campaigns, while strategy appears to affect most things...

The attributes of the spies are somewhat different, because you use them for espionage

PREDICTED INTEREST CURVE



Plenty to do right from the start and the depth to last as well.

Tadio Rimes

CHRISTMAS & NEW YEAR

ABC 1

9.00am SAVAGE

First out of the stocking this Christmas has to be **SAVAGE**. An epic of gargantuan proportions in three mind blowing action packed levels.

Savage features graphics so stunning they'll put your Christmas tree lights to shame!

Spectrum cassette £8.99

Commodore 64 cassette

£9.99, disc £12.99

Amstrad cassette £8.99,

disc £14.99



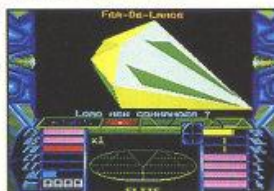
Amstrad screen shot

11.00am ELITE

Intergalactic action hits the 16-bit screen with a bang as the all time classic **ELITE** explodes into solid 3D splendour. Be warned, this game is so addictive you'll be up all night... and Santa won't leave any goodies if you don't get to bed on time!

Atari ST £24.95

Amiga £24.95



Atari ST screen shot

3.00pm DYNAMIC DUO

Going underground takes on a new meaning as you battle through pitch black tunnels and passageways in search of wealth beyond your wildest imagination. But beware of lurking monsters with no sense of tradition, it's duck not turkey on their Christmas menu.

Spectrum cassette £7.99

Commodore 64 cassette

£9.99, disc £12.99

Amstrad cassette £8.99,

disc £14.99



Amstrad screen shot

6.00pm BLAZING BARRELS

Christmas just wouldn't be the same without a rip roarin' Western. So Firebird are proud to present, fresh from their famous ICOM studios, **BLAZING BARRELS**, featuring the all star cast of...

Bammo

THE MEXICAN BANDITO

TNT Tom

THE REALLY BAD GUY

You, alias Black Jake

THE BOUNTY HUNTER

Atari ST £19.99

Amiga £19.99



Atari ST screen shot

9.00pm EXPLODING FIST +

When the snow starts a-falling and the wind starts a-howling there's nothing better to warm up those frost bitten fingers than the blistering heat of **EXPLODING FIST +**.

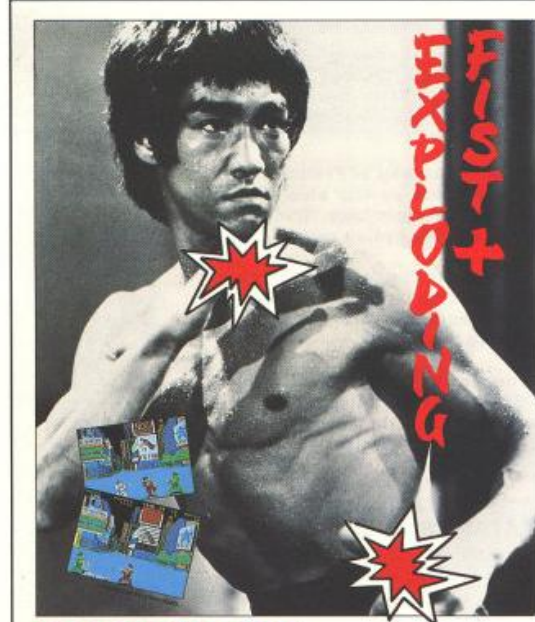
If you're feeling guilty after stuffing your face with all that Christmas turkey, here's your chance to get back into shape — or get kicked into the middle of the New Year!

Spectrum cassette £7.99

Commodore 64 cassette

£9.99, disc £12.99

Commodore 64 screen shot



HANDLE WITH CARE

Soon to be hitting your screens on:
Commodore 64 cassette £9.99
Commodore 64 disc £12.99
Spectrum cassette £7.99

Telecomsoft, First Floor, 64-76 New Oxford St, London WC1A 1PS.
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A LEGEND IN GAMES SOFTWARE

Sequel to the blockbuster
WAY OF THE EXPLODING FIST!

Christmas Viewing



For mail order please send your order and remittance (cheques payable to British Telecom plc or direct debit from Access/Visa card by stating number and expiry date) to:
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A LEGEND IN GAMES SOFTWARE

925

Imagine a game that has the sort of mouse control found in *Ferrari Formula One*, but with up and down controls thrown in as well. A game that takes you into a whole new dimension of race games and provides a vision of the future along the way.

Essentially, this is like any other race game. You're taking part in a championship run over six races against four computer opponents. The tracks and weather conditions vary, and pit stops are available – the difference is that the tracks go underground, loop-the-loop and even try to crush your craft. The weather includes particle storms and ammonia and sulphur atmospheres. As for the pit stops, they consist of replacing large chunks of the ship, which takes a battering from ram-

There's a tight left turn coming up – can you sneak past that guy in front of you?
INSET: Fly under that bridge and you'll be plunged into shadow, emerging into the light on the other side.



POWERDROME

ELECTRONIC ARTS pedal to the metal

ming into the walls and floor.

The six tracks will test anybody's flying skills because they twist and turn all over the shop. There are thin gaps to squeeze through, walls that close in, and tight hairpins both horizontally and vertically. At first they seem impossible, but practising and modifying your highly-responsive ship will soon change that.

The ship has many variables that affect the way it performs, including different fuel mixtures, aileron sizes, brake sizes, pitch-roll settings and filters. The filters are necessary for flying through different atmospheres like ammonia and methane – pick the wrong one and the engines won't perform at all well in a hostile atmosphere.

Flying round the course you'll inevitably bump into the walls, floors and ceilings. Eventually, bits of the ship get damaged, and the damage starts to affect the controls. With both wings bust and the nosecone in tatters, the craft steers like a supermarket trolley with all four wheels headed in different directions. The only way to cure this is to make a pit stop.

The pits are a very hi-tech affair where damaged body parts can be replaced, fuel taken on board and data on the race accessed. You can also modify the trim of the craft to make it handle better, although this is

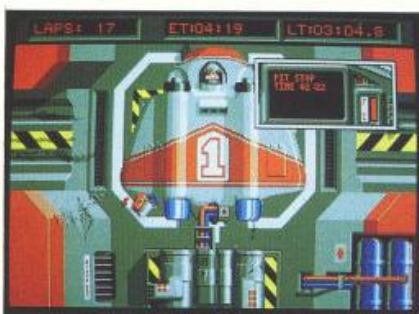
best done during the qualifying session, rather than during a race.

The other competitors are of varying quality but it's going to be no easy thing to beat any of them, let alone win a race. As for winning the championship that's one of the tallest orders going. If the computer-controlled racers



You're at the back of the grid at the start. As soon as the lights change you've got to whack on the engines and race to that first corner.

The pit screen where you can replace bits of the craft and get refuelled.



aren't challenging enough, you can use the datalink option to hook up to another ST or Amiga and fly against a human player.

The controls are pretty tough to get used to, but right from the start you'll be hooked on it and have the hang of things after half-an-hour's play. A classic concept, beautifully implemented and which will have you totally absorbed for months.

● Bob Wade

ATARI ST VERSION

The graphics give an excellent impression of speed and movement, and you can toss the ship around in all sorts of ways. You actually need to sit back from the monitor to get the best effect. You'll be throwing yourself around with the ship as it banks, climbs and dives. The real disappointment is the sound – it's lousy. Turn it off and enjoy the game without it.

GRAPHICS 9 IQ FACTOR 4
AUDIO 2 FUN FACTOR 7
ACE RATING 925

PREDICTED INTEREST CURVE



It's a beast to start with but it's always got that special something that keeps you at it.

RELEASE BOX		
ATARI ST	£24.95dk	OUT NOW
AMIGA	£24.95dk	EARLY '89
IBM PC	£24.95dk	SPRING '89

OFFICIAL
Advanced Dungeons & Dragons
COMPUTER PRODUCT



**HEROES
OF THE LANCE**



**POOL
OF RADIANCE**



HISTORY will never be the same again. Who ever heard of Zeppelins, rocket men, lunarium and moon bases during World War II? Put reality on hold when strapping on your rocket pack because all manner of strange things are going to happen, in fact the further you get the weirder things become.

At first it looks like you're in for a fairly conventional WWII setting, as Hitler rants away on the opening screen. This impression rapidly evaporates as your first task is to put on a rocket pack and chase a Zeppelin across the Atlantic ocean from America. This is just one part of the main mission to stop Nazi Germany conquering the whole world. They're doing it using lunarium bombs - produced from mines on the moon. To stop them you will have to get to the moon and destroy the base.

To get to the moon you have to find the five parts that make up a moon rocket, steal enough lunarium to fuel it and meanwhile stop the Zeppelin fleet from invading America. To achieve this you have to complete many action sequences jetting around the world as Rocket Ranger, and also the strategy elements from your home base at Fort Dix.

In the war room you have a map of the world and five agents. Each agent can be sent to a country to infiltrate it. They will send back information on what is there - lunarium supplies, rocket parts or other potential targets. They can also organize resistance to slow down the Nazi advance. Unfortunately they can also be discovered and killed, so use them carefully because without them it's very difficult to track down all the rocket parts.

Once RR has loaded up with lunarium in the rocket pack he has to go through a take-off sequence at Fort Dix. This isn't easy, particularly with a heavy fuel load, but it's essential you practice it because failure wastes a lot of time. You get three attempts at taking off, and you'll be glad of them. Which action sequence you get depends on which location you fly to. The journey happens automatically and depends on how much fuel you put in the pack. Choose the wrong amount and you'll end up splashing down in the ocean and ending the game.

RELEASE BOX

AMIGA	£29.99dk	REVIEWED
ATARI ST	£24.99dk	JANUARY

AMIGA VERSION

The graphics and animation are out of this world. There's a tremendous range of scenes that get the best out of the Amiga. The music and effects are also excellent. There's also some digitised speech. Great entertainment value, but still tends towards frustrating repetition.

GRAPHICS	9	IQ FACTOR	6
AUDIO	7	FUN FACTOR	8

ACE RATING 814



After a bruising fist fight you've knocked out the Nazi guard and can escape with one of the five rocket parts.

ROCKET RANGER

CINEMAWARE at full thrust



The war room is where you can use your five agents. A rocket factory has been found in the middle east and the Zeppelin fleet is busy conquering Europe.



You're in the foreground and have to shoot the gunners in the temple. Get them all and you'll get lots of lunarium.



Can you convince the professor and his daughter that your intentions are good?

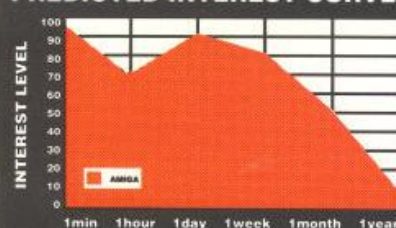
There are two types of aerial combat, one against squadrons of Messerschmidt 109s and the other strafing ground based ack-ack guns. On the ground there's a gun battle with guards in a ruined temple and hand-to-hand combat with soldiers guarding the rocket parts. You aren't given much help on how to complete them at first, but the tactics are relatively easy. However, every time you complete a sequence it gets harder the next time you attempt it.

The sub-plot that runs throughout the game is to rescue Professor Otto Barnstorff and his daughter from the Nazis. This will considerably reduce the Nazis efficiency but is not essential to completing the game.

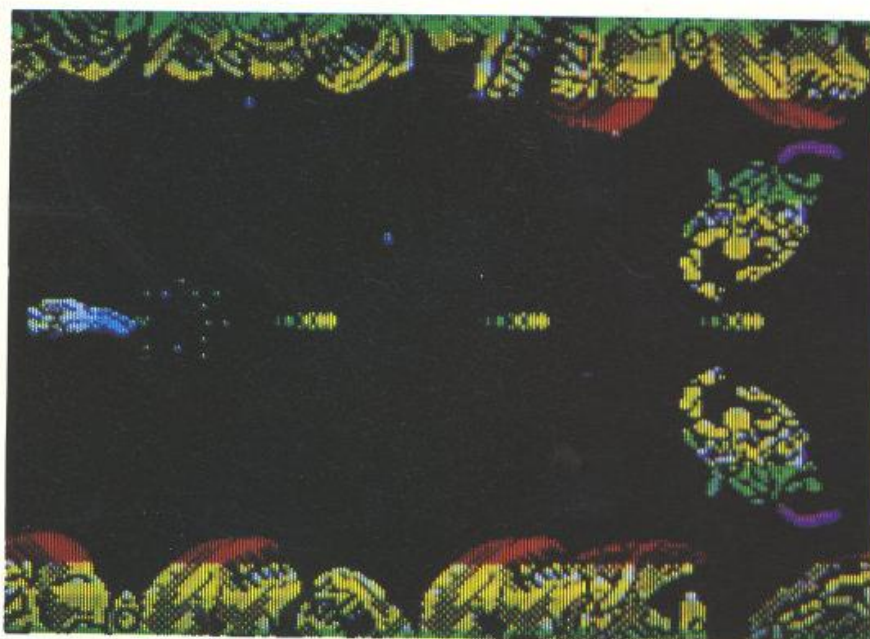
This is probably the best Cinemaware game yet, blending superb graphics with arcade action and strategy. There's enough variety and depth to it to keep you interested, although the pace of the game is still slow because you have to go through a lot of graphic sequences where you do nothing.

● Bob Wade

PREDICTED INTEREST CURVE



Some sequences aren't well explained, but it's a cracker when you know what you're doing.



R-TYPE

The genuine article from
ELECTRIC DREAMS

RELEASE BOX

ATARI ST	£24.99dk	IMMINENT
AMIGA	t.b.a	
C64/128	£9.99cs • £14.9dk	IMMINENT
SPECTRUM	£9.99cs	REVIEWED
AMSTRAD	£9.99cs • £14.99dk	IMMINENT

ARCADE ACCURACY



A superb conversion, with little (if anything) missing from the game.

COIN OP SCORE 9

SPECTRUM VERSION

One thing R-Type doesn't lack, even on the Spectrum, is colour. The sound effects are just about what you'd expect from a Spectrum. What you wouldn't expect is just how close the programmers have managed to get to the original coin-op. It's maddeningly addictive and guaranteed to give you a sore trigger finger.

GRAPHICS 9 IQ FACTOR 1
AUDIO 6 FUN FACTOR 9
ACE RATING 871

(Above) Pumping away with your laser at the start of level two.

(Below) Hold the fire button and you get a super dooper laser bolt.

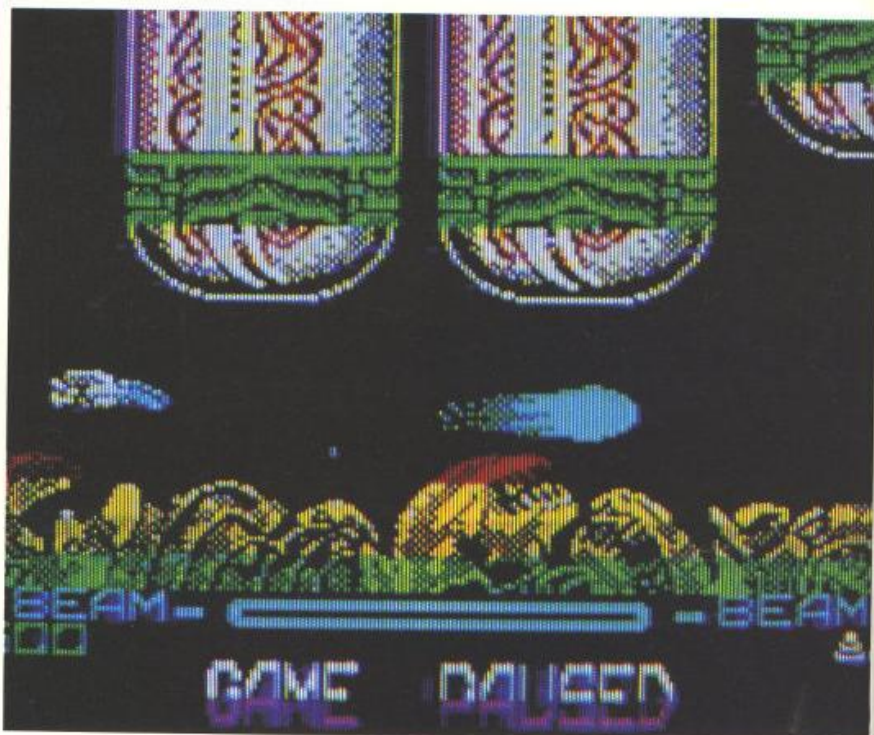


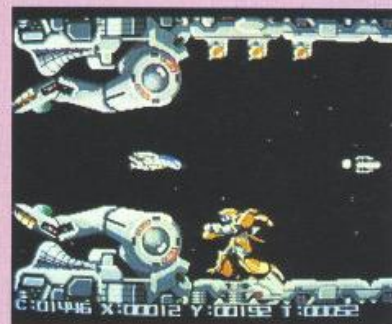
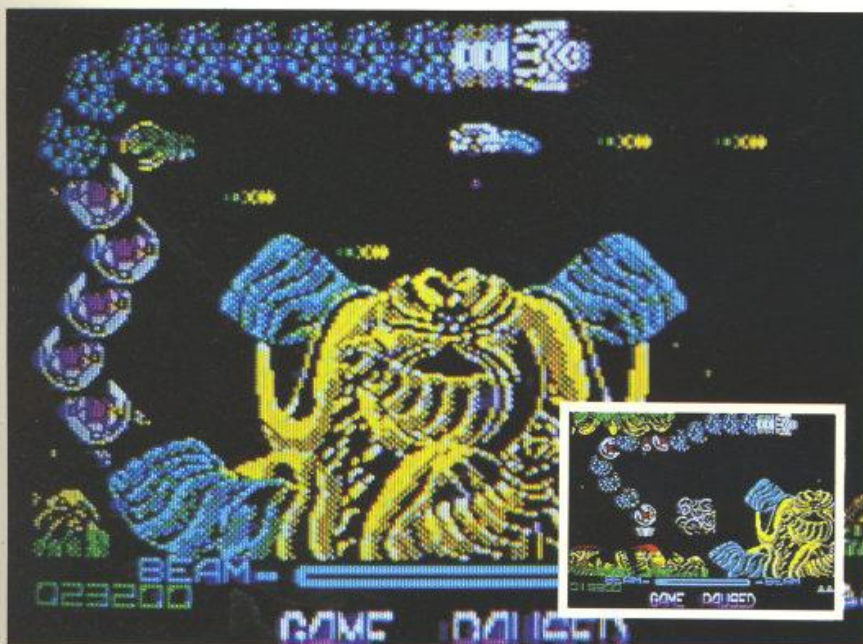
The front of the third end-of-level guardian (and you thought the last one was tough!)



(Above) The middle of the third end of level guardian. Keep firing! Keep firing!

(Below) You've got really big bullets now, but only one life left.





R-Type on the ST. It's not actually finished yet but here's a taste of the game's graphics. Watch out for the update review in a future ACE.

◀(Inset) The second end of level guardian. He's proved too much for you this time...

(Main picture) ...but now you've got the measure of him. Being able to detach your probe is especially helpful here.

ACE first bought you news of this Irem coin-op way back in Issue One. Now, some 15 months on, Electric Dreams have completed the home micro conversions.

Controlling an R-9 interstellar attack craft out to exact revenge against the evil Bydo Empire, you travel through eight increasingly difficult stages, dealing death against a horizontally-scrolling background (each section loads separately). In each stage there's a multitude of flying enemy ships and ground-based gun emplacements to contend with, and of course an end-of-level guardian to dispose of before progressing to the next level.

The action commences with your craft equipped with a front-firing gun which can operate in two modes: tapping the fire button releases small laser bolts, while holding the

fire button down causes a meter just below the main playing area to start creeping up. If you release the button as the meter reaches the top, a more powerful laser bolt is fired – well handy when you come up against tougher baddies who can take more hits before blowing up.

Extra weapons are available if you manage to shoot the small harmless creatures that hop across the screen and then pick up the tokens they leave behind.

One of the most useful add-on weapons is the probe. This ball-like object comes onto the screen from left to right and fires a shot whenever your ship does. Collect the probe, and it can be placed to the front or the back of your ship where it acts like a shield. Hitting the spacebar on the keyboard detaches the probe from your ship, sending to the front or

back, depending on where it was first attached – this is a handy move when you're up against one of the end-of-level guardians because they each have a vulnerable spot that you need to shoot and it's usually in an awkward place. Hitting the spacebar again returns the probe to your ship.

Other weapons include three-way laser shots, which beef up the fire power of your probe, and homing missiles. Extra weapons collected from the earlier stages are lost whenever you lose a life.

Up to 25 ships are available to complete the game with – you have a total of five credits, and each credit buys five ships. Once the fifth ship in a series has been lost, you have ten seconds to press the fire button and continue the game from the last restart position with another five ships (doing that costs you one of your five credits), or you can elect to start back at the beginning again.

R-Type is a superb coin-op game and Electric Dreams have done a remarkable conversion job. The gameplay is terrific, the graphics are great and it's tough and addictive enough to keep you playing for a long time. R-Type doesn't win any prizes for originality, but for sheer speed, addictive gameplay and manic action it's a winner.

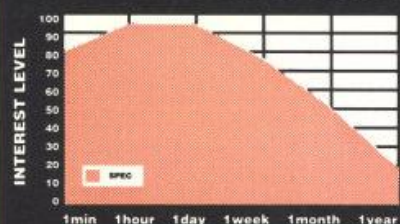
● Andy Smith

◀(Inset) Collect some tokens and your firepower is greatly increased.

(Main picture) Go for that white token!



PREDICTED INTEREST CURVE



Tough and addictive, you'll be playing this for months to come.

SENTINEL WORLDS 1: FUTURE MAGIC

ELECTRONIC ARTS send in the cadets

In control of an Interceptor Class spacecraft and its crew, you are told to sort out a spot of trouble out in the colonies. Transporters shipping from Caldor and Norjaenn to new outposts in the Rouyn and Mistassini systems have been attacked by Raider ships that appear from nowhere, take no prisoners and disappear before they can be identified. It is your job to find out who they are, and put a stop to their activities.

The initial briefing is rudely interrupted by an attack, and you are suddenly seated in front of the spacecraft command screen.

It is immediately obvious that, despite the Star Trek plot, *Sentinel Worlds 1: Future Magic* is no full-3D battle-simulation demanding instant reactions on the old fire button. Indeed play is rather more represen-

tative of future combat: as soon as an enemy craft appears, simply press one key for 'shadow' and another for 'lasers' and let the ship's computer take over. It's all a bit boring as you sit back and watch the fireworks, drawn in a particularly low-res fashion.

Despite appearances, you have considerable control over the outcome, as the Communications Officer can 'hack' into the computer's programs, tailoring them to the situation's requirements. The degree of success depends on her (no sexism here!) experience level - which is where the Role Playing Game (RPG) elements come in.

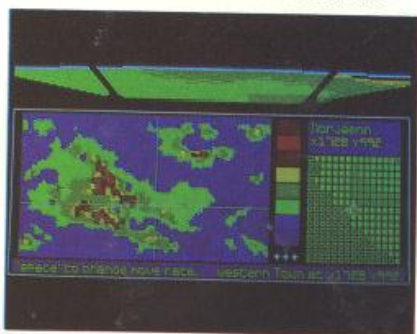
In true RPG fashion, each crew member has Strength, Stamina, Dexterity, Comprehension and Charisma points - enhanced by Experience gained through the game. At the

start, the crew is a pretty puny bunch, so the immediate concern is money, which is needed to buy fuel, extra training, and weapons. This is where the fun really starts, as you go planetside to carry out scientific missions (700 credits apiece), mine minerals, and meet natives - some of whom might know about the mysterious Raiders.

Colourful places are to be found in this galaxy, from the Metropolis-style Utopia of the Caldor Towers to the distinctively Western outback flavour of Norjaenn. Most of the characters are pretty shallow but occasionally, particularly as your crew gains experience, you meet someone who can reveal a bit more about what's going on. With luck, from time to time you are referred to a paragraph from the 'Paragraphs' booklet supplied with the game, and take another step towards solving the mystery.

Sentinel Worlds 1 is unusual in bringing together a well-implemented RPG system of character development and exploration with a real mystery demanding considerable detective work. The action sequences are pretty weak and of course the sound up to the PC's usual appalling standard, but perhaps it is a bit early to expect *Starglider 2* realism combined with a plot of this com-

In orbit above Norjaenn - you don't get this range of colour on a CGA monitor!



On the surface in your ATV, about to explore the delights of Western Town



You've entered a local hostelry and engaged the owner in conversation



TYPHOON

IMAGINE go carrier-bagging



Stage 2. Those attacking aircraft look pretty mean, but they're going to be the least of your worries...

BLOW along in this tough airborne blast, complete with six levels of ever-escalating action.

Things start off quite tame, with an Afterburner-style sequence of shooting waves of enemy aircraft attacking head-on, and missile-dodging. At this early stage you don't lose any of your initial five lives if you get hit, but neither do you get any points...

After a short time, the scene moves to

the skies above an aircraft carrier. Head-on still, you're faced with the same job of dodging missiles, but you now have to shoot the missile launcher on the aircraft carrier. Not too difficult once you know how to time it, but the missiles rob you of a life if they make contact.

Once you've destroyed the aircraft carrier the scene changes and the game becomes a vertically-scrolling shoot-em-up where you pilot an armoured helicopter doing battle with attacking helicopters, jets and anti-aircraft turrets. Apart from your front-firing guns you can also drop bombs (B

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AMSTRAD	£8.95cs £14.95dk	IMMINENT
C64/128	£8.95cs £12.95dk	IMMINENT

SPECTRUM VERSION

The graphics are fair, with smooth scrolling, and the sound effects are good. Combined with action that's tough and unremitting and a wide range of attackers to contend with, it's a sure-fire recipe for success. Tough, but fair - and plenty to do!

GRAPHICS	6	IQ FACTOR	3
AUDIO	7	FUN FACTOR	8
ACE RATING 654			

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plexity. Some of the graphics look pretty good on an EGA display, but if you have to put up with CGA be warned - the game has obviously been designed for EGA and can get downright confusing at times. The main shortcoming is the inordinately slow response time to the keyboard - almost unforgivable on a 16-bit machine.

It may be a bit rough round the edges, but Sentinel World 1 is certainly a step in an interesting direction.

● Matt Nicholson

RELEASE BOX

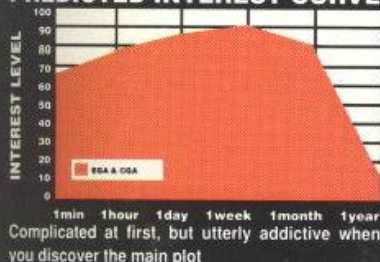
IBM PC	£24.95dk	REVIEWED
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IBM PC

Aside from the weak combat sequences, most of the graphics take full advantage of the Atari ST-standard graphics offered by EGA - particularly as you roam the planet surfaces. The CGA display, on the other hand, is simply not up to the planetside graphics, and some of the text can be hard to read. The game is still very playable though.

GRAPHICS 8(3)	IQ FACTOR 8
AUDIO 6	FUN FACTOR 3
ACE RATING 880	

PREDICTED INTEREST CURVE



ARCADE ACCURACY



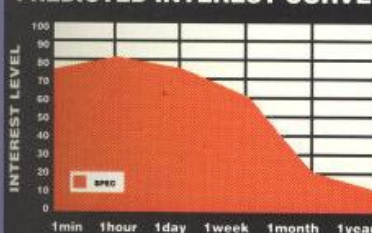
The head-on sequences were never going to have worked well on the Spectrum, but otherwise the game has been translated accurately.

COIN OP SCORE 6

on the keyboard) and smart bombs (M - one per life). And look out for collectable weapons, while you're at it.

● Rod Lawton

PREDICTED INTEREST CURVE



MENACE

PSYGNOSIS blast the opposition

THE inhabitants of Draconia have got to be some of the most ghastly, malevolent and fearsome creatures this side of a DHSS office. They inhabit an 'unnatural' planet formed by six of the 'most feared rulers that have ever existed'. Apparently, a large scale attack would prove too costly, so it's down to you to fly your craft through six increasingly difficult levels in an attempt to destroy Draconia - what do you mean, you've heard it all before?

Psygnosis make no bones about this being yet another arcade blast - and indeed, it's been done very competently. Each hit you take from the monsters that zoom in to attack reduces the strength of your shield. Shoot all the aliens in a wave and a '1000 points' symbol appears. Either collect the bonus, or shoot the symbol first, to cycle it through a range of benefits that include cannons, lasers, increased speed, drones, temporary invulnerability - and shield replenishment.

At the end of each level is the now obli-

gatory end-of-level guardian, and fire is traded until one of you bites the dust. Success with a guardian moves play on to the next level with all your benefits intact - vital, as the levels get harder.

There's nothing to tax the old grey cells one iota, but there is that short term addictiveness central to all good arcade games. You'll either fight through the six levels or lose interest quite soon, though, so don't expect to be playing it months from now.

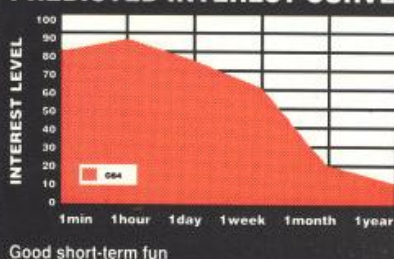
● Rod Lawton

AMIGA VERSION

Both sound and graphics are up to the usual 16-bit standards, but alas the gameplay remains stubbornly 8-bit. The action is fast and furious, but no better than the other half a dozen other good Amiga shoot-em-ups currently available.

GRAPHICS 7	IQ FACTOR 2
AUDIO 7	FUN FACTOR 8
ACE RATING 678	

PREDICTED INTEREST CURVE



You're at the end of level 1 and up against a nasty alien monster throwing all sorts of... well, things... at you. Your shield's good, though, and you've picked up a juicy extra weapon along the way.



AFTER BURNER

AERIAL ARCADE ACE

SHAKE. N



ACTIVISION

SEGA®

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.ATTLE. ROLL IT..



Amiga screen shots shown



ST screen shots shown

ARCADIAN OF THE YEAR'

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Amiga (£24) and MSX (£9.99).

AFTERBURNER - You've played the arcade **smash** - now **experience** the white-knuckled **realism** of a supersonic **dogfight** at home! Using your heat-seeking **missiles** and laser anti-aircraft **fire**, can you be **top gun** against a seething supersonic **swarm**?

Experience brain-numbing **G-forces**; bones **rattling** with the body-jarring **pitch** and yaw... **scan** with your **radar**, **lock on** your target and **FIRE!**

HOSTAGES

INFOGRAMES' captive audience

INTERNATIONAL terrorism Is the subject of this French blend of strategy and arcade action. A group of hardened terrorists have taken control of an embassy and are holding several hostages for ransom. As the head of a crack French SAS squad, it's down to you to 'neutralise' the terrorists and free the hostages.

The game breaks down into three sections. The first part of the game is concerned with guiding three of your team to pre-marked positions outside the embassy. These chaps are your marksmen who'll watch the embassy windows. Once you've positioned the marksmen, a helicopter drops off three more men who you have to guide down the outside of the embassy and in through the windows. Once inside, you have to clear the three floors of terrorists and rescue the hostages before taking them one by one to a 'safe' room for collection.

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ATARI ST	£24.95dk	OUT NOW
AMIGA	£24.95dk	IMMINENT
No other versions planned		



Terrorist searchlights silhouette one of your marksmen in the first stage...



Commando Hotel confronts a terrorist inside the Embassy.

ATARI ST VERSION

Each sections is drawn, animated and put together very well, giving a very atmospheric feel. Sadly this does little to dispel the general impression that a lot of French games have great graphics but precious little in the way of meaty gameplay.

GRAPHICS	9	IQ FACTOR	4
AUDIO	8	FUN FACTOR	7
ACE RATING 689			

Several difficulty levels affect the amount of time you have to complete the mission. Though the nature of the game may be a little dodgy, it's fun to play and will have you on the edge of your seat for the most part. However, once the novelty of the graphics has worn off you'll find that there's actually very little gameplay and after you've completed it a few times you'll be looking for a fresh challenge.

● Andy Smith

PREDICTED INTEREST CURVE



WHAT'S a Corona Bubble doing, getting fizical in the Pepsi Mad Mix game? Well, this cute, grinning little bubble has gone undercover, changed drinks and called himself Mad. What more do you need to know?

Poor old Mad finds himself in the Pepsi Village, a sequence of fifteen tricky mazes, and his task in life is to stomp through the corridors gobbling up bubbles lying on the floor. And if the bubbles remind you of Power Pills, you won't be surprised to learn that a quartet of ghosts also roam the streets of Pepsitown.

There's no fruit to gobble up - after all,

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SPECTRUM VERSION

Mediocre - no wicka wicka sound effects as to bubble gather, and despite the embellishments, little more than a competent pacman clone. Competent, but zzzz unless you really want to win a prize from Pepsi/US Gold.

GRAPHICS	4	IQ FACTOR	5
AUDIO	3	FUN FACTOR	6
ACE RATING 524			

MAD MIX

US GOLD's soft drink

Pepsi comes in one flavour only - but on the plus side, Max can step on panels on the floor and temporarily mutate himself into other creatures... like a ghost-stomping hippo. Treading on another icon makes Max a Pac Drac - he grows fangs and can suck the aura out of ghosties, sending them Pacing, back to their electro lair.

The rotund hero has a total of five alter egos into which he can mutate in order to deal with the hazards encountered on the mission - ghosts aren't all that are out to stop him on his quest, and as you might expect,



In PacDrac mode, the fanged bubble sees off a ghostie.

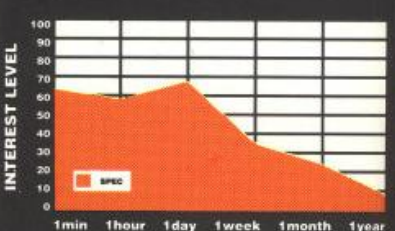
life gets more difficult on later levels. For instance, Max can't move on to another maze until all the bubbles have been cleared from the current suburb of Pepsi Village; on the second level, a bubble-blowing ladybird creature roams around undoing his work, and needs to be stomped.

A few neat touches embellish the basic Pacman gameplay, but the Pepsi Mad Mix game offers little new or exciting, other than bubble-gathering and the chance to win a prize in the joint promotion between US Gold and Pepsi Cola.

Remember: take the bubbles out of Pepsi and it goes flat...

● Graeme Kidd

PREDICTED INTEREST CURVE



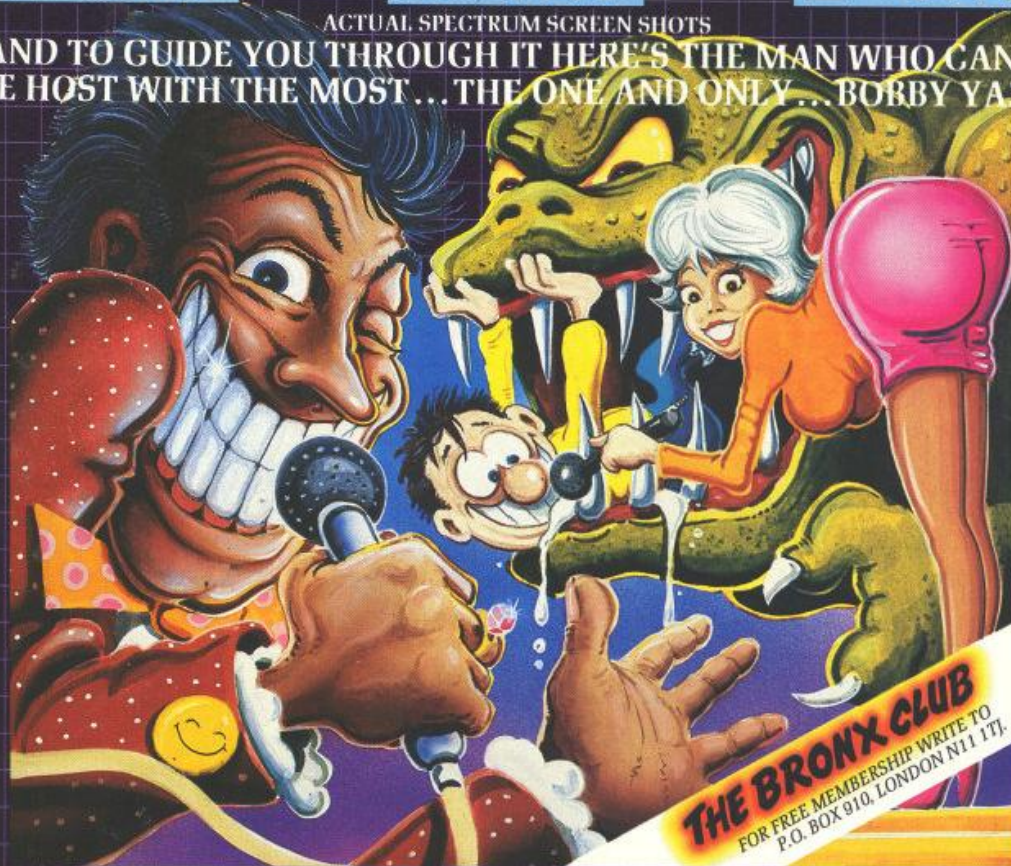
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ACTION SERVICE

INFOGRAMES play soldiers

TRAINING with crack Cobra commandos is certainly not for cowards. Four gruelling assault courses must be endured before you can embark on a top secret mission - which has yet to appear in the guise of *Action Service II*.

The commando under your control is a spritely character capable of all manner of movement; this does mean, though, that control takes a little getting used to.

Your basic physical fitness is checked on the First course where you must negotiate walls, ditches, barbed wire, ladders and other objects - and run like hell. Officers scream orders at you during the tests - "pushups", "go", "get up", "air raid" - and their orders must be obeyed instantly, otherwise



Watch out for Rex. Grabbing onto the monkey bars keeps your trousers intact.

ATARI ST VERSION

Good fun once you have found out what to do. Animation is good as are the digitised images of your leaders. Sampled gunfire, explosions and screams add atmosphere. Enjoyable to start with, but lack of demanding tasks means *Action Service* palls quickly.

GRAPHICS 7 IQ FACTOR 3
AUDIO 6 FUN FACTOR 5
ACE RATING 597

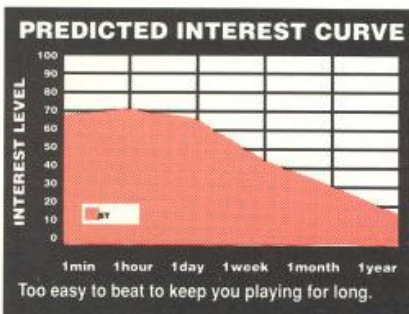
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8-bit versions under development		

you lose points. Rex the dog also needs to be evaded.

Stage Two is the Risk Route. Grenades and bombs must be picked up and hurled while you avoid mines and rifle fire. Again, Rex must be evaded. After that comes the Combat Test where hand-to-hand skills are called for: duff-up anyone you meet on the way and dodge rubber bullets, exercise grenades and opponents' punches. Stage Four is a combination of the three previous trials.

An interesting video replay feature allows you to record and then replay and examine your efforts over a course. You can see where you went wrong, learn from mistakes and do better next time you attempt the stage. An icon-driven construction mode also exists which lets you create your own routes and tests.

Richard Monteiro



ALBEDO

Laser-light lampoonery with LORICIELS

DICK is creator and master of the planetoid Albedo. Made of metallic corridors and infested by a variety of unpleasant creatures ranging from Novas to Bubble-Eater Worms, Albedo is your home



Do you feel lucky? You'll need to be 'cos that brute eats laser bolts for breakfast. A few power shots will make him think twice about attacking you.

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No other versions planned		

until you rid it of every grisly inhabitant, including Dick.

The first thing that hits you when playing is the music: meet sampled sound like you've never heard before. The music plays throughout the setup procedure, where icons surround a pulsating orb shooting a constant stream of energy that you direct at the icons.

Your mission comprises eleven levels which must be conquered before you get a bash at Dicky. The first four can be completed in any order, but the remainder must be polished off in sequence.

The scenario for each level is amusing, even convincing... what a pity the levels look so similar. While the backgrounds and aliens are different, the layout is very pre-

ATARI ST VERSION

Wonderful tune. Even the in-game digitised effects are excellent. Control is sometimes sluggish - especially when there's lots on the screen. Menu and sprite graphics look good.

GRAPHICS 7 IQ FACTOR 5
AUDIO 9 FUN FACTOR 6
ACE RATING 711

AMIGA VERSION

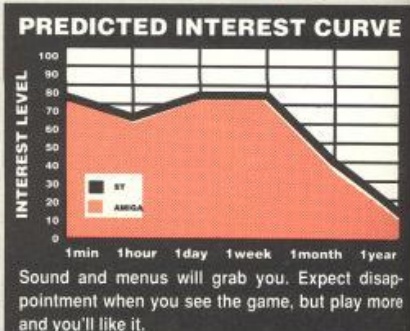
Tune is marginally better than the ST's. Smoother animation and control during gameplay, but otherwise much the same as the ST version.

GRAPHICS 7 IQ FACTOR 5
AUDIO 9 FUN FACTOR 6
ACE RATING 711

dictable. Although shooting is the theme, different levels demand different strategies. For instance, in Nova you must shoot everything quickly before it touches you, while in Viruses you must prevent certain aliens from touching other aliens.

Albedo will be remembered more for its music and flashy menu system than its gameplay. Underneath all the gloss there is a game - certainly not of the most mind-bending variety, but one that requires at least half a brain and provides enjoyment.

Richard Monteiro



BOMBUZAL

IMAGEWORKS on a short fuse

919
ACE RATING

Crowther Ritman, Minter - three names you'd never expect to find on the credits for a single game, but they've all contributed to this one. Tony Crowther was

responsible for the programming, but both the other two designed their own fiendish levels.

There are 120 levels of explosive mayhem, in which you have to set off all the bombs and mines without ending up as a large red stain on the ceiling. Each level is composed of floor tiles all in one plane, but you can view the game from a 2D overhead perspective or from an isometric 3D viewpoint. There's also a map that can be called up to reveal the whole level.

Each screen has to be completed within a time limit. If this runs out or you fall foul of one of the many traps you lose a life. The timer keeps running when you've got the map on screen, although the action is paused. Fortunately, not everything is stacked against you. When you die there's the option to restart at the screen you were on, and passwords enable you to return to the game another day and avoid ploughing through all the screens you solved in a previous session.

The only way to explode a bomb is to set it off yourself. This might sound a damn silly thing to do, but small bombs only destroy the tile they're on - it won't explode until you've

walked off the tile. An exploding bomb can also set off other bombs and mines that are within or adjacent to its blast area.

You can set off larger bombs as well, but only if the adjacent tile you walk onto is a

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C64/128	£9.99cs £12.99dk	OUT NOW
No other versions planned		

AMIGA VERSION

Both the 3D and 2D graphics are excellent, but you can see more on the 2D view. The music and effects are good too, making a superb package.

GRAPHICS	8	IQ FACTOR	7
AUDIO	8	FUN FACTOR	7
ACE RATING 919			

C64 VERSION

It's much harder to tell what's what on the 2D view but it looks good in 3D as well. The levels differ in places from the Amiga version and generally it's a bit easier, but just as addictive.

GRAPHICS	6	IQ FACTOR	7
AUDIO	7	FUN FACTOR	7
ACE RATING 919			

teleport that whisks you away from the blast. Mines are more of a problem because you can't cross their tiles as you can with bombs. They have to be detonated by a bomb near them or by some other remote device.

Two other types of bomb make life even more complicated. Swell bombs aren't so swell because they, well, swell. They change in size so that depending on when they're set off they can produce a small, medium or large explosion. Then there are the handy A-bombs which detonate all the other bombs on a level when they are exploded.

The floor tiles have different characteristics, too. Normal ones are destroyed by explosions but Riveted tiles are blast-proof. Slippery Ice tiles are impossible to stay on, while Dissolvers disappear when you step off them. Finally there are slotted tiles, which you can use to move bombs around.

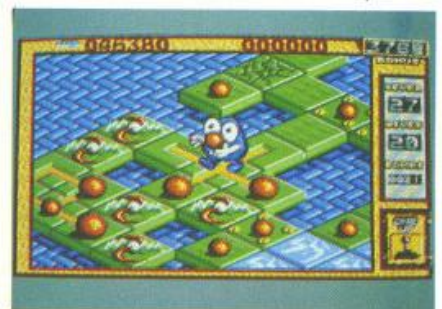
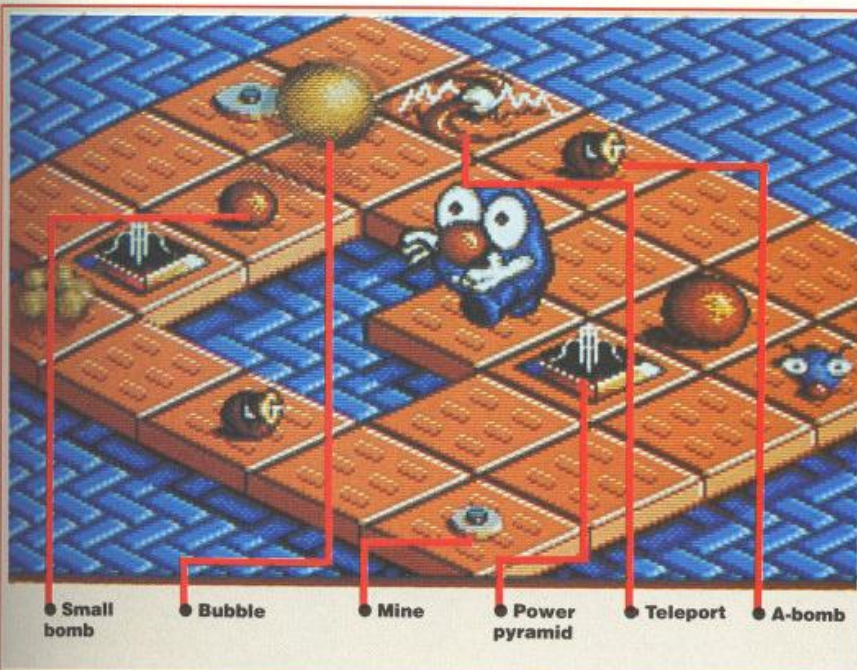
Tiles can also have other features on them that affect either you or the bombs. Power pyramids suck in an explosion on an adjoining square, no matter how big the bomb. Spinners throw you off in a random direction, while Switches are a crucial part of many levels because activating them changes the map.

Unfortunately you're not the only thing that can move around the place. Two characters called Dexter and Sinister trundle along turning, right and left respectively, whenever they can, killing you on contact. Two droids - Bubble and Sqweek - can be remotely controlled to set off bombs and mines while you sit still, immune to disasters.

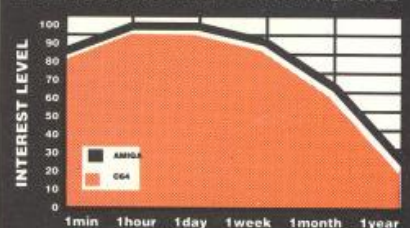
The puzzles are brilliant and the levels numerous and tough enough to keep you glued to the screen. You'll manage all the levels eventually, but you'll really get your money's worth in the process.

Bob Wade

Amiga - this maze of bombs, slots, teleports and ice could take ages to work out.



PREDICTED INTEREST CURVE



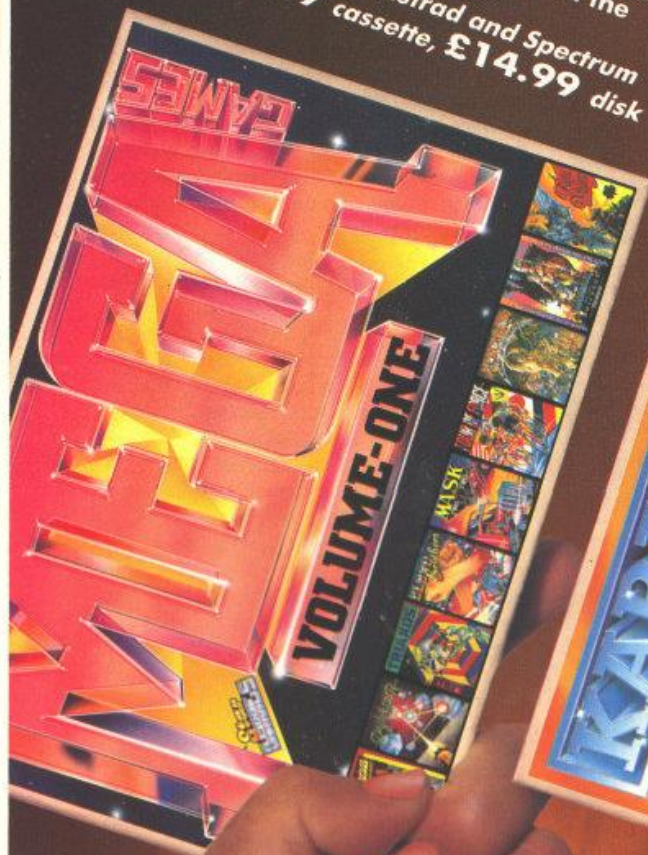
Immensely addictive puzzling, and the 120 levels will last a long while.

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NUCLEAR fusion is the combination of two nuclei to form one nucleus with the consequent release of large amounts of energy. Software Fusion is the combination of two game styles to form EA's first UK programmed game.

The styles in question are a shoot-em-up and a maze puzzle. The two types of game are also played using two different craft. There's a mothership which flies over the landscape, and a crawler which can be carried by the mothership or trundle along the ground. Obviously the crawler is more restricted in movement by the ground objects, but there are tasks which only it can complete.

There are 13 game areas which have to be searched for parts of a bomb which then

AMIGA VERSION

The graphics are good but the actual display size is small, not using the full height of the screen. The music and effects are also of high quality, but fail to make an impression on the mediocre gameplay.

GRAPHICS	7	IQ FACTOR	5
AUDIO	6	FUN FACTOR	4
ACE RATING 607			

RELEASE BOX

AMIGA	£24.95dk	REVIEWED
ATARI ST	£24.95dk	IMMINENT

FUSION

ELECTRONIC ARTS
go fission...

has to be detonated back in the start area. You'll encounter five types of enemy - four released by ground emplacements and the fifth a static gun. The projectiles released all home in on you, but not all of them can fly over ground obstacles. They can be destroyed by shooting them, as can the generators if they're shot while producing an alien.

The crawler is much less manoeuvrable and more vulnerable than the mothership, so it's best to strafe the landscape in the mothership before venturing out in the crawler. The mothership can pick up enhanced weapons and shielding but these aren't transferred to the crawler.

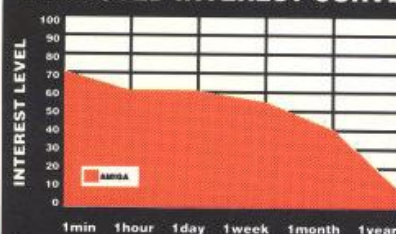
The crawler has to operate the switches that allow you access to other parts of the game. Combinations of switches are needed to remove bits of scenery or to open gates to other areas. The main problem is that the gameplay is too slow when accessing the switches. There's too much wandering around with nothing to do. If you can put up with that it's tough to complete, but it's never going to get you very excited.

● Bob Wade



The skull at the bottom right of the screen will replenish energy. To get at the yellow switch you'll need to get a green circle first and use the crawler.

PREDICTED INTEREST CURVE



Never reaches adrenalin-pumping heights, but isn't easy to complete.

TRACK SUIT MANAGER

GOLIATH over the moon

FOOTBALL games have always been big sellers and hardly a month goes by without someone claiming to have released the 'ultimate' simulation. This one dispenses with the money and administration side of things and lets you get on with team management.

You're in control of a European national team - it doesn't have to be one of the home countries - and are trying to qualify for, and win, the Nations and World Cups. Everything is run via the calendar - group matches,

friendlies, tours and the finals.

Your control over the team is extensive - you can choose from a squad of 100 players, each with individual reports on them and face opponents who can be inspected to

RELEASE BOX

SPEC	£9.95cs	REVIEWED
AMIGA	£19.95dk	IMMINENT
ATARI ST	£19.95dk	IMMINENT
AMS	£9.95cs	IMMINENT
C64/128	£9.95cs	IMMINENT
IBM PC	£24.95dk	IMMINENT

SPECTRUM VERSION

There aren't any graphics or sound to speak of, presumably you're supposed to add your own 'ere we go' chants, baton charges and head wounds.

GRAPHICS	1	IQ FACTOR	8
AUDIO	N/A	FUN FACTOR	1
ACE RATING 588			



Scotland and Paraguay are deadlocked at 0-0, but there's plenty of time left in the game.

similar depth.

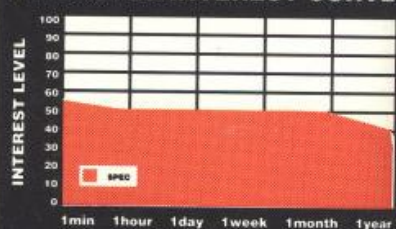
There's no graphic action for the games, but you can have kick-by-kick reports of games if you want them. These are very detailed but do take a long time. You can speed these up, or for matches not involving your team get just a quick statistical breakdown of the games.

Other teams and players can be scouted to assess their strengths and weaknesses. There's tremendous variety in the tactics that the team and individual players can use.

It's not a football game to be played lightly because you have to analyse a lot of information to get the best team and results. This means it takes a lot of work before you get rewarding results. It also means that football freaks will be able to get totally immersed in it.

● Bob Wade

PREDICTED INTEREST CURVE



Lacks sparkle but football fans are guaranteed many months of challenge.

NEW

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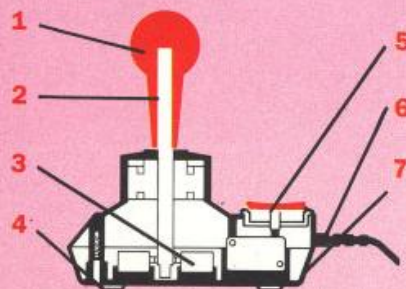
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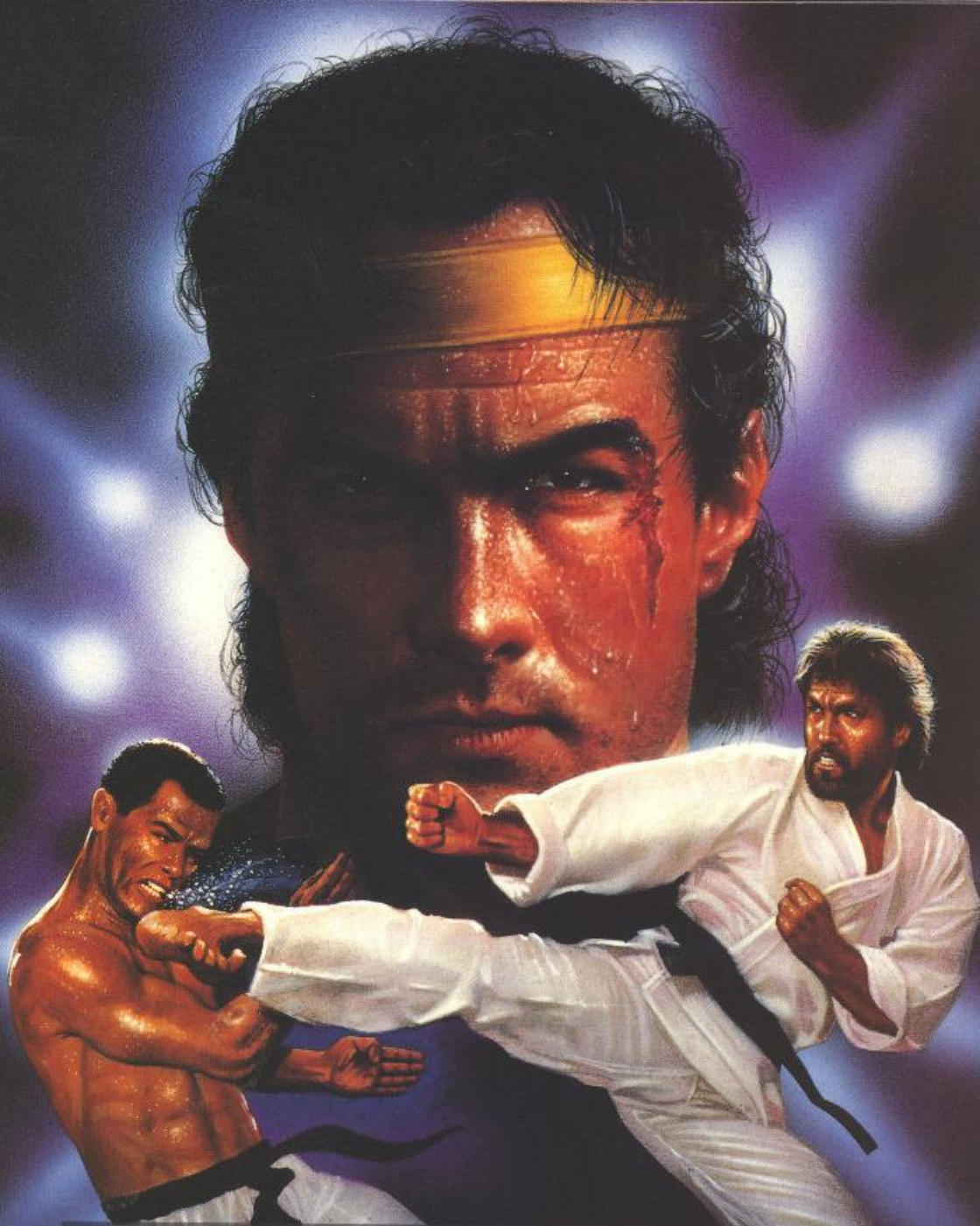
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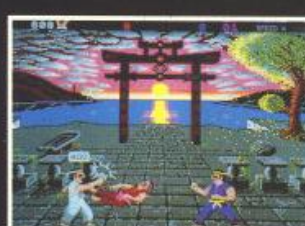
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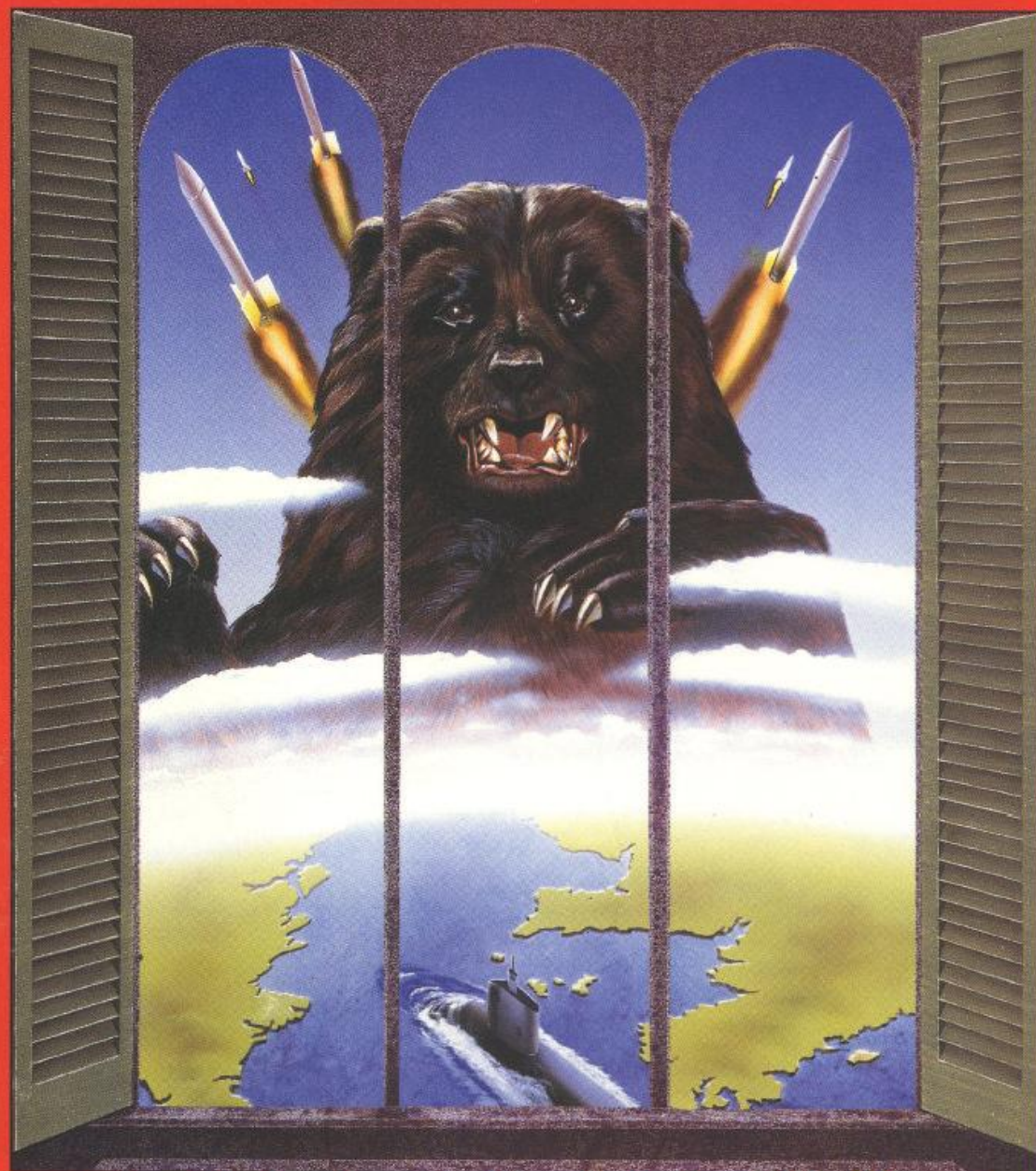
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RED STORM RISING by Tom Clancy © 1986 by Jack Ryan Enterprises Ltd and Larry Bond.

ELEMENTAL

LANKHOR'S great ordeal.

DIFFICULTY tuning is a fine art, folks. It's also a vital one: get it wrong and you've got a surefire turkey on your hands. No amount of technical skill, imagination, artistry or wit can save a game that's way too easy or way too hard. Ludicrously easy games are all too common these days, but Lankhor have come up with a bit of a rarity here: a game that's absurdly difficult.

The scene is the planet Elemental, where you're about to go through The Great Ordeal. In essence this is a test that qualifies you as an adult, in the unlikely event that you actually survive. Roots fans will be delighted to know that the Ordeal involves nothing nastier than trundling around a series of overhead-view screens collecting things, turning them into other things and putting them down again.

That's quite nasty enough, mind you.

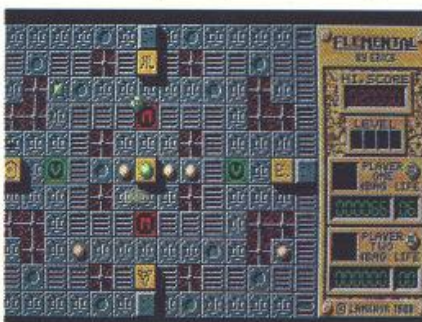
RELEASE BOX

ATARI ST £19.95dk REVIEWED

No other versions planned.

The Roundline you control (actually a little ball) is continually pursued by spherical and rather more exotic-shaped nasties. By clever manoeuvring you can lure the spherical nasties into indentations, but their exotic cousins just keep after you. To stop them you'll need to pick up yellow blocks from one of the screen's 'M' squares.

Drop a yellow block in an exotic nasty's path and the nasty turns into a red capsule. Pick up the red capsule, take it to a 'V' square and it turns into a green capsule. Take this to a capsule holder, slot it into place



That's your ball up by the orange 'M' tile, but it has only seconds to live!

ATARI ST VERSION

Graphics are subtly attractive and the sampled sound effects are great, but as a game it comes a poor second to beating your head against the wall.

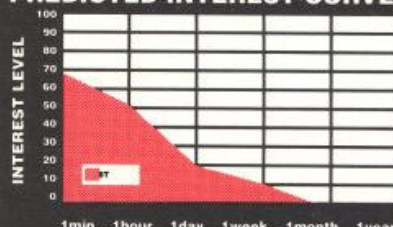
GRAPHICS 8 IQ FACTOR 1
AUDIO 8 FUN FACTOR 1
ACE RATING 273

and you're halfway to completing the screen. Got all that?

If this doesn't exactly sound earth-shattering, it might at least be nice to try it out. Unfortunately you won't be able to. The nasties home so fast and so purposefully that you can't do a thing. It's often impossible to get from your start point to an 'M' square without dying, so taking things any further is a matter of luck rather than skill. What is the point?

● Andy Wilton

PREDICTED INTEREST CURVE



Unplayability will out.

SPACE RACER

LORICIELS future biking

HOVER bikes are the wild racing machines of the future. Astride one of these throbbing machines you can travel at high speeds across the undulating, hazardous landscape.

This death race of the future takes place on three courses. On each one your task is simple - follow the dotted line as closely as possible and avoid the roadside hazards and other bikes. The crucial thing about the dotted line is that the closer to it you stay, the more economical



Whizzing through the pylons, trying to avoid other racers

the use of energy.

Staying near the centre line is tough because not only does the road weave left and right, but it also dips up and down. Getting too high above the ground will slow you down, running into it even more so.

All along the route, on both sides, are pylons, advertising hoardings, signposts and other hazards. Driving into them can have a number of effects - instant explosion, stop you dead or spin you out of control for a while. Crashes deplete your energy, which effectively acts as a time limit.

ATARI ST VERSION

Virtually the same as the Amiga. The road is, if anything, easier to follow but there's little to choose between them.

GRAPHICS 8 IQ FACTOR 1
AUDIO 7 FUN FACTOR 7
ACE RATING 702

AMIGA VERSION

The graphics are very fast, smooth and slick. The backgrounds and obstacles look good too. The crashes are excellent and have plenty of variety. Sound too is pleasant from the opening title tune, through to the digitised speech and driving noises.

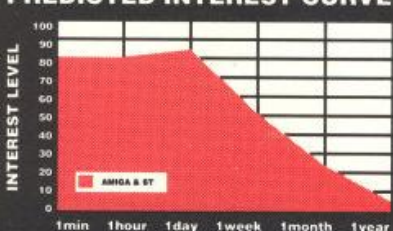
GRAPHICS 8 IQ FACTOR 1
AUDIO 7 FUN FACTOR 7
ACE RATING 702

The other bikes will try to stay on the centre line as well. You can bump them or shoot them when they get in the way, but they can still slow you down considerably.

You can tackle the three courses individually or together as a championship. It's addictive driving stuff which won't be beaten easily. What it lacks is variety in the opposition. A few more levels and types of obstacle would have been nice.

● Bob Wade

PREDICTED INTEREST CURVE



Bags of appeal but not enough courses or variety.

RELEASE BOX

ATARI ST £19.99dk REVIEWED

AMIGA £19.99dk REVIEWED

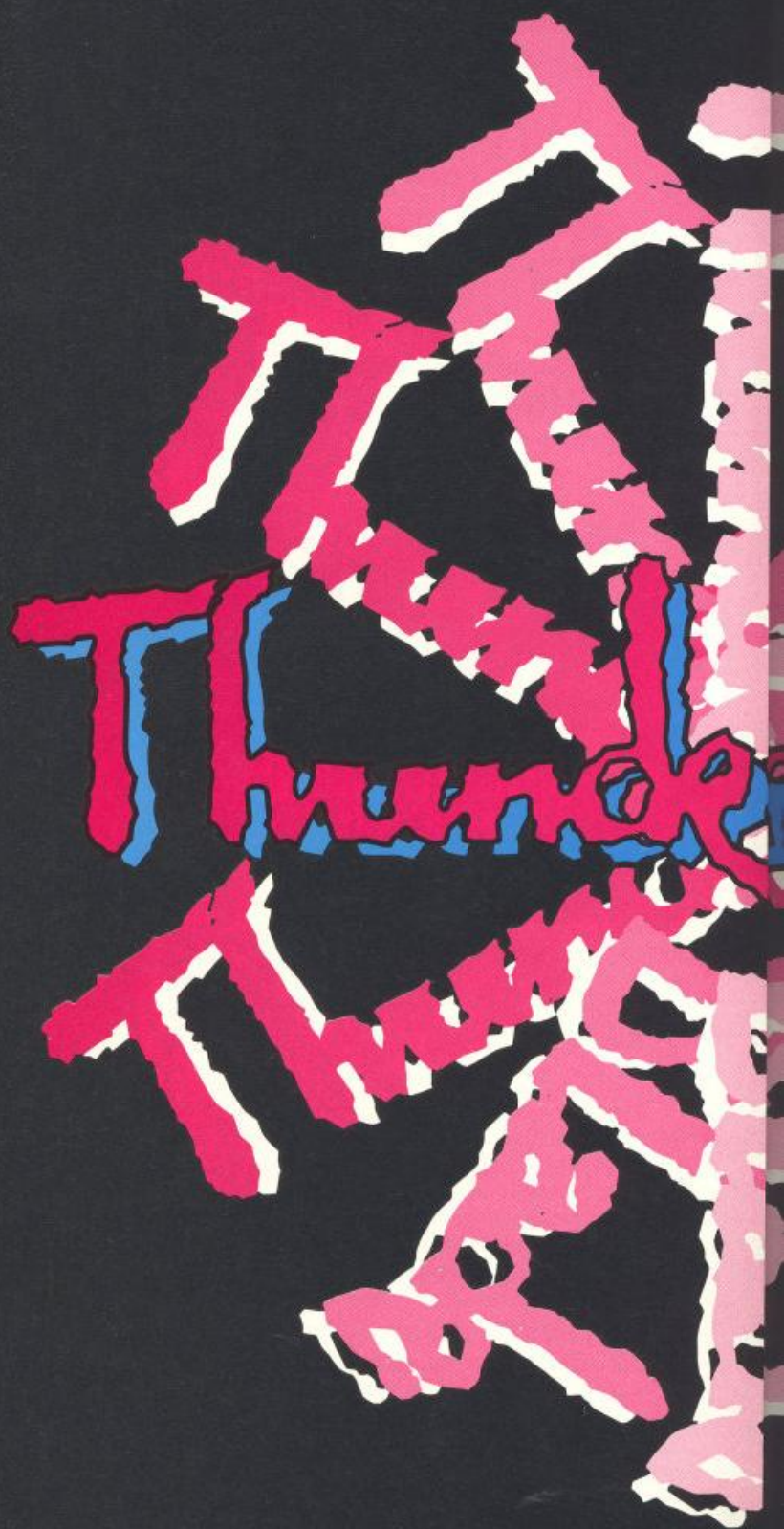
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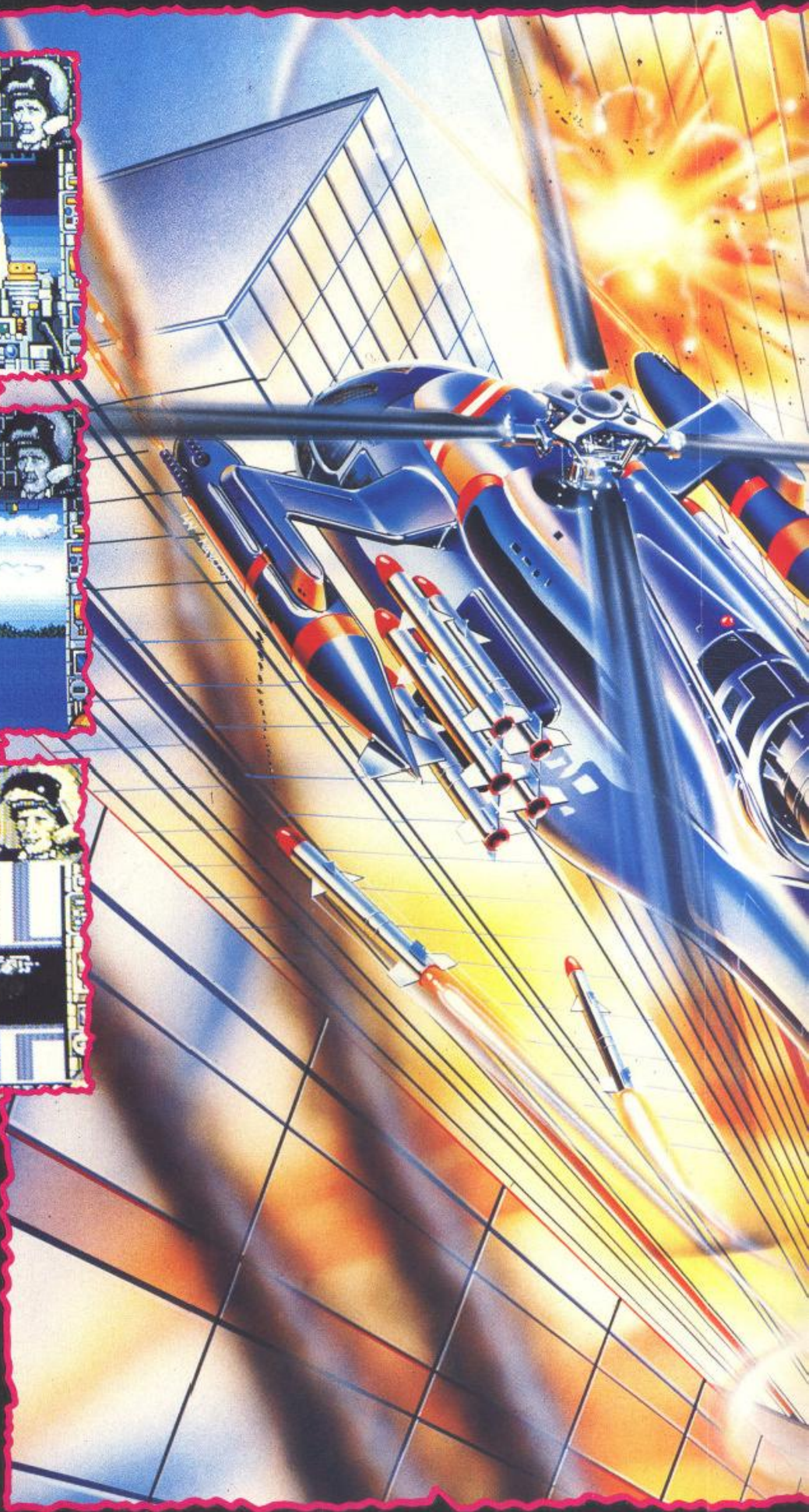
"Sheer arcade brilliance.... captured"

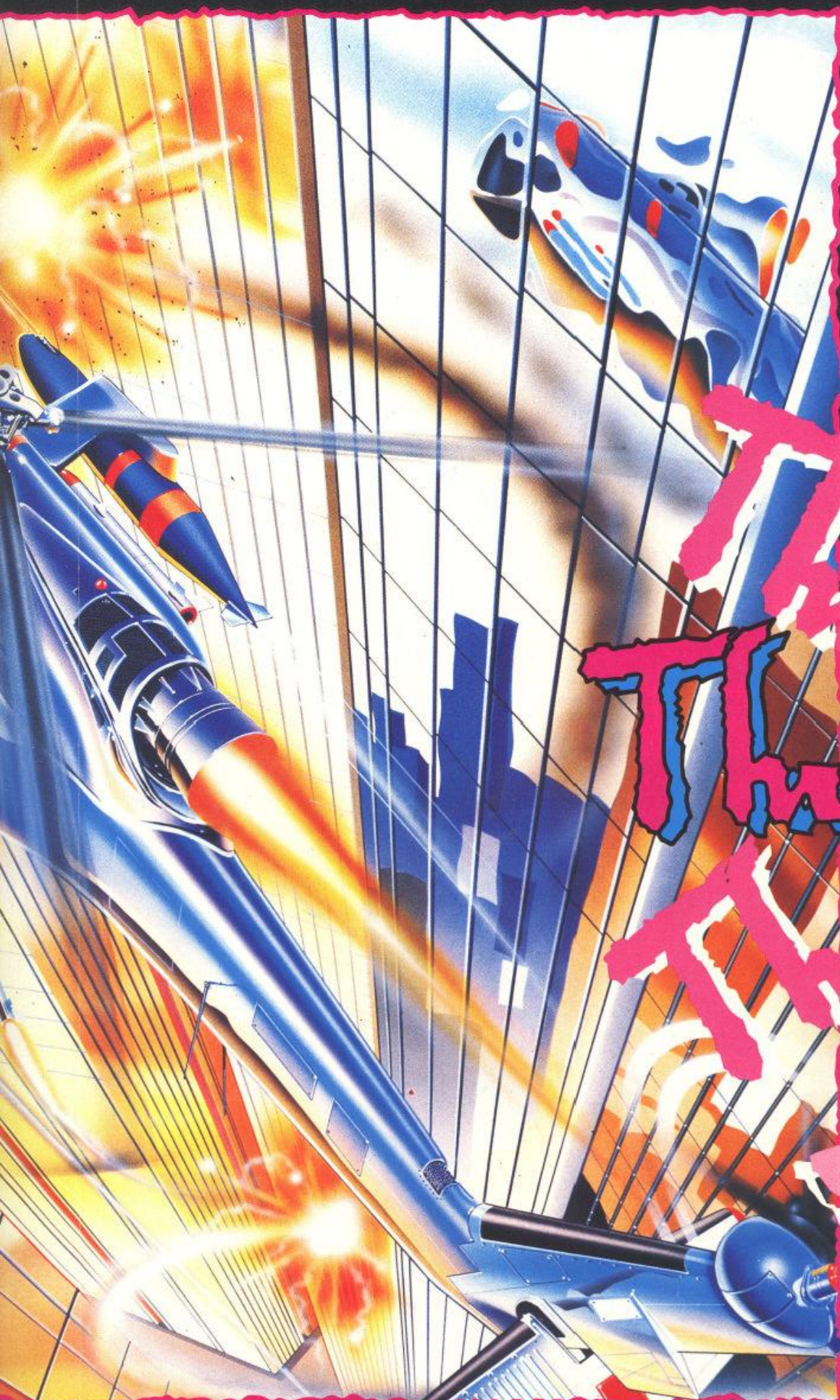
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THE END

Thunder

THE PEPPAR
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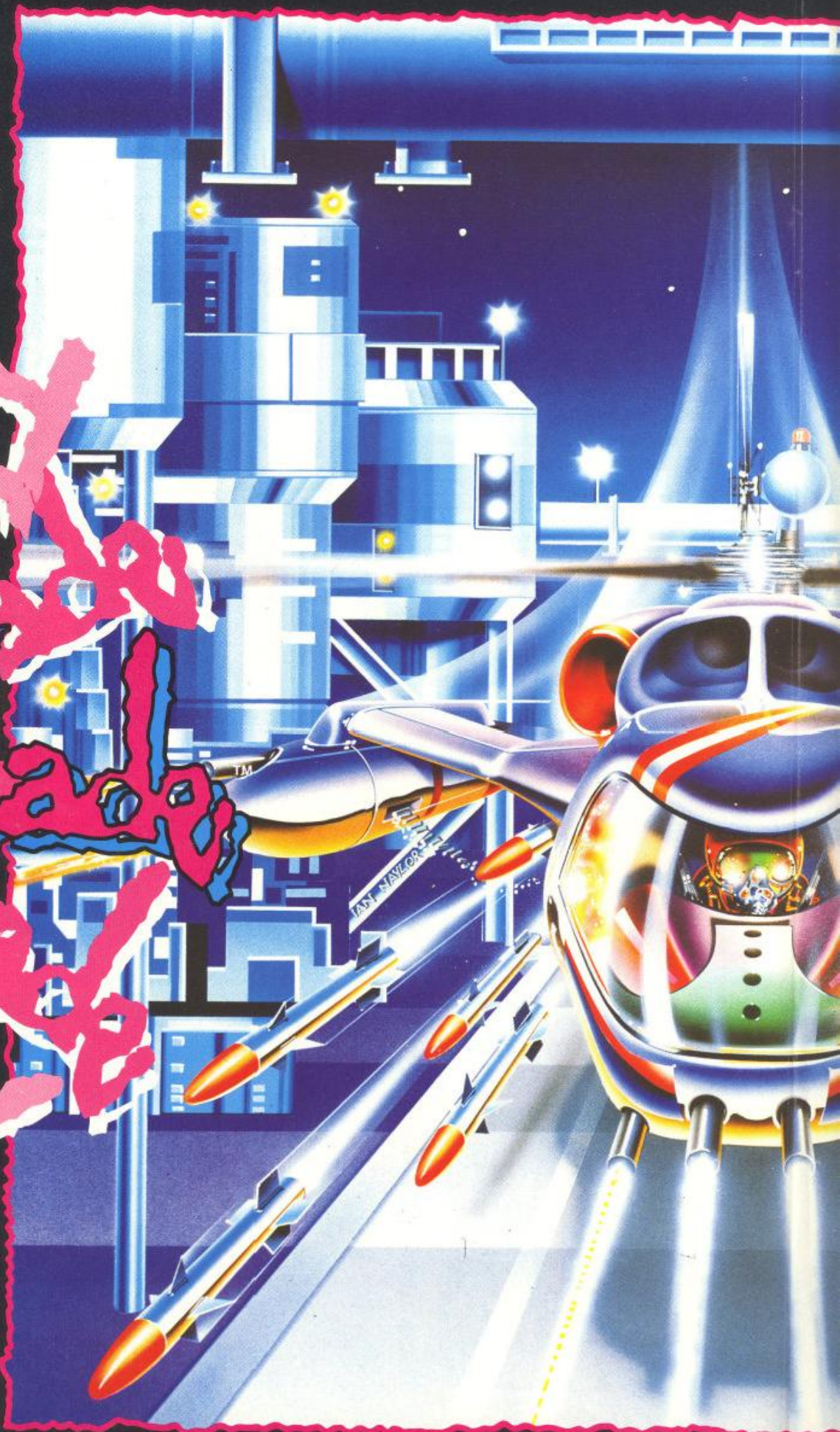
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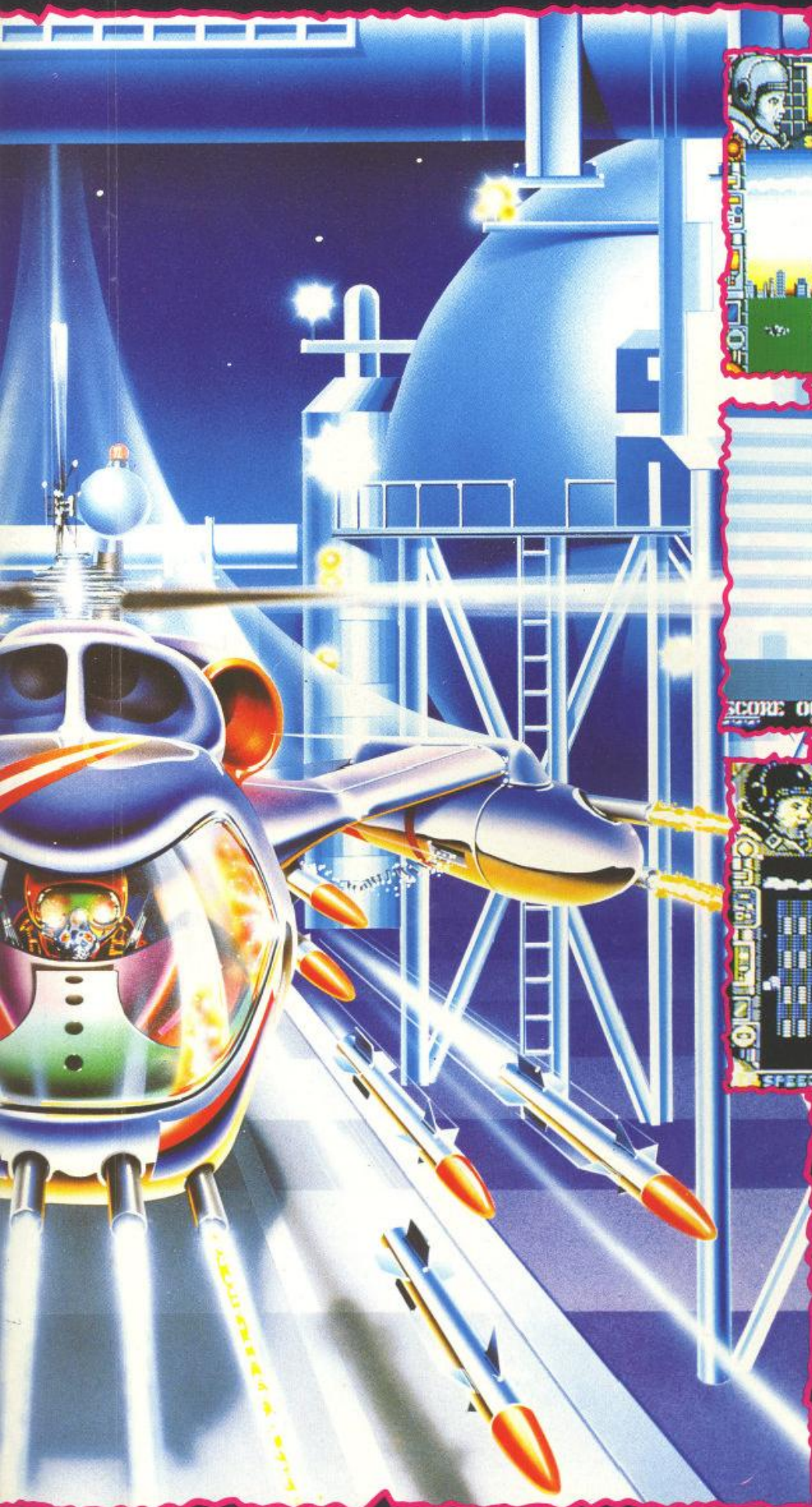
War Blade

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Screen shots taken from various formats



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GAME OVER II

Daring-do from DINAMIC

IT is not over yet. There are still baddies for the intrepid hero encountered in Game Over to deal with, and so he sets off on another mission, this time to free the imprisoned hero of the rebellion.

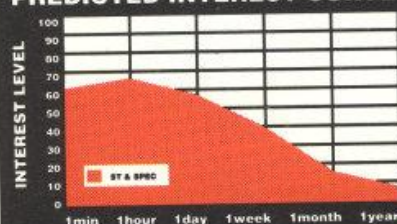
A spot of horizontal Galaxians warms you up, then it's time to Scramble over a volcanic landscape before descending into a cave system and doing battle with squirly serpents, enemy fighters and bolts of pure energy. Survive that, and it's time to mount a strange steed and gallop across swampland

on the quest for the access code that allows you to sample the second load. A strange space-hopper sequence leads into a spot of arcade adventuring underground before you gain the controls of a helicopter, fly over another volcanic zone to duff up the guards in the prison that holds Arkos, the man you're trying to save.

Lots of different things to do, but nothing spectacular – a pick 'n' mix of gamestyles in a short and sweet selection.

● Graeme Kidd

PREDICTED INTEREST CURVE



The urge to complete subsequent levels keeps you going for a while.

RELEASE BOX

ATARI ST	£19.95dk	OUT NOW
AMIGA	No firm plans for this version	
IBM PC	£19.95dk	IMMINENT
C64/128	£8.95cs £12.95dk	IMMINENT
SPECTRUM	£8.95cs £12.95dk	OUT NOW
AMSTRAD	£8.95cs £12.95dk	IMMINENT



Major Locke is in his ship and blasting away at the incoming waves of aliens.

SPECTRUM VERSION

A good deal, in that you get Game Over I included in the package. Effectively a compilation of linked but get-standard games that is fun but not enthralling.

GRAPHICS	5	IQ FACTOR	4
AUDIO	4	FUN FACTOR	5
ACE RATING 513			

ATARI ST VERSION

Relatively pretty graphics and creditable effects can make up for the run-of-the-mill gameplay. Offers nothing new or amazing, but reasonably entertaining.

GRAPHICS	6	IQ FACTOR	2
AUDIO	5	FUN FACTOR	4
ACE RATING 513			

SUPERSPORTS

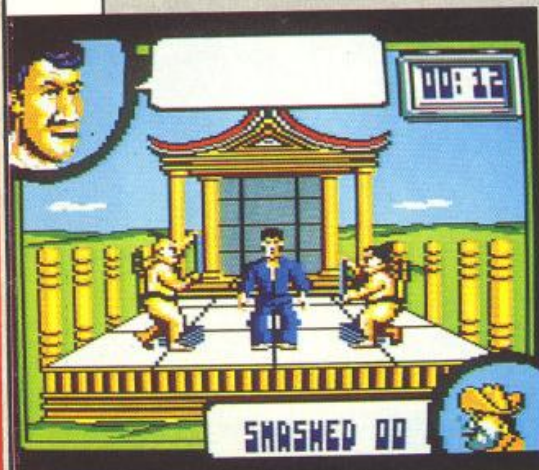
GREMLIN get on the Seoul Train

IN the wake of the Seoul Olympics comes Gremlin's collection of alternative sports, compered by 'Gilbert'.

Five events feature, starting with Crack-shot, in which you have 90 seconds to shoot targets that pop up in an alleyway. Mind you don't shoot the alley cats or your score suffers. High Diving follows, where you jump

off a board from anything between 40 and 400 feet up in the air, aiming to perform acrobatic stunts before landing in a paddling pool. Then it's on to the Slate Smash, where two Sumo wrestlers holding slates stand either side of your character – smash as many slates as possible in 60 seconds. The penultimate event is a Crossbow contest where joystick-wagging gains tension on the bow, before you line up the sights and fire a

Slate smashing on the Amstrad.



SPECTRUM VERSION

Great graphics and good gameplay can't mask the lack of challenge.

GRAPHICS	8	IQ FACTOR	1
AUDIO	6	FUN FACTOR	7
ACE RATING 535			

RELEASE BOX

C64/128	£9.99cs £14.99dk	IMMINENT
SPECTRUM	£7.99cs £12.99dk	OUT NOW
AMSTRAD	£9.99cs £14.99dk	OUT NOW

No plans for 16-bit versions

AMSTRAD VERSION

The graphics are colourful and well-animated. The gameplay is good and you're left with the overall impression that if Gremlin had managed to include more events or made the existing ones tougher, they would have had a much stronger product.

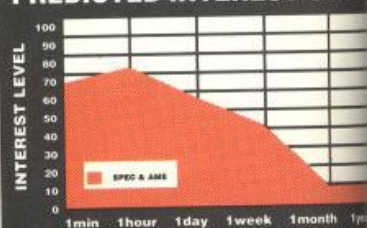
GRAPHICS	8	IQ FACTOR	1
AUDIO	6	FUN FACTOR	7
ACE RATING 535			

total of six bolts at three targets placed at different ranges. The final event is the Underwater Assault Course where old tyres, mine and stinging jellyfish have to be negotiated.

Supersports has been well put together and is great fun to play, but the multiloop annoying and the events are not tough master. The facility to play with four people increases its lasting interest slightly, but even then there just isn't enough in the game to keep you playing for very long.

● Andy Smith

PREDICTED INTEREST CURVE



What's there is great – there's just not enough of it...

SDI

ACTIVISION's peace shield

BONZO Reagan may be on his way out of the White House but his 'peace shield' - the Strategic Defence Initiative - continues to be developed. As a hope for mankind's survival it has still to be realised or proven, but it sure provides good inspiration for game authors.

Multi-megatons of nuclear death-dealers are roaring their way through the ionosphere on their way to turning Earth into a radioactive wasteland. Just like bunging a meatball in the microwave. You are a satellite whizzing peacefully around in orbit when suddenly all this hi-tech explosive hardware pops into view. Naturally you're going to get your laser tips warmed up and stop everything getting past.

You control the movement of both the satellite and its laser sight, using the mouse or a mouse in combination with a joystick. Mouse-only control moves the sight, or the satellite when the left button is held down. Alternatively, a joystick can be used to move the satellite, which can allow simultaneous two-player games, one person on the mouse controlling the laser and the other moving the satellite via joystick.

The screen scrolls slowly from right to left, bringing on background scenery and of course the nukes. The weaponry starts off simple enough: rockets cruise slowly across the screen and ground bases appear on the planet background. The rockets won't even harm you if they hit the satellite. It's impor-

You're satellite has enhanced weapon power via that big blue circle.



The blue weapons circle you, closing in and then shooting for the kill.



The defensive screen where you have to stop the missiles hitting your base.

RELEASE BOX

	ATARI ST	£19.99dk	OUT NOW
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tant you try to wipe everything out, because if any offensive weapons get past you enter a defensive stage at the end of the level.

The weapons soon start to get nastier and come in greater numbers. There are fast moving ones that try to crash into you, others that shoot at you, and a particularly nasty group that spiral into the middle of the screen, coralling you into a spot where they can get an easy kill.

The defensive screen doesn't scroll, but shows the base which has to be defended from the incoming missiles. These fly in from the horizon and from the sides. Again you use the satellite to shoot down the missiles before they hit home. If the base survives the attack, it's on to the next offensive section.

There are 12 levels and while the early ones are easy, the action starts to get tough at Level Four. Progress is aided considerably by picking up pods that give a larger firing spread, faster movement and extra sights. These additional sights can be quite confusing because they move in a delay pattern behind the main sight and it's easy to lose track of which one you are moving directly.

Addictive, tough and packed full of features, SDI belies its coin-op origins by being very well paced to boot. One of the best coin-op conversions this year.

● Bob Wade

ARCADE ACCURACY



An excellent conversion for graphics, gameplay and even the control method. If you liked it in the arcade you'll love it on the ST.

COIN OP SCORE 6

SPECTRUM PREVIEW

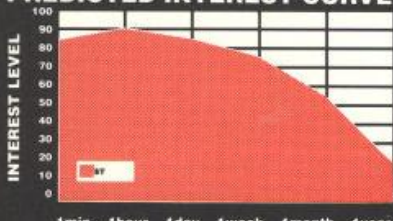
The action looks just as hectic as the ST and you'll need two joysticks to get the best out of it. The backgrounds aren't there because of the need for speed, but it still looks like it's going to be good.

ATARI ST VERSION

Excellent scrolling, colour, sprite design and explosions. There's a different piece of music on every level and the tunes sound good too. The dual control works well, but it's definitely recommended you have either two players or a joystick that can be suckered, clamped or otherwise strapped down.

GRAPHICS 8 IQ FACTOR 2
AUDIO 9 FUN FACTOR 9
ACE RATING 844

PREDICTED INTEREST CURVE



It's easy to get into, packed with features and sets some tough tests.

DALEY THOMPSON'S OLYMPIC CHALLENGE

OCEAN going for gold

DALEY Thompson is not a stranger to olympic success – or to endorse-

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C64 VERSION

Much easier shoe selection here and the training sessions aren't as sadistic as the Amiga version either. The graphics and sound are up to scratch.

GRAPHICS	7	IQ FACTOR	2
AUDIO	6	FUN FACTOR	7
ACE RATING 644			

ing games. This is his third joystick-wagging game endorsement.

The ten decathlon events are the 100 metres, long jump, shot putt, high jump, 400 metres, 110 metres hurdles, discus, pole vault, javelin and 1500 metres. They are all included, along with some training sequences which help competitors prepare for the events.

The events are the usual combination of joystick-wagging and button-press timing.

AMIGA VERSION

Unsurprisingly, it's got the best graphics both for presentation and the action itself. Music and effects are competent as well. Choosing shoes is a bit confusing because you aren't told whether you have made the correct choice.

GRAPHICS	8	IQ FACTOR	2
AUDIO	6	FUN FACTOR	7
ACE RATING 680			



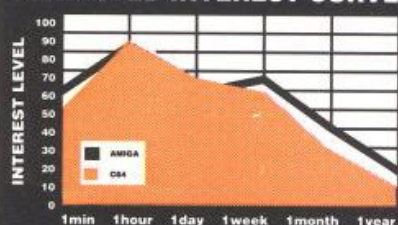
Daley prepares to launch himself into the long jump pit

but there are a couple of additional factors thrown in. One is the choice of footwear for each event – a range of shoes is available, and picking the wrong one for an event can seriously impair performance. The other addition are the training scenes, in which bottles of Lucozade can be won after prolonged bouts of hard wagging which can leave you absolutely knackered.

Wagging games aren't exactly new, but this one is nicely put together. It's certainly better than the original DT's Decathlon and should appeal to most sports freaks.

● Bob Wade

PREDICTED INTEREST CURVE



Wagging is fun, but it's not the most challenging gameplay there has ever been.

POW

Hungry like the ACTIONWARE

BOTH Sega and Nintendo have light guns that attach to their systems, and software that allows you to use the gun to shoot various on-screen baddies from across your living room. Now, thanks to American software house Actionware, Amiga owners can do the same.

Whether you use the light gun or simply stick to playing the game with the aid of a mouse, the objective's the same. You have to work your way through several stages killing off enemy soldiers before finally rescuing six

of your buddies and seeing they make it safely to a pick-up point.

You're armed with a machine gun with nine ammo clips and six rockets initially, and if you use the mouse a small sight appears on screen and you use this to line up your shots on the enemy. Care must be taken during several sections as innocent monkeys and dogs often wander across the screen. Shooting an animal is not disastrous, but it does reduce your score drastically. Shooting the enemy however, is a jolly good idea, especially as many of them drop ammo clips and extra rockets which you shoot to collect. Shooting tanks and helicopters that appear later in the game is no problem providing you've got some rockets – move the



In the jungle on level one. Watch out for those poor innocent animals.

RELEASE BOX

ATARI ST	£29.95dk	IMMINENT
AMIGA	£29.95dk	OUT NOW
No 8-bit versions planned		
Optional light gun – £39.95 now or £29.95 soon		

AMIGA VERSION

The graphics, scrolling and sound are great. Although it's fun to play, you'll probably burn it out within a couple of weeks and will only load it up in the future for a quick bit of mayhem.

GRAPHICS	8	IQ FACTOR	1
AUDIO	8	FUN FACTOR	8
ACE RATING 753			

sight over a vehicle, press fire and a rocket launches automatically.

Kill the enemy off quickly, because it doesn't take long for them to start shooting at you, and doing damage to your health meter. First aid boxes appear now and again and boost health a little if they're shot on the ground. P.O.W. is not going to strain your brain, but it's a satisfying blast while it lasts.

● Andy Smith

PREDICTED INTEREST CURVE



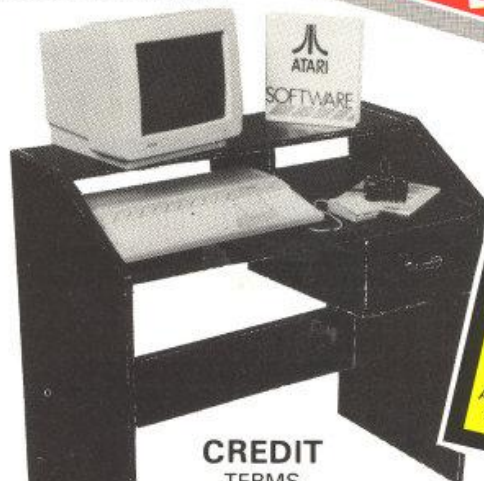
It's playable stuff, but not challenging enough.

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FERNANDEZ MUST DIE

UPDATE SPECIAL
ST • Imageworks £24.99dk

GENERAL Fernandez and his military Junta are at it again and you've got the glorious task of giving them a one-way ticket to oblivion. It's the same basic idea as the C64 version reviewed in Issue 13, but there have been quite a few changes - by no means all for the better.

The 64 version made quite strenuous attempts to distance itself from games like Commando and Ikari Warriors by having



side rooms and other features. On the ST it has reverted to being a more standard clone. It's purely vertical scrolling and loses other features from the 64 like planes, parachutists, and gold to collect.

Graphically the ST version is infinitely superior to the 64. It has also gained a cutting edge to the gameplay. It really is extremely tough to survive the constant attentions of the enemy soldiers and gun turrets, but it lacks variety in the task. There are still armouries to raid, safes to blow up and prisoners to rescue but these are just point-scorers that help top up your number of lives.

ATARI ST VERSION

Sharp, clear graphics but not as good as Leathernecks. The explosions and sound effects also lose in comparison.

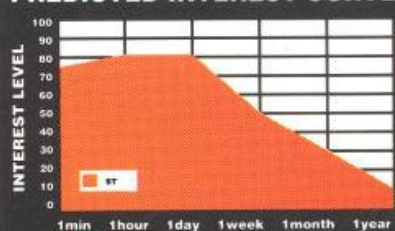
GRAPHICS 7 IQ FACTOR 2
AUDIO 3 FUN FACTOR 7
ACE RATING 674

The actual aim of the game has also been modified slightly. Instead of destroying bases you have to kill the seven members of the Junta. They are found in buildings with red crosses on, as is Fernandez at the end of the game.

This version is a little disappointing because I'd expect the ST to have more features. However, it's still got plenty going for it.

● Bob Wade

PREDICTED INTEREST CURVE



Lack of variety means it palls faster than the 64 version

DRILLER

Amiga and ST • Incentive £24.99dk

FREESCAPE Incentive's tremendously impressive solid 3D system, finally makes it onto the 68000 machines with this epic of drilling and puzzle-solving. The scene is the prison moon Mitral, where underground gas build-ups are reaching dangerous proportions. Your

ST - an aerial view of the start location. The control panel has been jazzed up considerably and the graphics move fast.


UPDATE SPECIAL

task is to place drilling rigs and thereby relieve the pressure, before Mitral is blown to pieces.

The game may not demand much in the way of geological knowledge, but you will need to think hard and shoot accurately. You'll also need to have a sense of wonder, because the solid 3D used to depict the game's many puzzles and hazards is very impressive stuff.

On the 8-bit machines this visual impact was tempered by the slow frame rate of the display, but there's no hint of that in these latest versions. Considering just how much work goes into each screen, the display is very fast indeed. As with the PC version, the extra speed makes the game a far more appealing prospect for arcade fans, even though the original puzzles are unchanged.

A bold, admirable piece of software when it was launched almost a year ago, Driller has lost nothing in the meantime. The ST and Amiga may both have a good few solid 3D titles, but the 'real world' feel of Freescape puts this one in a class of its own.

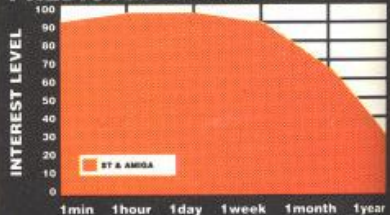
● Andy Wilton

AMIGA & ATARI ST VERSION

The mouse-icon control system is new to these versions, but it's natural and works well. The larger colour range makes for the best-looking Mitral yet, and it's so fast too!

GRAPHICS 9 IQ FACTOR 7
AUDIO 4 FUN FACTOR 3
ACE RATING 963

PREDICTED INTEREST CURVE



Great to look at, great to play, but you'll solve it eventually.

NEBULUS

ATARI ST & AMIGA • Hewson £19.99dk

UPDATE SPECIAL

VERY few games have stood out in the past year as exceptionally original, but this was certainly one of the few. It mixes platform action with amazing tower turning graphics, to produce one of the most addictive and challenging games ever. Nearly a year on the 16-bit versions arrive, not just with the enhanced graphics and sound you would expect, but with extra levels as well.

You control a cute little thing called Pogo who is always centred on the screen. He appears from a submarine at the bottom of a cylindrical tower, which you view from the side, and have to climb to the top of. The most original thing about it is the viewpoint you have on the action – as you walk round the tower it revolves, revealing what was hidden from view. It's a very simple idea, but it brings a nerve tingling edge of the unknown to the gameplay and creates a unique display.

Having marvelled at this innovative graphic style you'll soon get caught up in some astounding gameplay. When boiled down to its essential elements it's a platform game composed of nasty timing problems and complex puzzles, often requiring lateral thinking. What makes it different from the run of the mill, 2D platform offerings is the wraparound tower idea and the sheer inventiveness that author John Phillips has put into the puzzles.

Climbing up the towers is mostly a matter of following a route of platforms and lifts. Along the way there are plenty of horrid hazards to await the unwary. The cheapest trick of all is the disappearing block, that vanishes as soon as you tread on it plunging you down the tower. However, this is where another of the games' brilliant touches comes in. Falling doesn't kill you as long as you fall onto a plat-



Amiga – that pink ball is headed for Pogo. You must shoot it with a snowball or you'll be tumbling back down the tower.



ST – a nasty trick this one. To complete the tower you have to let the spinning alien to the right of Pogo knock him down to the platform below. There another pink ball awaits him, so you've got to shoot fast too.

Amiga – one of the nice touches on the ST and Amiga is the water at the base of the towers. It ripples delightfully and reflects the movement above it. However, in this shot you're about to be plunged into it by the spinning alien – and you can't swim.



form further down the tower – it just serves as a setback.

What does kill you is plummeting to a watery grave at the base of the tower or failing to reach the top before the time limit runs out. This means you get plenty of chances to learn the towers, even when you're making lots of mistakes at the beginning.

You'll also learn to hate the spinning alien who periodically appears from the edge of the screen heading straight for you. The only way to avoid it is to go up or down before it arrives, or go through a doorway just before it reaches you. Doorways take you straight across to the other side of the tower, but you can't tell what surprises lie in wait for you.

You can shoot snowballs, but these will only take out flashing blocks that bar the way and pink bouncing balls. The other dangers come in various guises and all follow similar movement patterns. They either shuttle vertically or horizontally, bouncing back and forth off whatever gets in their way. This means there are a lot of timing problems to be overcome, usually in tandem with some other hazard.

In between towers is a bonus stage where you control the submarine and shoot fish which then have to be collected to give extra time on the next tower. You're also treated to a whole new series of towers which make the games lasting appeal even greater.

This game can't be praised highly enough for its originality, graphic presentation, addictive gameplay and lasting challenge. Every last detail has been well thought out in the programming to make a classic game even better.

● Bob Wade

ATARI ST VERSION

Graphics are just as good as the Amiga, but the sound effects aren't quite as hot. The levels are all identical to the Amiga.

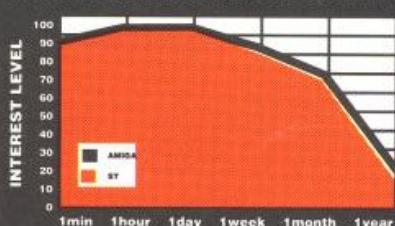
GRAPHICS	9	IQ FACTOR	8
AUDIO	6	FUN FACTOR	8
ACE RATING 952			

AMIGA VERSION

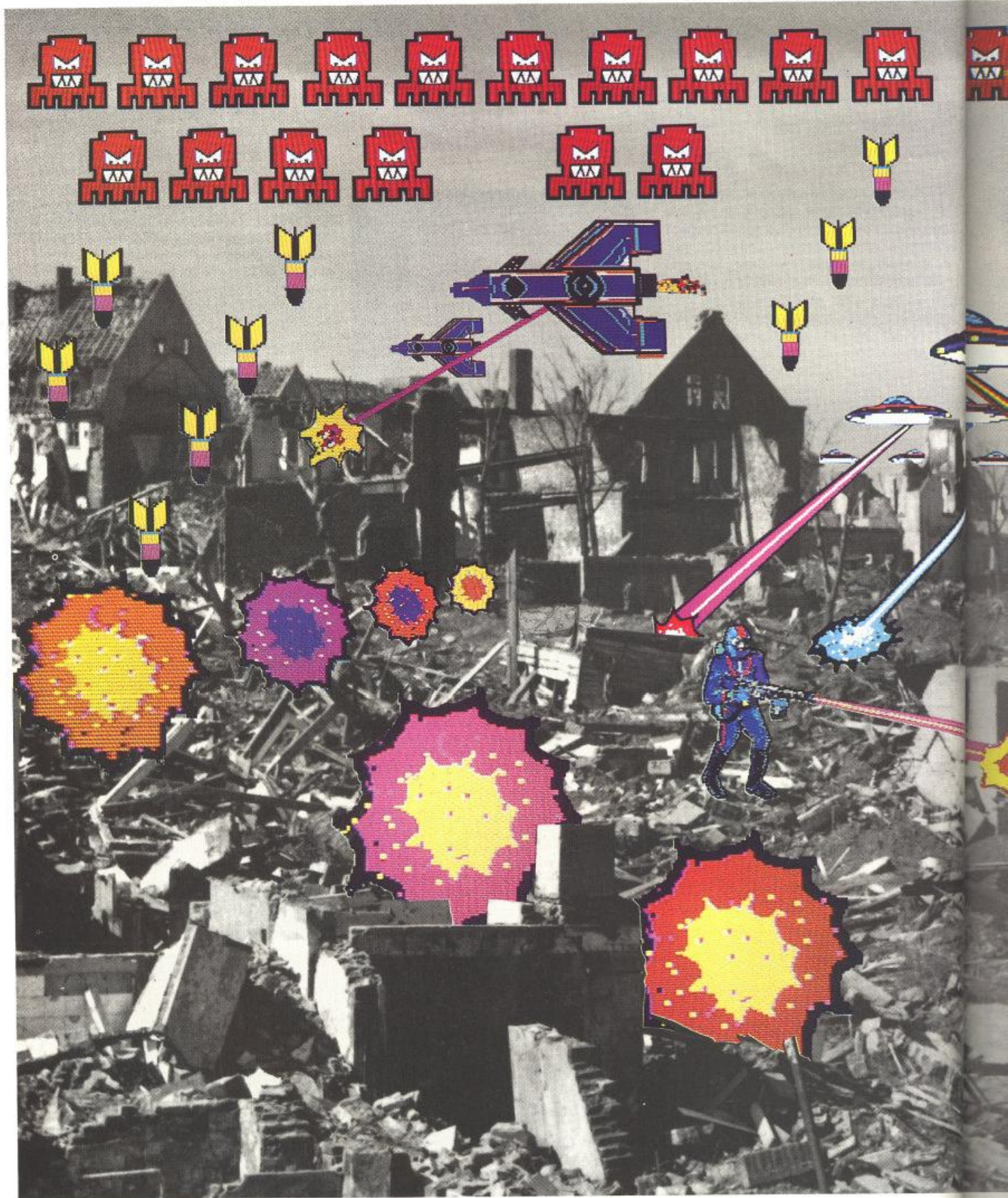
The graphics and sound effects are the best of any of the versions, just pipping the ST. The new levels are superbly designed and will give even experienced Nebuloiders a good run for their money.

GRAPHICS	9	IQ FACTOR	8
AUDIO	7	FUN FACTOR	8
ACE RATING 952			

PREDICTED INTEREST CURVE



The graphics and addictive gameplay make it an instant hit. The extra towers keep it going strong.



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The events are sprint cycling, hurdles, pole vault, hammer, parallel bars, rings, archery and diving. None of them are out-and-out waggles, but the cycling, hurdles and pole vault all involve a fair bit of joystick

agitation. The three most technically complicated events, and therefore the ones with most lasting challenge, are the parallel bars, rings and diving, which involve a series of joystick moves that require skill and practice to do well.

The presentation is excellent with opening ceremony, medal ceremony and a comprehensive instruction booklet that details



Whoops! You've taken a tumble trying to do the hurdles. You're not getting up from that one...

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C64 VERSION

Graphics and animation are up to the usual high standard that Epyx maintain on the 64. The musical pieces that pop up in between the action are also good.

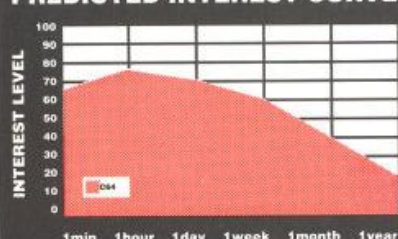
GRAPHICS 6 IQ FACTOR 4
AUDIO 7 FUN FACTOR 7
ACE RATING 753

some memorable moments from each event and offers hints and tips on tactics.

As you would expect from Epyx, each section is both well put together and challenging. It's best played by a group of people - where the competitive instinct will be strongest. A worthwhile addition to the Epyx sporting range.

● Bob Wade

PREDICTED INTEREST CURVE



Classy sporting action that will last.

CYBERNOID II

Pirate pranging with HEWSON

THOSE pirates are back again and stealing Federation cargo, so naturally you've been delegated to slap a few wrists, pop a few heads and get it all back again.

The mission is not dissimilar from the original game, although additional features have been added to try to jazz it up. It's a flick screen cross between a shoot-em-up and an arcade adventure, with the emphasis firmly on the blasting. Each screen pre-

sents a bunch of nasty aliens who have to be turned into ex-alien or just avoided.

The bad guys come in all sorts of shapes, sizes and behaviour patterns. On most screens they come in great numbers and you'll need all your skill and weapons to survive.

The weapons have been beefed up, which is just as well with all those vicious aliens around. You're now armed with bombs, time bombs, shield, bouncing bombs, seeker, smart bombs and tracer. These can kill virtually all known aliens, dead, but are in short supply at the start. Extra killpower can be picked up along the way as ammunition, or extra weapons in the form of a backward firing gun and a large sphere that circles the ship.

Despite the impressive firepower it's still an extremely difficult game to play. The



Entering at the bottom left you are confronted by a screenful of alien killers

odds are stacked against you and after dying once, losing weapons in the process, it's even harder to survive. This sort of manic gameplay appeals to many game freaks but there's not much originality and no concession to those wanting a less demanding task.

● Bob Wade

AMSTRAD VERSION

The best looking of the three, with the same testing gameplay.

GRAPHICS 9 IQ FACTOR 2
AUDIO 6 FUN FACTOR 7
ACE RATING 672

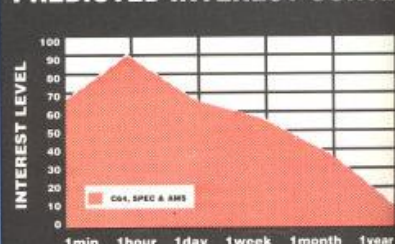
RELEASE BOX		
SPEC	£7.99cs £12.99dk	OUT NOW
AMS	£9.99cs £12.99dk	OUT NOW
C64/128	£9.99cs £14.99dk	OUT NOW
16-bit versions under development		

SPECTRUM VERSION

Graphics and sound up to the standard of the first game - they're very slick. Gameplay is just as addictive and frustrating.

GRAPHICS 8 IQ FACTOR 2
AUDIO 6 FUN FACTOR 7
ACE RATING 672

PREDICTED INTEREST CURVE

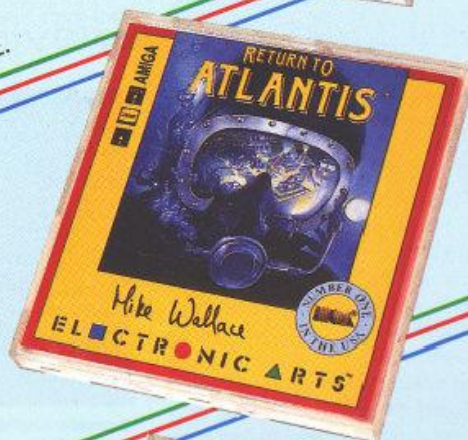
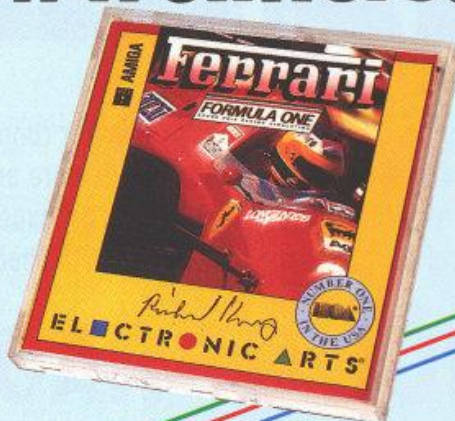


Same old thing at first, then the addiction bites, but it soon passes, to leave an average game

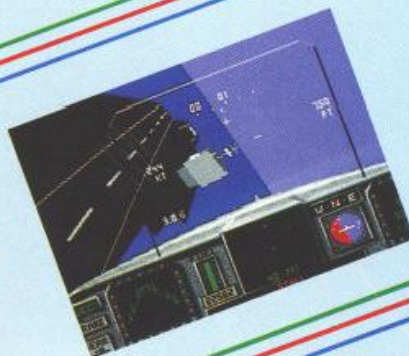
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THE GAMES MACHINE.

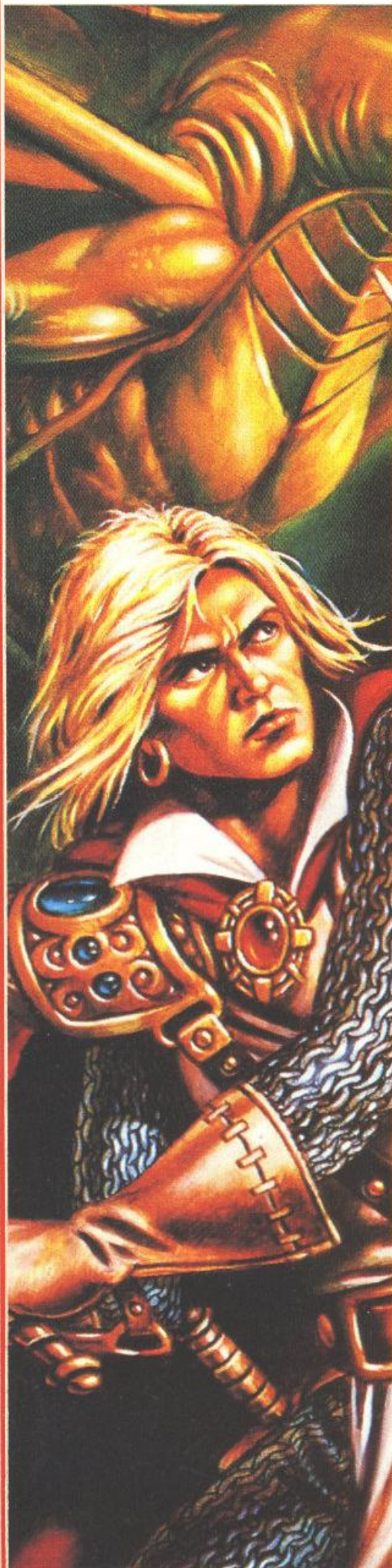
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RADIAN'T

You simply can't get the entire system for running a Dungeons and Dragons game onto a home computer – but more and more people are having a good try. American strategy/simulation experts SSI turn their hand to the second AD&D licence, and Andy Smith checks out how well they fare.

POOL OF RADIANCE

US GOLD/SSI start playing for keeps

921

Heroes Of The Lance may have been the first game released by SSI to carry the official Advanced Dungeons and Dragons label, but it wasn't much of a role-playing game (RPG). It had some strong role-playing elements, but the emphasis was placed on the arcade-style animated action. The second AD&D licence, *Pool of Radiance*, is however very much closer to that ever popular board game format.

Pool of Radiance isn't a game you can get up and running in a moment – but then that's true of most RPG-influenced software. It's also rather more intricate in structure than games like *The Bard's Tale* series, which again is not surprising – one of the criticisms levelled against AD&D itself is that the rule



Outside the City Council building in New Phlan. Right, who's for some Orc bashing?

system has become far too complex, replacing imagination with regulations at every possible opportunity. There's little danger of that in the case of *Pool of Radiance*, howev-

INTO THE FRAY

Try as you might, you won't be able to play the game for very long without getting into a fight. Once a combat situation occurs (how you encounter the enemy determines whether you or the enemy, if any, has the element of surprise) the screen changes to show icons of your party and the opposition. The characters then move, in turn, according to their 'initiative rating' – the higher it is, the more moves they get during combat.

You can turn over control of characters to the computer or opt to make all the tactical decisions yourself. The basic types of weapon at your disposal are ranged weapons (slings, cross-bows, long bows and so on) and melee weapons (like swords, maces, and spears). Which you use depends on the type of enemy



In combat. Don't forget to bandage wounded players!



After most battles you get the chance to share out the spoils of war.

you're fighting. For example, a long sword has more effect against large opponents such as Trolls and Ogres than a broad sword would, whereas the latter is more effective against smaller opponents such as Kobolds.

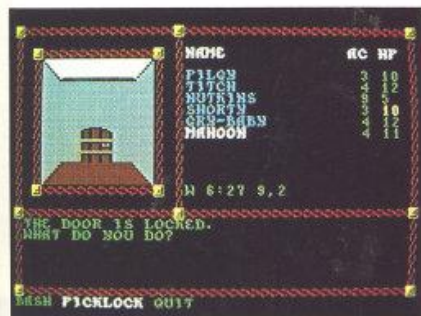
The fight continues until either you kill all the enemy (or they surrender) or your party is destroyed. When a member of your party takes a severe beating, he falls unconscious and the corresponding icon disappears from screen. If another member of the party manages to bandage the wounded character the injured colleague remains unconscious but recovers after a few days rest. Forget to bandage a wounded character and death ensues. Win in combat, and you divvy up the loot and weapons carried by the vanquished enemy.

CONTROL PLAY?

er, since no-one is ever going to fit ALL the AD&D system into anything under a gigabyte or two.

You start the game by creating a party of up to six characters (see Characters box) before you're given a brief tour of the city of New Phlan and left to seek fame, fortune and adventure wherever you wish.

The screen display during the majority of the game is divided into three sections. The top left of the screen is your view of your surroundings and the top right shows the names of your party members and their armour and hit point levels. The game is



In the slums. Behind this door's a party of the the meanest bunch of Orcs this side of Mordor.

RELEASE BOX

C64/128 £14.99dk REVIEWED

PC, ST, and Amiga formats T.B.A.

C64 VERSION

Though the graphics may not be state-of-the-art and the sound effects dire, you'll find you soon become absorbed in the game world and you'll be playing this for months to come.

GRAPHICS 7 IQ FACTOR 5
AUDIO 4 FUN FACTOR 8
ACE RATING 921

controlled by selecting various options from the menus at the base of the screen.

For example, by selecting a party member from the list at the top of the screen, and then by selecting the view option at the base, the screen clears to show you that character's attributes, job type and so on - plus a cameo of the character that you choose at the start of the game. Another menu gives you the option to view that character's equipment. Select the option to choose which weapons the character will have ready when entering battle. By selecting EXIT from the sub-menus, you're taken back to the main menu, where the MOVE option puts you in direct joystick control of

DRAMATIS PERSONAE

Before you start the game, you have to create your band of adventurers - creating a party of up to six characters from a choice of six races, including dwarves, elves, halflings and humans. Once you've decided on a name, race and gender for your character the computer randomly generates six ability scores. These include strength, wisdom, dexterity and charisma ratings which affect how the character plays during the game.

Next you have to choose a class for your character. Do you want your character to be a fighter? Magic-user? Or a combination of several such classes? Note the race of the character is important here - for example, human characters can only belong to single class, whereas dwarves and gnomes can be jacks-of-all-trades.

Finally, you must decide the alignment of the character. Alignment is the philosophy the character lives by. A character with a lawful, good alignment strictly interprets law and order and uses these principles to bring the benefits to



society. A chaotic evil character will disdain law and order, kindness and any good deeds. Once you've created your party, you can save their attributes and begin to play the game proper.

The character creation screen. Here you get to choose just what your character should look like.



Your character's vital statistics, including what weapons he/she/it is carrying, armour class and hit points.

the party and you then get a 'leader's eye view' of the surroundings as you move about the environment, interacting with its denizens.

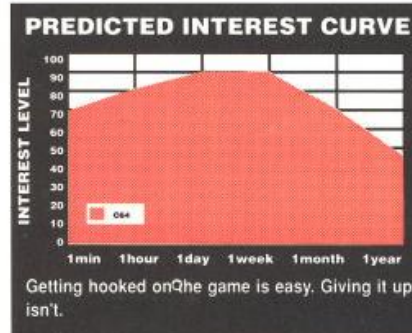
The City Council building is a good place to start looking for things to do. The Council often has work for willing bands of adventurers and they pay well for a job well done. You don't have to accept any of the jobs if you don't want to, but a good introduction to the game is provided if you elect to go and help rid the city's slums of monsters and other unsavoury characters.

Once you enter the slums, it doesn't take long before you find some nasties (see Encounters box) and battle commences. Victory means that your characters are awarded a number of experience points, which are crucial to the development of their skills and ratings. For example, fighters get stronger as they gain additional experience, magic-users can wield more powerful spells, and thieves become more adept at their art.

Occasionally you might meet non-aggressive characters in the game who may be able to give you some information, or who may ask you to do them a little service.

Whether you pay any heed to what you hear, or whether you decide to undertake extra tasks is entirely up to you.

Trying to capture the complex concept of the AD&D system on a home micro, along with the social aspects to the game is an ambitious project. SSI have gone a long way to achieving that aim and have produced an admirable RPG-influenced computer product, one that will not only please hardcore AD&D fans but will appeal to anyone looking for a game to keep them enthralled and playing for a long time to come.



CAPONE

ACTIONWARE play da Chicago piano.

AS this point-of-view target game alternates between static indoor and scrolling outdoor scenes, your task is to shoot the gangsters who saunter onscreen or peek out from cover. Take too long and they open up with Tommy guns.

Innocent bystanders pop up occasionally, and must be avoided. Explosives also put in an appearance, with gangsters hiding behind cases of TNT

(smart thinking!) or dropping sticks of dynamite. These features and a collectable machine gun don't exactly amount to depth, but they're all you're getting.

Old style snipe-em-ups like this are a big step down from Operation Wolf or Actionware's own POW, and it's a shame to see an Amiga wasted on such shallow gameplay.

● Andy Willton



RELEASE BOX

AMIGA	£29.95dk	OUT NOW
ATARI ST	£t.b.a.	IMMINENT
IBM PC	£t.b.a.	PRE-XMAS

PREDICTED INTEREST CURVE



VETERAN

A sheep in Wolf's clothing from SOFTWARE HORIZONS

THERE are three missions to complete in this Op' Wolf clone. You've got several machine guns to choose from at the start of the missions, each with differ-

ent firing rates and ranges. The screen doesn't scroll at all - rather, the enemy come onto it from the sides. As you'd expect, you've got a limited supply of ammo and rockets with which to destroy the soldiers, tanks, helicopters and machine gun nests, but you can pick up extra supplies from the ground by shooting them.

The gameplay's slow, the digitised speech is awful and it's doubtful you'll be playing this in a year's time.

● Andy Smith

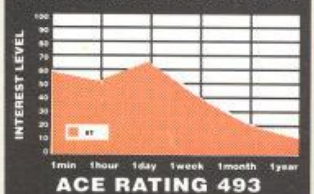


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AMIGA	£14.95dk	IMMINENT

No other versions planned

PREDICTED INTEREST CURVE



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FINAL ASSAULT

EPYX climb peaks

THIS first appeared way back in ACE issue 5 and was then an Infogrames game endorsed by Eric Escoffier and called Chamonix Challenge. Since then Epyx have bought the rights to the game and have apparently made some 100 changes.



You're still left with a 'waggle the joystick to climb the mountain' game that gives you six climbs to complete (you can string up to three climbs together if you wish). You have to make sure you're using the right equipment at the right stage of the climb or you could find your climber getting into difficulties, but select the training option and on-screen prompts will tell what equipment you should be using (and why).

The gameplay has been improved but it still won't get you very excited. You'll soon be looking for new mountains to try.

● Andy Smith

RELEASE BOX

ATARI ST	£19.99dk	OUT NOW
SPEC	£8.99cs	IMMINENT
C64/128	£9.99cs, £14.99dk	OUT NOW
AMS	Not planned	
AMIGA	£19.99	OUT NOW
IBM PC	£1.b.a.	OUT NOW

PREDICTED INTEREST CURVE



ARTURA

GREMLIN travel through time

TRAVEL back to the fifth century in this magical quest to collect a series of mystical rune stones that allow you to liberate Nimue, apprentice to the vanished Merdyn who alone knows where the sacred treasure of Albion are hidden, which you need to...

And so it goes on, disguising the fact that this is really just a Black-Lamp type arcade adventure. You need to explore (and map) a series of rooms and levels searching for the runes, at the same time avoiding the deathtraps and the nasty creatures. Your vitality is reduced by

hits, but can be restored if you know where to look for the appropriate symbols.

Artura is not terribly difficult, and the determined player will complete it all too soon.

● Bob Wade



RELEASE BOX

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PREDICTED INTEREST CURVE



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You cross swamps, mountains and forests... there are enemies all over. The way to the prison becomes more hazardous the further you advance. You take command of a helicopter, descend into the entrails of the planet, and arrive at the prison. It is heavily guarded. Will you be capable of freeing ARKOS?



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DYNAMIC



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SUSPENDED ANIMATION

Andy Smith plays with some puppets and saves a world from destruction before escaping from a prisoner of war camp and capturing some gangsters in this month's round up of what's hot and new in the arcades.

On the second stage. You're about to slug it out with Xi Tai Hou.



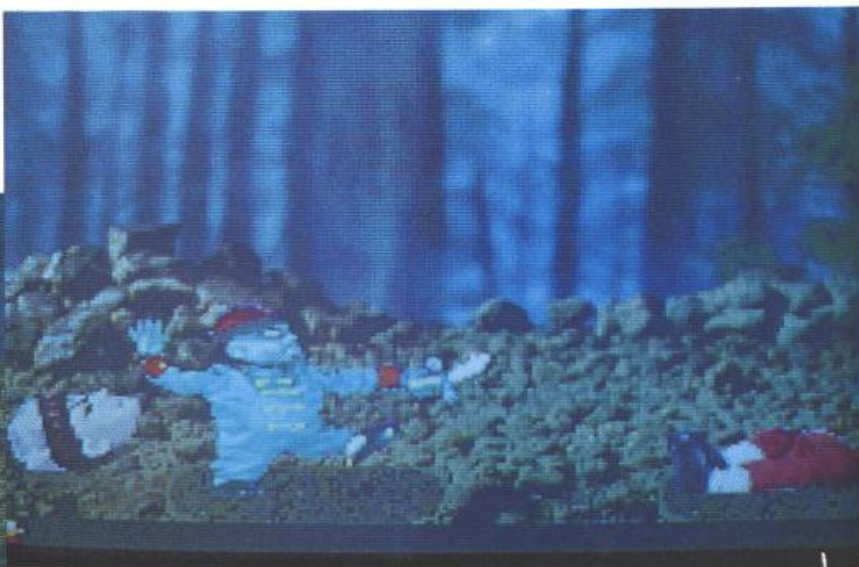
(Right) On stage three. That small character's a mean one!



(Below) Ooof! He's knocked you back on your heels.



And it's all over bar the shouting. Oh well, time to put some more money in the slot.



THE LAST APOSTLE PUPPET SHOW

Homedata 30p

Don't let the wacky title put you off, this beat-em-up packs a fair old punch. The game's for one or two players and in it you try to work your way up a mountain fighting various increasingly difficult opponents. So far, so standard, but what makes this game big news is the display.

Most coin-ops have stunning sprites and backgrounds, but somehow they don't have that 'real' look to them, and at best they look like cartoons. L.A.P.S on the other hand has stunning characters and backgrounds with a tremendous 'real-life' quality. The characters look just like the puppets you might see in a children's T.V. programme (the puppets on strings, not the glove variety). The animation of the characters is not brilliant but the shading and the backgrounds give it one of the most believable 3D displays yet.

The actual game's fun to play, and you have a wide variety of moves to use against your opponents using the standard punch and kick buttons. As in most of these types of games, how you position the joystick while you press a button affects just what move you make. Pull down on the joystick and press kick and you'll do a leg sweep, push up and kick and you'll do a high kick aimed at the enemy's head. At the start of the game it's just you versus another 'puppet', but as you progress up the mountain, the opponents become more numerous until you can be fighting off hordes of the enemy that come running at you from all directions. Don't let the puppet idea fool you into thinking the enemies are soft though, they're not and once your energy bar at the top of the screen reaches zero your head goes flying across the screen (bloodlessly, thank goodness).

The game concept may be old hat, and the animation may leave a little to be desired, but if this is the sort of thing we're going to be seeing more of, in our local arcades then the future does indeed look bright.



Bingo! That's put paid to that end-of-level guardian.

FORGOTTEN WORLDS

Capcom 30p

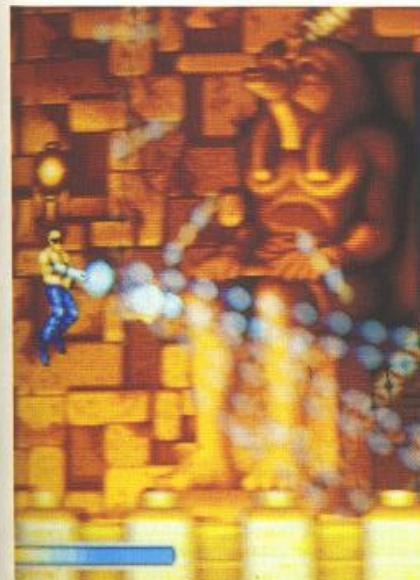
Wanna go shopping next time you're playing a shoot-em-up? This latest one or two-player Capcom offering could be just what you're after.

In the game you take control of an airborne character armed with a front firing gun, and you slowly fly over several 'worlds' shooting all the baddies that attack you from every direction. Controlling your character involves using two joysticks – the first moves your character up and down the screen while the other is one of those paddle affairs. Twist the paddle and your character rotates. Push the paddle and you start shooting.

Now, here comes the shopping bit. As you destroy certain aliens, they drop Zenny coins. Fly over these and collect them, and at various points during the game a shop will appear from the background. Fly in through the door and you can purchase your power-ups. You can, of course, opt not to buy anything but wait 'till the next stage when you'll have more Zenny coins and be able to buy some meatier weapons (that's if you survive the end-of-level guardian).

Blast everything in sight! Fans are going to enjoy playing *Forgotten Worlds*, which may not be a terribly original game, but is great fun to play.

(Left) Flying through the Egyptian stage with plenty of firepower.



Yahoo! There goes another guardian



Not quite the corner store is it?



EXTENDED PLAY

SCRAMBLE SPIRITS ● Sega 30p

This viewed from above, vertically scrolling shoot-em-up's set in the 21st century and gives you a small, twin-engined plane to fly. You're armed with a front firing gun, and powering up gives you a fighter escort that you can use to attack either airborne or ground targets depending on which button you press. Great fun, but again it's nothing original.

P.O.W. ● SNK 30p

Escaping from a Prisoner of War camp's no easy task – especially when the guards know you're trying to bust out and come after you armed with knives and machine guns. The game's a beat-em-up essentially, but any armed guards you manage to overpower, you can rob. As a Renegade meets *Rolling Thunder* game, it's not half bad and is well worth checking out.



P.O.W. - ready for a fight. Pick up that machine gun and you won't have to bother throwing punches (at least until you run out of ammo).

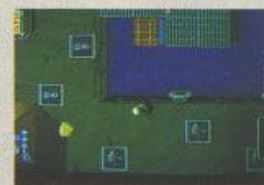
ASSAULT ● Namco 30p

A bit like *Vindicators* this one (see ACE issue 11), in that you've got two joysticks to control a tank viewed from above. You're driving through a maze-like network of canyons, and instead of turning corners you flip the tank over before powering forward again. This control method's easy to get used to and is also a handy method of avoiding the shots the enemy tanks fire at you.

GANGBUSTERS ● Konami 30p

Large cartoon characters make an appearance in this viewed from above shoot-em-up. Some nasty bank robbers have stolen a whole wodge of cash and as a police officer it's down to you to round them up. They do have friends, though, who do their level best to stop you by shooting you, but should you see one of the bank robbers (it's not hard to spot them, they're usually sat in the middle of the road counting the lolly), you simply have to shoot them and go

pick 'em up. You then deliver them to the nearest waiting Black Maria where you'll receive a power-up. It's a tough game to play, but it is great fun.



SKY SOLDIERS ● SNK 30p

This vertically scrolling shoot-em-up for one or two players gives you half a dozen missions to complete, each set in a different country and time period. You're flying a spaceship and the enemy craft reflect the country and time period you're fighting in – doodlebugs appear when you're fighting over 1945 Germany, and monoplanes and biplanes show up in 1914 France.

Extra weapons are given to you at the start of each mission, and you have a choice of several, including homing missiles and 'busters'. You only have limited amounts of extra weapons though, so make sure you save some for the end-of-level guardians!

CABAL ● Tad/Electrocoin 30p

It's not long before an original idea spawns a batch of clones. This one's an *Operation Wolf*-type game for one or two players. You don't get a machine gun mounted on the front of the cabinet however, but a trackball to whizz the sights around the screen, picking off the baddies as you go.

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Atari ST screen shot



Commodore screen shot



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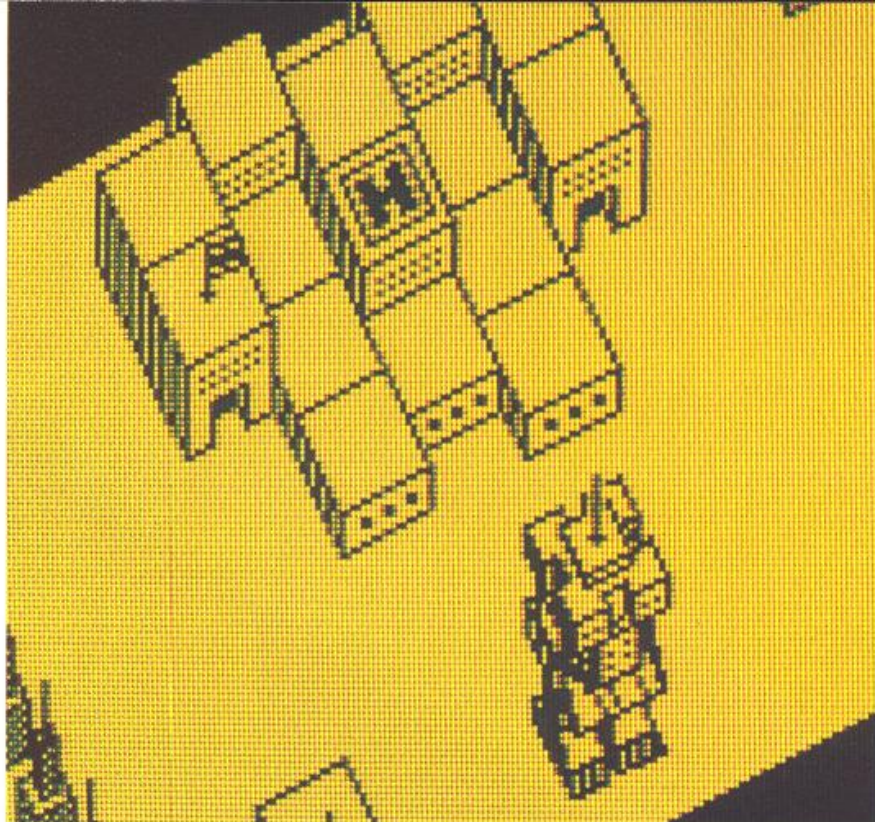


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Tired of dumb opponents? Bored by all those electronic thump-puppets that just wander into your field of fire? Well so you should be. Just because modern nasties move in slightly more complex patterns than the *Space Invaders* of yesteryear doesn't mean they're interesting. If the bad guys are brainless, they aren't really bad guys at all - just targets, obstacles or timing problems to be dealt with.

Unfortunately, once you get beyond *Invaders*-style 'canned' behaviour you can turn up some thorny programming problems. Even where coders are feeling adventurous, they rarely go beyond a mixture of canned and homing behaviour just because these are the simplest patterns to program. Random elements can make homing slightly more interesting, but the bad-guys remain rather predictable.

The next step after homing is evasion. At its simplest this is just the homing routine used in reverse: so it was in *PacMan* once you'd eaten power pills, and in *Spore* when you activated your repulsors. This was a fairly minor improvement on total stupidity, but better things are possible with a little more effort.



Nether Earth (Amstrad), a sugar-coated wargame where you could see the results of your orders in real time, isometric 3D form. If the ordering system had been a little more complex, you'd have had some really smart robots to work with.

GET SMART

What if games were packed with nasties that could think for themselves? What if you could program your own forces to attack intelligently? What if programs could actually slug it out for control of your computer? Andy Wilton looks at how artificial intelligence and programmability could change the face of gaming.

ARTFUL DODGERS

As early as *Elite*, bad guys were weaving and dodging to try and stay out of your gun-sights: flight sim Messerschmitts and MiGs have been similarly slippery ever since. In *Alien Highway*, Costa Panayi gave us bad guys who could actually duck (telescope their necks in fact!) to avoid your Vorton's bullets, while in *Virus* David Braben came up with a real mixed bag of behaviour patterns. It's bad enough when pests 'viff' out of your

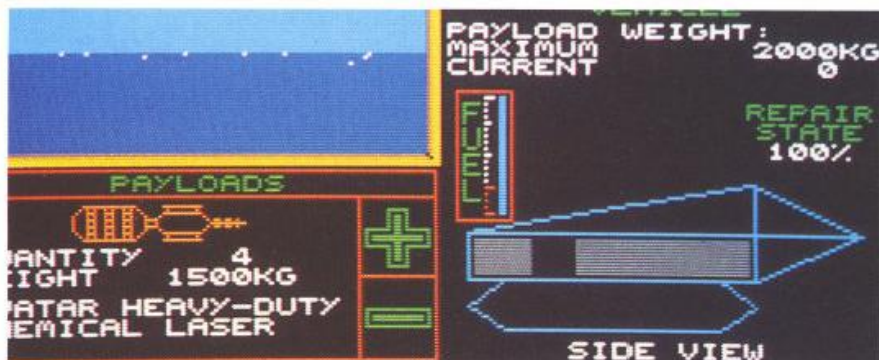
line of fire, but the way the game's mutants and fighters work at getting a height advantage is positively unpleasant. Be warned, complex behaviour patterns can make things uncomfortably difficult!

There's still a lot of ground to be covered. Even complex behaviour patterns can be figured out, and an effective countermeasure found. Work at it long enough and you'll still be able to find the Achilles' heel of the bad guy's tactics - and once you've done that the

game turns into a turkey-shoot. The same technique works against the nasties time after time, so the tactical challenge evaporates.

This is the 'dead hand' problem rearing its ugly head. The bad guy behaviour patterns may be intricate, but they're also fixed. The only intelligent opposition you've got is the programmer, and when you figure out a way to beat him he has no way of responding (or not without publishing a sequel, at any rate). Here at ACE we've always been keen on multi-player games as a way round this problem, but there could be another answer.

As suggested briefly in *Aliens Alive* (ACE issue 8), there's no reason why bad guy tactics shouldn't develop to cope with any killer techniques you use. *Aliens Alive* suggested doing this by an evolutionary process, so that future waves of aliens would be shaped by whichever ones survived longest this time round. In practice that probably wouldn't be the best way of doing things. Techniques used in certain experimental chess and draughts programs ought to let arcade nasties learn quickly from their comrades' mistakes, while building up a long-term knowledge base on what tactics seem to work best against you.



Carrier Command (ST). You can set a destination for your Walrus amphibious tanks, but you can't tell them what to do when they get there - so massed attacks, coordinated bombardments and simultaneous air cover are all out of the question. A higher level of command system would allow games with whole fleets of ships in them.

HELP WANTED!

Once the bad guys start getting smart, you'll have to wise up too. If you're all alone against a vast horde of high-IQ aliens you clearly aren't going to last long. You'll need help, and it had better be intelligent help.

Of course, if a games author can make your opponents brainy he can do the same for your helpers, but that may not produce a game most people would want to play. After all, if your buddies are doing half the work you may not feel very involved in the proceedings. Far better if their intelligence is part of your game effort: if you've programmed them, that is.

Don't panic - we're not talking about learning machine code and writing your own routines (though that can make an excellent game in its own right: see the *Core War* box). In fact, programmable helpers would only be a slight advance on the sort of order-issuing you get in games already on the market.

In last year's Argus Press (now Grand Slam) game *Nether Earth* you could order your robots to attack enemy droids or installations. It wouldn't be going that much further if you could give them secondary tar-



Cyrus Chess (PC): could techniques from intelligent games like this help make shoot-em-up aliens smarter?

guage would let you do this, and it would have other advantages as well. For one thing it would help prevent God's-Eye View, the problem whereby a wargame commander can get information that a real-life commander wouldn't have access to. Another example in the same carrier wargame should illustrate this point a little more clearly.

RADIO SILENCE

You've sent out reconnaissance planes to search for the enemy carrier group. If you find it you can attack with aircraft, shell it

from over the horizon or pass on the news to your own submarine flotilla. In real life, especially in WW II or some similar period, you'd only get the results of the search when the recon planes got home safely. If they were downed by flak, exceeded their endurance or simply couldn't find their mother ship again, you'd never know a thing about it.

Clearly this knowledge limitation won't translate very well to a home micro if you actually have to control the recon planes yourself. The planes may get shot down, but you'll have seen the carrier group yourself and can act accordingly. Programmable forces could carry out complex commands, while at the same time maintaining the 'Chinese walls' necessary to prevent you finding out too much, too early.

Of course, this needn't mean that you miss out on all the action. A 'de-briefing' phase afterwards could let you watch highlights of each mission - reconnaissance or gun-camera film in real life - and give details of how your orders were put into practice. This would serve the additional purpose of letting you see what the shortcomings of (or even bugs in) your orders were, so that you could improve your programming style in future. ●

ART!

gets for any spare munitions they have left afterwards, or set damage levels beyond which they should retreat for repairs. Throw in standing orders on what to do if they encounter obstacles or come under enemy fire en route, and you've got the beginnings of some serious smarts - and it's all your own work too!

PLANS OF ATTACK

Building programmability into a game could transform our notions of what gameplay is all about. Imagine a few possible scenarios.

Take a task-force wargame in the style of *Carrier Command*, for example. You form up a bombing group to attack enemy shipping, but you don't actually want to have to command the mission personally. If the game's running in real time you might well have to repulse an attack on your own fleet, organise anti-submarine patrols or prepare for the amphibious landing you'll be making soon.

The problem is, you're sending those bombers out to attack a moving target - enemy warships don't normally sit at anchor obligingly waiting to be sunk - so you're not quite sure where it'll be when they catch up with it. What's more you don't know how strong the anti-aircraft fire will be, precisely what sort of ship they'll be attacking, whether they'll run into an enemy combat air patrol or any number of other important factors.

What's needed is some system whereby you can give detailed orders covering different eventualities. A simple programming lan-

CORE WAR

It's a programmer's nightmare: you write a piece of code, it looks like it ought to run perfectly and yet it keeps crashing. Could there be some malign intelligence at work in the machine - an enemy program sowing the seeds of chaos? If the answer's yes then you must be playing *Core War*, one of the most bizarre and intriguing computer games ever devised.

Though *Core War* does have a certain air of *Battleships*, or possibly of *Sentinel* with the lights turned off, there's a crucial difference. Unlike either of these - or almost anything else - *Core War* isn't actually a game that humans can play. The contestants in each bout are programs: all your effort goes into writing a program clever, brutal or lucky enough to make its opponent crash.

Developed in Canada ten years ago, *Core War* is little known nowadays. It revolves around a tiny area of memory deep inside a fictional mainframe. The area or 'core' is just 8000 locations in size, but that's plenty big enough for its only real function: as a battlefield. When the game commences, two programs load into the core at random positions. The electronic cockfight that follows can be viewed onscreen: watch helplessly as your marvellous piece of coding founders, or cheer manically as it

rips the enemy's data area apart!

Writing a successful *Core War* program is a tricky business. When the fictional mainframe's operating system 'MARS' - actually a simulator running on your machine - loads the two programs into core memory, neither knows where the other is. Time is of the essence: MARS multi-tasks between the programs, executing instructions from each alternately, so a *Core War* game is a race to see which program can disrupt the other first.

Core War programs can do almost anything. They can build copies of themselves elsewhere in memory, repair themselves when damaged or even modify their own logical structure, if you're a sharp enough programmer to write them that way. This kind of irregular behaviour is possible because *Core War* programs are all written in a special language called *Redcode*.

Redcode is very like an assembly language, so each of your program's instructions can also be considered as data. This lets your program copy or change itself freely but it lets the enemy program change it too. The standard aggressive tactic is to strew memory with illegal instructions which MARS will refuse to execute: if one of these drops in an

enemy program's lap, it'll crash and your program will have won. If your program copies itself over an opposing piece of code or data, that may do the trick just as well.

Rather like objects in *Life* (see *Aliens Alive*, ACE issue 8), successful *Core War* programs are given names by their creators. The classic ones tend to be extremely short, so as to present the smallest target possible. The highly aggressive *Dwarf* is only four-lines long, and given time will destroy any longer program that doesn't either copy or repair itself. Smaller still is *Imp*, a one-line self-replicator that's hard to destroy and will, in due course, wipe the whole of memory.

Slightly larger programs can defend themselves against such unsubtle onslaughts. The cleverly designed *Raidar* positions 'pickets' - large areas of cleared memory - either side of itself, so that it can detect approaching attacks and relocate itself out of danger. *Scanner*, another defensive classic, keeps copies of itself, transferring control to them when the original is threatened. As the arms race accelerates, nastier attackers come out of the woodwork. Mutant versions of *Dwarf* can get very vicious indeed, while the longer *Imp*-style replicators *Juggernaut* and *Bigfoot* also pose tough problems.

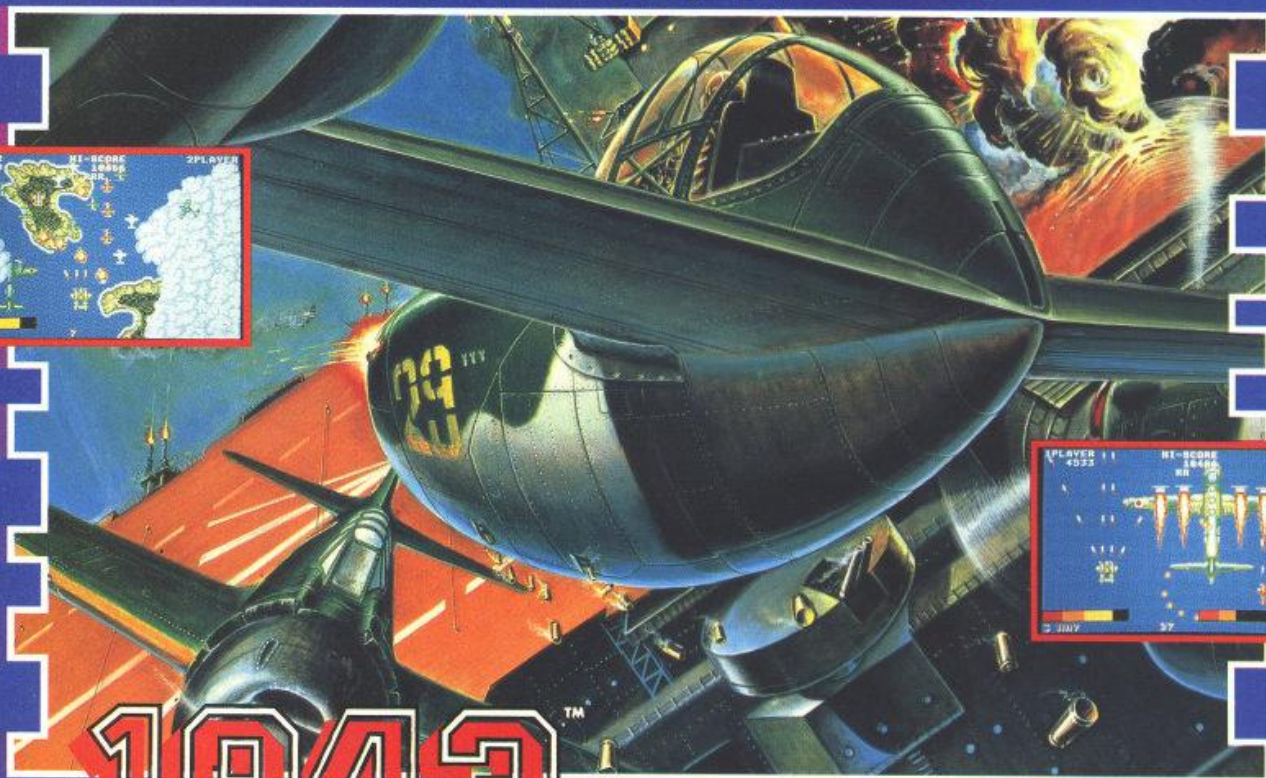
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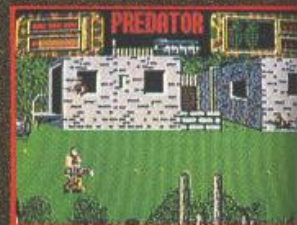
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This month the Cowled Crusader takes a critical look at Lancelot, brings you the Paladin's guide to Lords of Time, plus the final instalment of the Pawn solution. All that, plus more reviews, hints and tips from the country's premier adventure reviewer...

LANCELOT ST SCREENSHOT



> pictures

Lancelot was in Arthur's echoing hall. Hundreds of wall torches gave a flickering gold glow to the room, making it seem welcoming despite its size. Lancelot could see Guenever, Sir Kay and King Arthur. Sir Kay grovelled backwards towards the exit. King Arthur said, "Welcome to Camelot, Lancelot. Merlin has foretold that you are fated to become the greatest of all knights. We are honoured to have you at our court".

Lancelot on the Amiga

LANCELOT

LEVEL 9/MANDARIN's Holy Grail?

THIS game has been expected for some months now. Following Level 9's rift with Mandarin, it seems likely that Lancelot will be the last Austin adventure produced under that label. What sort of epitaph does it offer?

A pretty dodgy one, I'm afraid. Last month we saw Ingrid's Back, developed after Lancelot, and although I wouldn't normally put gnomes before knights, I would in this case. This is a disastrous disappointment because the Arthurian scenario is surely one of the great opportunities in adventuring. Even that awful old game Quest for the Holy Grail, with its exploding rabbits and Nic-ing knights, managed to borrow a little lustre from the days of Lancelot and the Round Table.

Level 9 have made some pretty tough

claims for this game. They are on record as saying it is their 'best yet', and furthermore we have been informed that Pete Austin is an expert on Arthuriana. To a certain extent these claims do have some substantiation in the game. To start with, the locations have an undeniable air of authenticity about them, as do the characters of the various knights and the occasional flourishes of early English prose.

So what's the problem? Simply that the game, while superlative for certain brief moments, keeps getting spoilt by apparent carelessness and poor design. For example, the characters are great and - as in Ingrid's Back - lead interesting lives that greatly enhance the atmosphere of the game. However, they also have sloppy speech tendencies that do not do much credit to anyone, least of all themselves.

For example, it's quite amusing when the Damsel Maledisant says to Lancelot, who is carrying a hot cauldron, 'Bet you drop it!'. It is not amusing, however, when she says it again after he's put it down. At other times, the characters' responses and outbursts appear even more illogical. Even an innocent suggestion to Arthur can get you the reply 'Don't bother me with that! I am the king!' (or words to that effect), which may amuse once, but never again. Once suspects that the character is simply saying 'I don't understand', in which case



why not be more direct?

However, all this can be forgiven when you find characters engaged in interesting activity or, for once, replying with convincing relevance. You can also forgive the poor graphics on some versions (see screenshots for some idea of the variety here) because

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Same game different versions - Lancelot on a CGA PC and (inset) an EGA PC

the locations do convey authority and atmosphere. But you can't forgive some of the atrocious puzzles, which is unusual in a Level 9 game where the challenges are as a rule inventive and satisfying.

The real problem on the puzzle front seems to be the scale of the action that Level 9 have undertaken to include in the game. For example, at one point Lancelot has to save Tintagel from an invading army. That's a tall order for a sub-plot, but solving it with a puzzle of astonishing, one-minute simplicity both disappoints the player and devalues the scenario.

That's not to say that there are several excellent puzzles in Lancelot. It's just to lament the fact that there are also several appalling ones as well.

The selling points of this game are the scenario, the high level commands (which include GO TO, FIND, FOLLOW, OOPS etc),

and the interaction. The first sales point is sadly undermined by sloppiness, the second pulls its weight and makes the game very easy to play, and the third again succumbs to occasional glitches. That's a record of one success out of three - not enough for a decent epitaph and certainly not enough for a game that must be one of the great 'might have beens' of 1988. ●

THE ACE VERDICT

A technically impressive game, as one would expect from Level 9, but the expectations aroused by the idea are not fulfilled by the execution.

LANDSCAPE	82	SYSTEM	79
CHALLENGE	91	ENCOUNTERS	85

LIVING WITH LANCELOT

Lancelot, in common with most Level 9 games these days, is a three part story. In Part 1, you meet Arthur, Merlin, Sir Kay, and your love-to-be Guenevere. You also explore the castle town of Camelot and get used to the game system.

In Part 2, you rush off and prove your worth as a knight by rescuing damsels in distress, defeating armies, and above all rescuing various captive knights. These then become commandable characters who can (mostly) help you in solving some of the game's other puzzles.

Part 3, which you can jump straight to from the main menu,



involves the Quest for the Holy Grail and features Lancelot's son Galahad as well as the old knight himself.

Throughout the adventure, gameplay is largely shaped by

some of the high-level commands, in particular GO TO which enables you to instantly locate almost any person or place. This means that you have to make a constant effort to map the game, since it is rather easy to rely on GO TO and FOLLOW to move you about the place. Although convenient, it does somehow spoil the joy of exploration.

There are several opportunities for combat, but this is limited to simple cut-and-slash with no chance to dictate tactics other than deciding whether or not to accept your opponent's surrender. If you die, Merlin immediately resurrects you somewhere else.

What's

THE ACE VERDICT?

We're going to try an experiment in The Pilgrim column for a couple of months. Your letters will determine whether we make it a permanent feature.

Basically, the Pilg feels that there is a problem with ratings of adventure games. For some months now I've had difficulties assigning a rating to games that gives a proper guide to the quality of a title.

Take *Lancelot*, for example. It's pretty obvious that I was disappointed by the product, but the fact remains that even a poor Level 9 product is technically very advanced as far as adventures go. To give it a rating of, say, 500, would be misleading. On the other hand, to rate it 800 or above would be equally misleading.

What it all boils down to is that adventures are becoming better and better technically, so that reviewing them becomes more and more a subjective, rather than a technical, evaluation. Take books, for example. You can criticise the writing style, the conception, and the structure of a book, but no literary critic would ever dream of giving a definitive rating for, say, the latest novel by Ruth Rendell.

So what's to do? As an experiment, the Pilg is going to abandon the ACE rating and substitute instead a short summing up of his personal opinion, entitled the ACE Verdict. We'll still keep the four separate ratings for Landscape, Encounters, Challenge, and System since these are useful for assessing the technical basis of a game. Please write in and tell me what you think of this new system and whether you'd like to see it continued, or perhaps replaced by something else.

Just to remind you, while we're on the subject, what the four tech ratings stand for...

LANDSCAPE deals with the complexity of the map, its size, and its structure. A simple two dimensional map with little description, few locations, and no surprises is going to score badly here.

ENCOUNTERS tells you the quality of interaction between the player and the characters in the game. Are they fully described, functional, interactive, and well-programmed. Do the characters talk, or just stand there. Do they move about? Do they appear 'intelligent'? There's still a long way to go here for most adventure software houses.

CHALLENGE. Is the game a walk-through, or a real mind-bender. Illogical puzzles don't score so highly here, however, even if they baffle you for days (which they probably will).

SYSTEM. Are there containers? High-level commands? RAMsave? Function keys? etc etc. The hotter the coding and the better the design, the higher the rating.

THE PILG thrilled to the news that Psygnosis were producing their first real adventure, complete with icon-control, text descriptions, and even a spot of time travel. All, however, is not as it seems...

First, the game was not programmed by the lads who brought you *Barbarian* and *Te r-ror-pods*. It comes from fair France, Pilgrings, that Gallic place responsible for things like *Mortville Manor* and *Crash Garrett*. In other words, games that look the bizz but don't quite have the gameplay to match the graphics.

The idea behind *Chronoquest* is simple - back in 1922 your dad has invented a time machine and disappeared. The plot is complicated by the fact that you are being accused of your father's murder, whereas evidence



CHRONOQUEST

PSYGNOSIS head back in time...

suggests that in fact another baddy is responsible. You must search the time zones for clues and people who can help you put the world to rights.

This vaguely *Lords of Time-ish* scenario is complemented by superlative graphics and some very nice music. That's the good news. The rest, alas, is mostly bad - for Amiga owners, anyway.

To start with, the control system is extremely limited. The game is entirely icon-driven and commands are limited to the basic get, drop, use, and look. You can also hit and push/pull where appropriate to bash toes and

response whatsoever, such responses as there are are hardly overflowing with detail.

OK, so we expect this from icon-driven games, but there's worse to come. The Amiga version (see below about the ST game) is very slow, with occasional screen flickers. It is full of bad English and awkward phrasing. It is inconsistent in operation - for example, examining one item in your inventory may get you the response I BEG YOUR PARDON, examining another gets no response at all.

Even worse, the system of getting and dropping objects is awkward in the extreme. To get an object you have to click on it using the GET icon - no problem. To drop it, however, you click on the DROP icon and then click on the object in your inventory you want to drop. Where does it go? Good question, fellow Pilgrims. It vanisheth into thinne air. To get it back, you are in theory supposed to click on

some area at the bottom of the screen. Sometimes this works, sometimes it appears not to. In one location, I dropped a letter and when I tried to get it back was rewarded with...a rope! Extraordinary, dear Watson.

This is the sort of game that people drool at frantically at computer shows. It looks great, but it plays...ergh! The problem isn't one of bugs, exactly, but simply one of obscurity. The instructions are faulty, the program isn't terribly consistent, and the player gets just a teensy-weensy bit overheated. Unfortunately its greatest strengths - the pics and music - lead you to expect a level of programming expertise that you won't get - at least not on the Amiga version.

The ST version, on the other hand, is rumoured to be a rock-solid affair. Unfortunately we didn't get it for review, but stand by for next month's update. ●

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THE ACE VERDICT

For your money you get some great graphics and an awful lot of frustration. The ST version sounds OK, but the Amiga version is a seriously untidy product.

LANDSCAPE	89	SYSTEM	35
CHALLENGE	75	ENCOUNTERS	22

open drawers, cupboards and the like. Most puzzles are solved by having (a) an object and (b) an item to USE it on. This means that search-and-select is the order of the day.

Unfortunately, on the Amiga version, this process comes tumbling down. You search a location by selecting the examine icon and then clicking somewhere on the screen. The responses are not often helpful and sometimes downright misleading. Even worse, the program requires you to get the mouse pointer in exactly the right place, otherwise you get no

THE PILGRIM'S GUIDE TO THE PAWN

■ The Final Part

So you're in Hell. You can ask the Devil about various subjects, but best to check his views on the wrist-band first. Once you've been zapped, make sure you get the white out of the pouch before venturing north across the rope bridge.

To avoid being eaten by the dragon, shine the white at the shadows, and then point at the shapes. Weep not over the hobbits - they deserve everything they get.

Once you've chucked your weapon at Kronos, grab his soul with the aerosoul (make sure you press the nozzle) and then wear his clothes and get the wand.

The idea here is to make yourself look like the wizard so that the dragon won't eat you. Actually, you don't have to go back to Hell past the dragon - there is another route via the flying stone slab, but why bother?

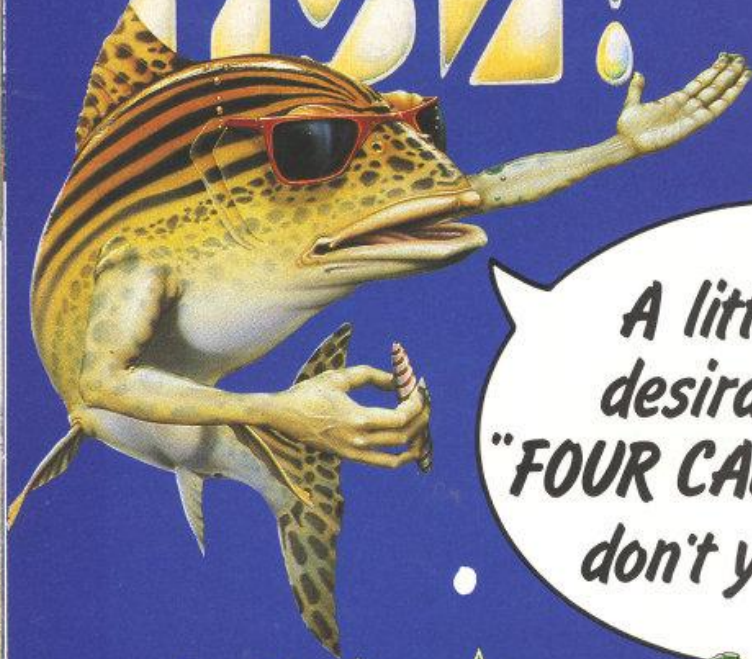
Don't dally with the Devil, or he'll fry you. Get the white again, then W.S.W. to the shaft. Go up the shaft to the double doors, then west to the ledge, then get rope and climb up it. The remaining five points to make 350 come from planting the plant in the pot with the trowel. The finale of the game comes when you knock on the perspex doors and answer NO, I AM NOT WEARING THE WRISTBAND. The doors will open and take you into another world. As a special bonus, if you type DEBUG, you can become invulnerable and return The Pawn without fear of the dragon, the devil, or whatever. Why not rescue the princess after all?



Text: 'The Pawn is an entrance to the ice to'

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Alan ST screen

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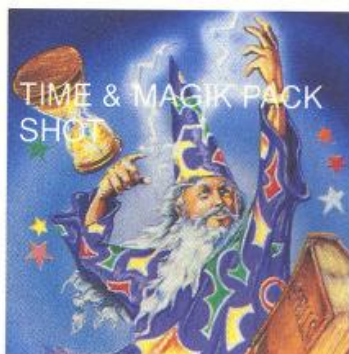

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LORDS OF TIME PLAYERS' GUIDE

BY THE PALADIN

PART 1 Lords of Time, one of Level 9's early classics, has seen something of a revival after being revamped and included in their latest Time and Magik trilogy. So let's play it again...shall we?



I hope you won't need any help getting as far as the inside of the time-piece? Good. Once inside, get the ticker going so you can get out again, (The clock seems to suffer from an identity crisis and thinks it's Dr Who's Tardis. To travel between the time-zones turn one of the numbered cogs, then swing the obvious, then go out. The cogs should be taken in ascending order, with one exception, which I'll tell you about later.)

First, you should find yourself at the end of a driveway. A wander round this quaint bijou cottage should be well rewarded, and make sure you get something to keep your hands free for later on. (There are valuable treasures to collect throughout the game, but these, in the main, are not necessary to finish the adventure. Is it valuable? Examine it and see).

Before taking in the garden, go and get tooled up at the road works down the lane. Back at the garden you'll need something that... To reach the keys you'll have to do a vain person a good turn first, and let him admire himself. To find him promenade along the stream at the bottom of the garden, and bridge it upstream.

Once you've got inside the shed, make sure you take everything. One object is essential for later problems and the other is used to put an old man (the willow) out of his misery.

Take a short cut back to the clock, along the outside of the cottage. At the compost heap, eat the mushrooms, and gain a little insight. Finally, at the carport, nick the petrol can and take a look at the bottom of the Porsche.

Back at the clock drop everything valuable, but take what you picked (pun) up at the road works. Bong! It's a bit chilly here in the ice ages. When you are trapped by the woolly elephant, light a fire with the fuel and scrap wood. The frightened mammoth leaves some things behind. To get further you'll have to be kinder to another member of the animal kingdom – you did bring the cat food didn't you? A sore point may find a better home in the compost – but remember to haggle with the tooth fairy, so you can shine light on later problems.

Now that the tiger's been placated you can wander round the caves. You'll need to break the ice a couple of times and make some ice to walk across. Release the queen and she will give you something which is useful to another member of royalty later on. That wraps it up here so take a short cut south, down the tunnel.

More next month. See previous page for final solution to Ye Pawn – long awaited by many patient Pilgs who have been robbed of their victory by shortage of space...

NO PROBLEM!

Once again, fellow Pilgs come to the aid of those in distress. This month's Truly Virtuous Ones include: **Jason Hand, Mark Coleman, Ross Halliday, and Wayne Piper.**

KINGS QUEST 2

Leave cupboard open in wizard's bedroom, then look behind it to find magic map.

To dodge wizard on the pirate's ship, stay on the ladder.

To defeat the dragon, use the storm brew.

BEYOND ZORK

To earn more compassion, use the levitation to lift the baby hungus from the quicksand.

Jump off the infinitely long bridge using the umbrella.

CORRUPTION

Open cistern in cubicle and search it.

Smash Volvo window with screwdriver from glove compartment.

Theresa leaves her office at 10.00 – get brass key from her drawer and enter David's office.

When Nurse Stephenson leaves the ward, get up, get the papers and pillow case from under the empty bed, then go to operating theatre, get bandage, and wear it.

Put all except papers into pillow case and lie on bed. When in ambulance, remove clothes from pillow case and put them on. Remove bandage. Get up, open ambulance doors, and jump for it!

SHADOWGATE

Operate hammer on middle mirror in mirror room.

Operate spear on troll.

Operate 'key to the world' scroll on globe.

Kill girl in turret with silver arrow.

Operate star on wyvern in turret.

Operate right panel in throne room.

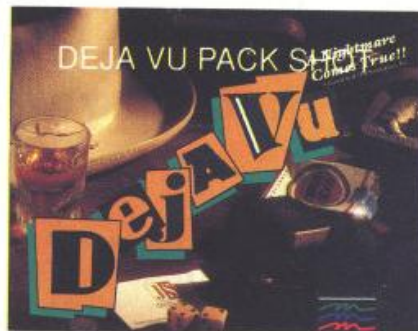
DEJA VU

Operate card on slot in lift and on wall.

Operate syringe on container marked **BISODIUM**.

MITIS, then operate syringe on self.

Syringe fat lady with sodium pentathol.

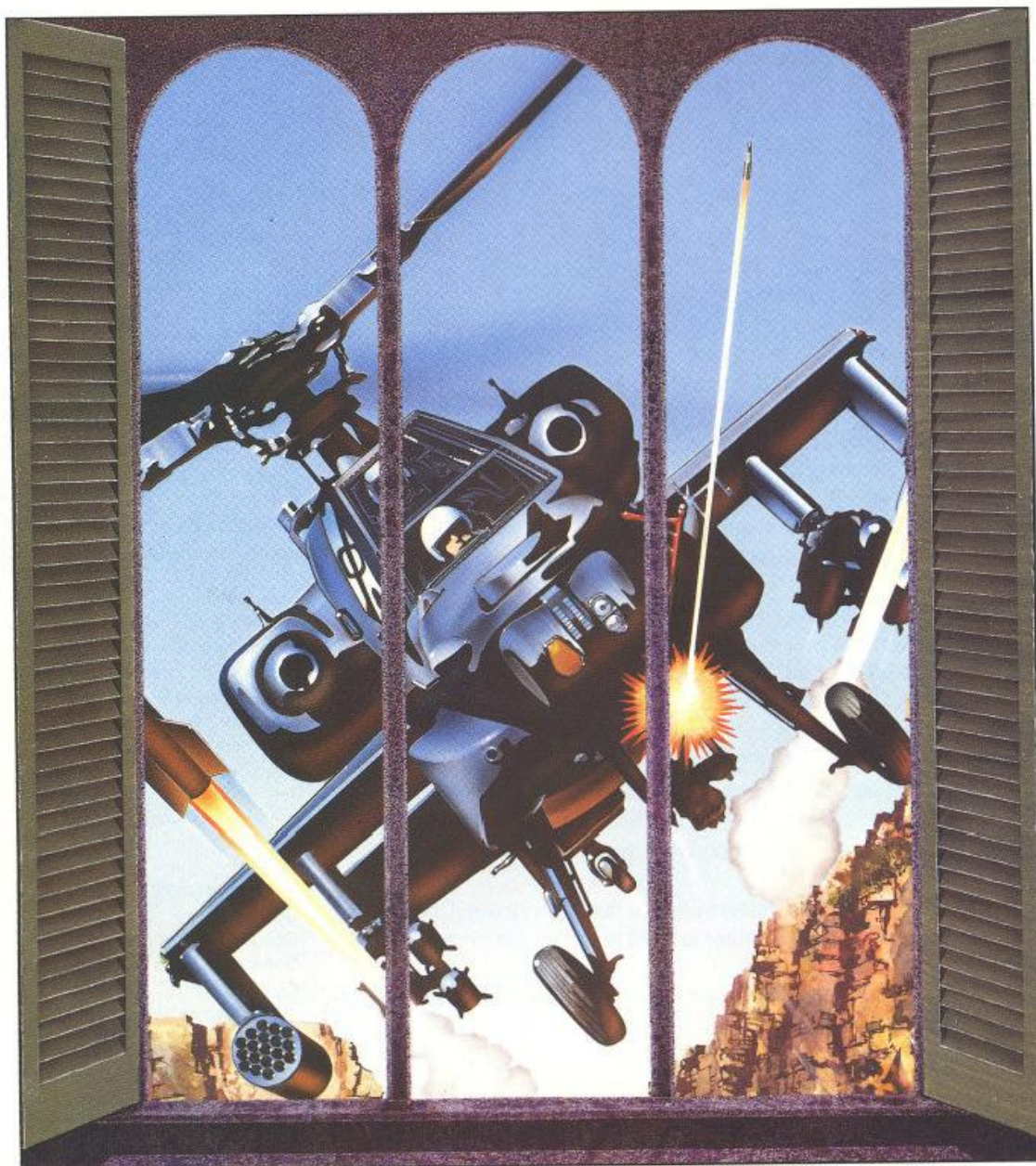


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The address to write to is: **THE PILGRIM, ACE MAGAZINE, 4 QUEEN STREET, BATH, BA1 1EJ.**

Remember to include your name and address – and don't forget to put ACE on the envelope, since the dastardly Pilglet writes for many a mag and we wouldn't want you in the wrong publication, would we?

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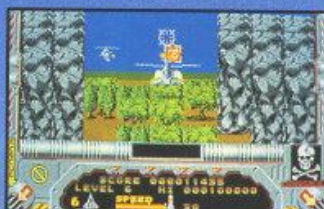
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Atari ST screen shots

JEAN-MICHEL JARRE

IN CONCERT

When Jean-Michel Jarre said he wanted to gather 2,500 technicians, 200 musicians, 40 tons of generators, scores of searchlights, lasers and slide projectors and a stage full of synthesizers and computers together for an open-air concert in London's Docklands, people said he was mad.

They were right - he was. Anyone else would have taken the English weather into account (if it was meant to be a summer concert, why wasn't it HELD in the summer?) but Jarre's self-deprecating joke about Frogs liking the rain did little to console an audience sitting watching his mega-show in a blast of freezing droplets. And those were the press seats, carefully chosen by the organisers to afford a view of only half the show - most of the public, who had paid a mere £15 for their tickets as opposed to £30 for the uncovered grandstands (only Princess Di got to have a bit of plastic sheeting over her head) had the pleasure of standing up for a few hours to try to get a good view as well.

Luckily the organisers had managed to thwart them by placing Jarre's stage at one side of the massive Royal Victoria Docks while the audience watched from the other side, hundreds of yards away. This made it a spot difficult to assess the stage setup, with its stacks of keyboards, sequencers and computers, and even more difficult to see the

point of having dancers and other performers on stage when even Jarre himself was just a tiny mauve-coloured spot in the distance. Careful use of 300-millimetre lens (just the sort of thing the average member of the audience is likely to be carrying in his back pocket) made it possible to see just a little more.

But of course, the main action was going on in the sky and all around on the building of the Docklands, with their huge projected images created to accompany the themes of Jarre's new album, *Revolutions*. Three main revolutions were being portrayed - the industrial revolution which created the Docklands in the first place, and which was '60s, represented mainly by stills from TV shows such as *The Man From Uncle*, *Danger Man*, and *The Saint* - and the telecommunications revolution of the '80s, represented by satellite dishes, astronauts and Jarre's computer-generated vocals.

The album itself makes for uneasy listening, with sampled metallic sound courtesy of the Series III Fairlight, Akai 5900 and other instruments mixing to ethnic vocals, digital



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and analog synth sweeps and a few of the rolling sequences which characterise Jarre's more up-tempo material. But there's little in the way of memorable melody there, and the older material from the 'Oxygene' and 'Equinoxe' LPs stood up much better on the night. That's not to say that the music was reproduced unconvincingly - it all got very close to the album versions, but that may have been something to do with the three 24-track tape machines whirling away behind the giant three-tier floating stage.

MUSIC, MAESTRO, PLEASE...

Jarre's role during the concert was more that of a conductor than a musician, with his control centre supposedly collating the action of the lights, lasers, slide projectors and music. During the Houston concert he played some parts from a modified Yamaha KX5 remote keyboard strapped around his neck, but for this show he'd had a grotesque new device built - all poking out bits of metal, wonky keys and microphones on the end of a pointed stick. Still, it all managed to fool the Radio 1 DJ who hosted the show on its first night radio transmission and whose gullibility was matched only by his lack of knowledge of modern musical instruments (what the hell is a 'Sonovox' anyway?).

What's certain is this; the 100-odd choir really were singing, the drummer Joe Hammer was battering away for a least part of

the time on his large Simmons-based kit, and at least one of the synth players Dominique Perrier (anyone out there got the old 'Space Art' albums he recorded?), Michel Geiss, Sylvain Durand and Francis Rimbart was visible complete with remote keyboard and computer monitor. Hank Marvin (yes, Hank Marvin from The Shadows) put in an appearance on guitar, and the TV lighting generally got in the way of any possible view by cantilevering around the stage and plonking itself in front of the musicians.

Jarre's famed Laser harp sequence, which is more interesting visually than musically, was rendered almost totally pointless by the fact that smoke and rain made both musician and beams (and even the shining asbestos gloves which supposedly have to be worn when cutting the powerful laser beams to trigger off the synthesizers) effectively invisible, and while the effect of the ex-WW2 searchlights playing on the underside of the low clouds was breathtaking, it was ironic that those same clouds spend most of their evening dropping freezing water on the audience. And it's the nature of the audience which makes the whole Docklands Debacle so depressing. Like the Hous-



ton and Lyon concerts, Destination Docklands was intended for the people - with a privileged few paying spectacle to the concert from points all along the Thames. But the very layout of the concert, which seemed to be a closely-guarded secret even from the press until just before the event, made sure that this was impossible. Even discounting the safety objections from Newham Council which led to the show being cancelled just

days before its original date (organisers didn't even have a license at that stage), the fact is that there were very few angles from which the show could be seen outside the dock itself. But the whole thing will probably look brilliant on television later this year, with the raindrops electronically edited out and big close-ups of the stage - a pity they couldn't project a few for the paying customers on the night.

So Jean-Michel bringing high-technology music to the people? Hardly. But in the programme for the concert there was a full-page advert for the new Vangelis album, 'Direct', which isn't being promoted by any mega-concert but which steps out on a limb by including TUNES. Now THAT's bringing high-tech music to the people.

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INTRO MCMXCIX...

In case you hadn't twigged, MCMXCIX stands for 1999, and it would take until then to look at all the music software available through this extremely go-ahead London based company.

Sure, there are other software specialists such as Syndromic Music (who handle the Hybrid Arts lines), but no-one else has quite the range of MCM, who stock scores of software packages for the Atari ST, Commodore Amiga, Apple, Macintosh, IBM PC and compatibles, with Archimedes packages already on their way. Most of these lines are American, from companies such as Dr T, Passport, Soundquest and Intelligent Music, but there are several British lines such as Pandora coming up, and inevitably the Archimedes lines will be UK-based since the machine has hardly taken off in the States.

We've taken a look recently at several packages from MCM's range, covering sequence composition, scoring, sample editing and graphics-to-sound conversion, and will be reviewing them in detail in the coming months. Prices for the entire MCM range are from as little as £42.95 (for Opcode's Amiga MusicMouse) to as much as £475 for Cue 2.0, a film score preparation package which runs on the Mac.

INTELLIGENT MUSIC MIDIDRAW

Atari ST £89.95

MIDI*Draw* is STRANGE. It's conceived partly in the tradition of Intelligent Music's more expensive 'M' package, which is an 'Intelligent auto-composer', taking your input in the form of a few notes and turning out variations, accompaniments and all sorts of inversions and extended possibilities.

MIDI*Draw* has some of the same possibilities, but takes graphic patterns on the screen as its starting point. You draw on the main part of the screen using the mouse, in a choice of orange or grey-blue, and every pixel plays a note on connected MIDI synths or modules (so you won't even need a music keyboard to use this one).

Pixels further to the left of the screen play higher notes (the overall octave can also be set) and pixels higher up the screen play louder notes - so by scribbling square or circles you can create scales, trills and arpeggios. There are four miniature control panels on the screen at all times, and the first of these sets the MIDI channel your notes go out on, the volume and length of notes, and the speed at which notes repeat if you hold the mouse still. Obviously it's up to you to choose a suitable sound on the synth to interpret the sorts of squiggles you want to create.

The second control panel creates delays of up to two seconds and repeats the notes you create on the same synth with the same noise, or on a different synth (or a different MIDI channel of the same multi-timbral synth) with a different noise and maybe a transposition up to another key. The third control panel is a data recorder - any notes you input are played back initially with

equal spacing and will continue to loop if you wish, so you can create repeated sequences (or even drum patterns if you have a set of drum sounds loaded up on your synth or sampler) and play along with them. The recorder also allows you to change tempo, play back in Real Time (that is, timed exactly as you entered the notes), skip a set percentage of notes, or randomise the playback of notes.

The final control panel, the Interpreter, will create its own musical patterns by scanning any picture on screen and playing a note each time it encounters denser sets of pixels, and the Interpreter can play up to four notes at a time - it's the only polyphonic part of the package.

You can save a Snapshot, which is a complete control set up for four panels, or a Movie, which is a complete live performance using the Mouse. And that's about as far as it goes - after that, it's up to you to choose interesting sounds, perform in musically useful manner, and make something of the results.

MIDI*Draw* music files are compatible with 'M' and with Dr.T's Keyboard controlled Sequencer, Passport's Master Tracks Pro, Steinberg's Pro 24 and lots of other Atari packages. But if you're really interested in converting graphics to some kind of musical interpretation, you'll probably be frustrated by the simplicity of the graphic input; only two colours, no advanced functions such as circle and line drawing, and no compatibility with the obvious arts packages such as Degas and Neochrome. It's all very well stretching your musical interests to include graphics, but MIDI*Draw* unfortunately won't do much for those who want to stretch their graphics interests to include music.

DR.T'S 'KEYS!'

Atari ST £79.95

'Keys!' (let's drop the exclamation mark from now on, OK?) is a basic composer and music score creator which should work well for anyone interested in creating musical pieces and seeing them printed out on paper. It's also compatible with Dr.T's MPE (Multi-Program Environment) system, and so can run simultaneously in your micro with a more powerful Dr. T sequencer such as KCS (Keyboard Controlled Sequencer) and with synth and sample editors; so you should be able to create a new sound on your synth, compose a piece of music with it, and print out in standard musical notation without once having to reach for your reset button.

To concentrate on Keys itself, we find most of the functions on a single page with none of the usual Atari GEM layout in sight (as usual with Dr.T packages). In fact Keys is written completely in GFA BASIC, and while this doesn't make it particularly slow and clunky, there are some applications which are slightly irregular in operation, as the handbook admits; this is usually the case when you ask the package to play notes and constantly update the screen display at

the same time. If you move the mouse in Auto Compose Mode (which we'll look at in a moment), for instance, the playback slows down.

You can enter notes into Keys using the mouse or a MIDI keyboard, and it's possible to enter single notes or whole chords, either one note at a time or by defining the chord you want and entering the root note. Once you've entered a short phrase you can repeat it as many times as you like, with any transpositions you like, and then play it back either on a synth or on the built-in voice chip (as long as you don't try to use more than three notes at a time in the latter case). The on-screen keyboard flashes the notes played if desired - a useful teaching aid.

Notes of any length together with rests can be entered on what's known in musical terms as Grand Staff - in other words, a double stave covering the usual range of grand piano. The Edit box lets you change any note, or its duration, or its velocity (volume or tone on velocity-responsive synths) so keys doesn't require you to be a brilliant keyboard player to prepare and play back quite complex pieces.

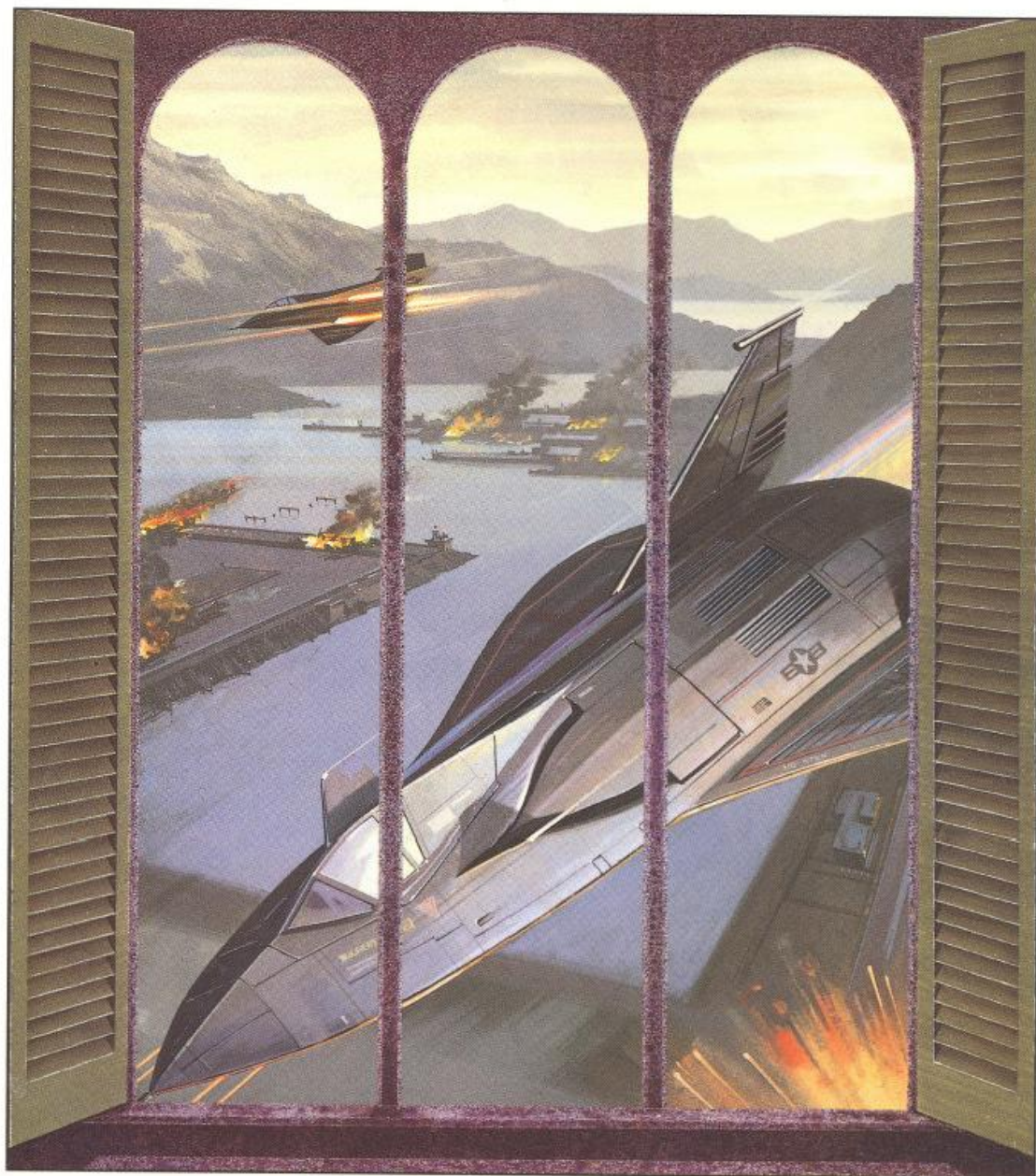
One major feature of keys which may appear hidden at first is the Auto Composer, which makes up its own music based on parameters you provide. Going into Auto Compose Mode causes a new screen to appear with twelve parameter settings ranging from Key Change Frequency, Chord Degree Change Frequency, and Harmonic Tension Maximum to more obvious settings such as Melody and Harmony Octave and MIDI Channels.

Simple applications of the Auto-Composer give results like 1950's computer music - quick runs, trills and wobbles which you probably won't find very inspiring or useful. But after a while (a longer while than devoted to looking at the package) you'll probably find the Auto-Composer coming up with passages interesting enough to catch your attention and for you to save away and use in your compositions.

You can print your finished pieces two musical lines at a time on a dot matrix or Atari laser printer, with a SEQ-TO-ALL routine making keys files compatible with the more professional Dr. T Copyist package as well. The ALL-TO-SEQ file make the products of Keys compatible with Dr T's Music Recording Studio sequencer, which we'll look at another time.

The main problems with Keys are that the layout is very fiddly and that consequently you won't get into it very quickly - although aimed at the beginner and expert alike, the package looks complex enough to put off either. But there's no denying that it's a relatively inexpensive and effective way of getting basic musical scores composed and printed out, with a helpful routine to cope with failing inspiration thrown in for good measure.

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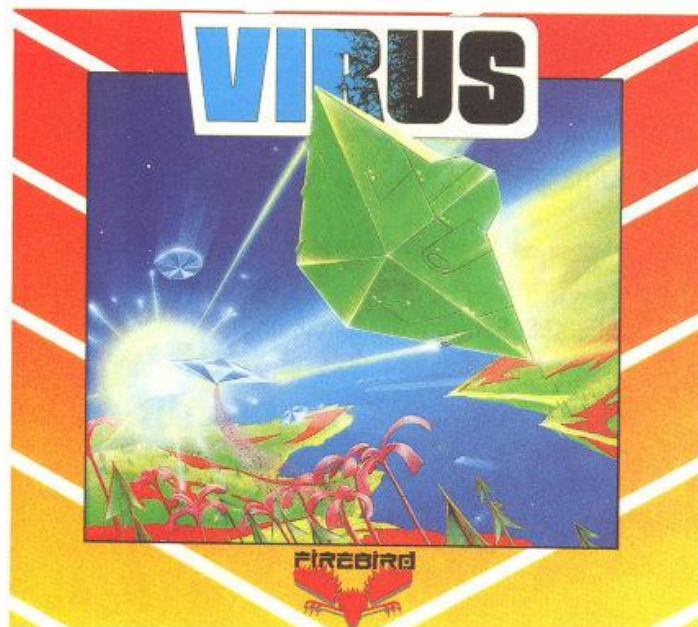
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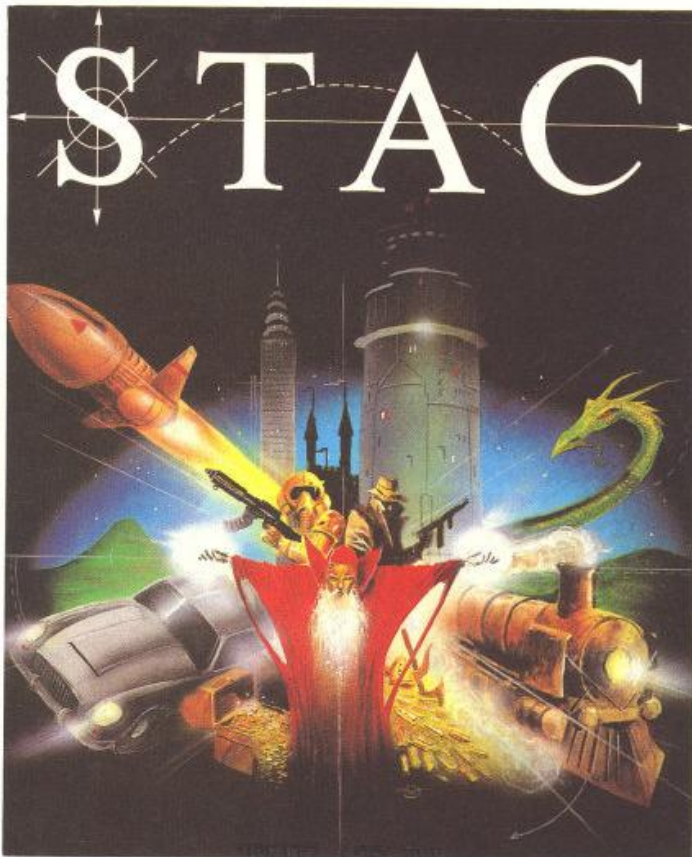
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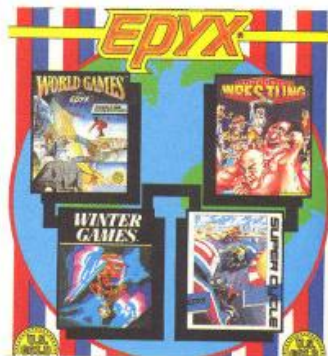
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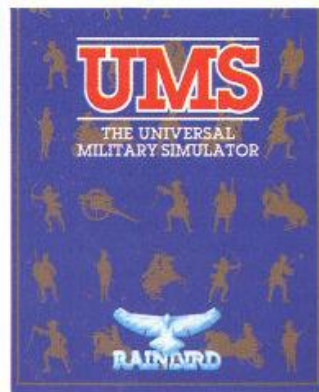
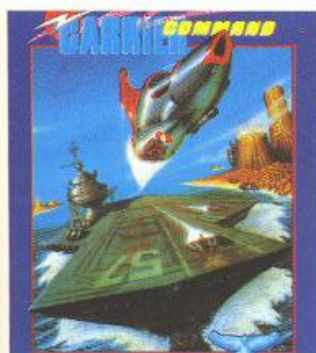
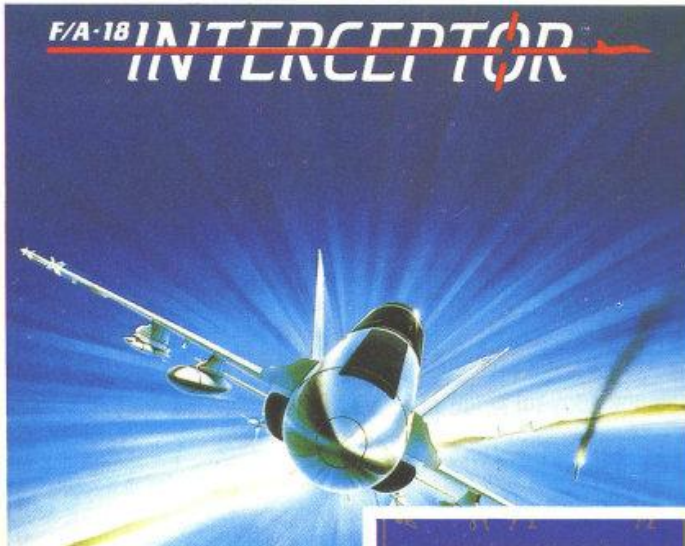
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ADVANCED COMPUTER ENTERTAINMENT

THE ACE FIDO AWARDS

Sometimes, you just can't win. Over the relatively short life of the software industry there have been many winners, but a good sprinkling of losers have punctuated the ups and downs of the entertainment software world. Only the winners reach recognition and acclaim – so it's about time the balance was redressed.

In the true spirit of heroic failures, near misses and total foul-ups, we present a set of alternative awards for your amusement. Barkie the dog says "ruff"...



GAMES THAT CLOSED A COMPANY

Hot contenders on this front include megagames *Bander-snatch* and *Psyclapse* from the original Imagine (but fire extinguisher fights in the office, a company-wide penchant for fast vehicles and the basic problem of selling more games than there were computers to play them on were other contributory factors). Then of course there was *Souls of Darkon* from Taskset, the arcade action masters who were 'really proud' that they were doing their first adventure. Little did they know, it was to be their last game.

Hi-Fi journalist turned software impresario John Peel made a fortune with *Valhalla* through his company Legend, and went on to hype *The Great Space Race* beyond the bounds of human endeavour, secured megabucks in advance orders and then went to ground soon after the game was released once people worked out how amazingly appalling it really was. A new all-time low for quality of packaging, instructions, artwork, programming and gameplay was reached with *TGSR*, and even today there's rumoured to be a somewhat miserable cardboard box manufacturer in Essex with something like 100,000 empty *TGSR* boxes in his warehouse. The whereabouts of John Peel remain uncertain...

Perhaps bravest and daftest fatal game concept was *The Shadow of The Unicorn* – a game from Mikro-Gen which came with its own hardware add-on for the Spectrum that acted as a copy protection dongle, dedicated joystick interface and memory expansion. Sadly, the game written to take advantage of the extra memory was just a fairly run-of-the-mill effort, no different from any other mediocre Spectrum game except that there was much more of it, it cost twice as much as most other Spectrum games and was unattractive to the retail trade – retailers made as much profit on a £7.95 game as they did on

Shadow. Mikro-Gen faded away not long after their unicorn.

Grossest foul-up of all time (so far) must be the series of TV tie-ins produced by MacSen, a company partly funded by the Welsh Development Agency. Picking on the sound idea of producing official versions of mega-popular TV games they went on to release titles such as *Treasure Hunt*, *Blockbusters*, *Countdown*, *Bullseye* et al, finally expiring with *Eastenders*. Despite the poor programming, MacSen should have been sitting on a goldmine – except they apparently negotiated generous royalties based on percentages of the retail price for the game concepts, music and cover illustrations. Royalties that were so generous, that MacSen could have been making a loss of 10% of the retail price on some titles once software wholesalers had been given their discount margin...



OVERALL LOSER

The Welsh Development Agency, via MacSen

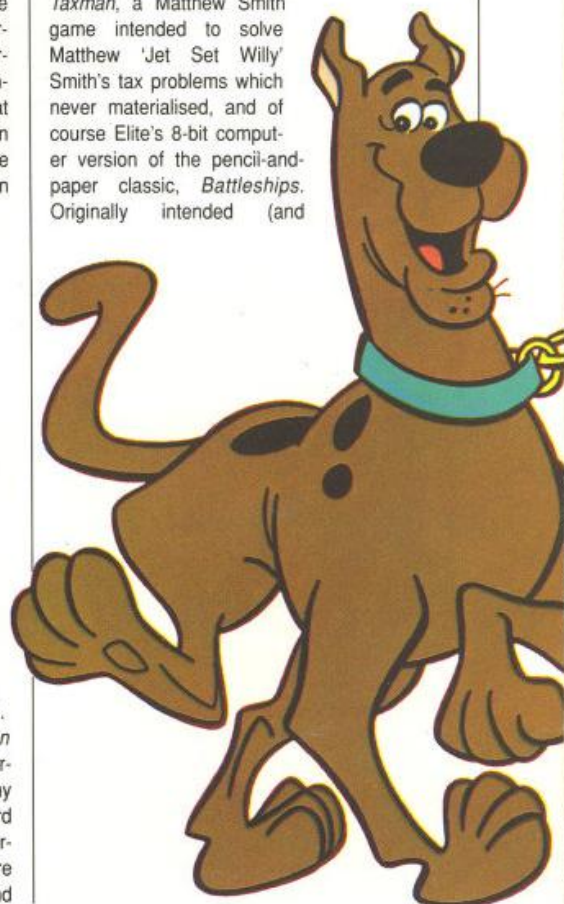


COSTLY GAMES THAT NEVER MADE IT

A five – or maybe even six figure sum was written off by Rainbird Software a couple of years ago, when they pulled the plug on *Reach For The Moon*, a mega-project commissioned from ODE. In sheer financial terms, *Reach For The Moon* might well be the most expensive software abortion so far. Elite spent a lot of money and many programmer-hours on a team led by Richard Wilcox trying to produce an 8-bit cinematic version of *Scooby Doo* in 1986 and 1987 before admitting defeat, abandoning their losses and

handing the licence over to Gargyle to produce a playable and saleable game. More recently, Activision apparently spent another five-figure sum discovering that *Lock On* couldn't really be effected on the C64 before abandoning the idea, and Martech put their naval-strategy-game-with-arcade-overtones project, *Nimitz* on what appears to be permanent hold, after previewing it at the 1987 PCW show.

Then there was *Willy Meets The Taxman*, a Matthew Smith game intended to solve Matthew 'Jet Set Willy' Smith's tax problems which never materialised, and of course Elite's 8-bit computer version of the pencil-and-paper classic, *Battleships*. Originally intended (and



advertised) as a full-price, mainstream release, *Battleships* saw the light of day as a freebie magazine covermount and popped onto an Elite compilation the other Christmas, but never came out of the closet on its own account.



WHITE ELEPHANT OF ALL TIME AWARD

Rainbird, for Reach For The Moon, a real Apollo 13 of a game.



SLOW GAMES A' COMIN'

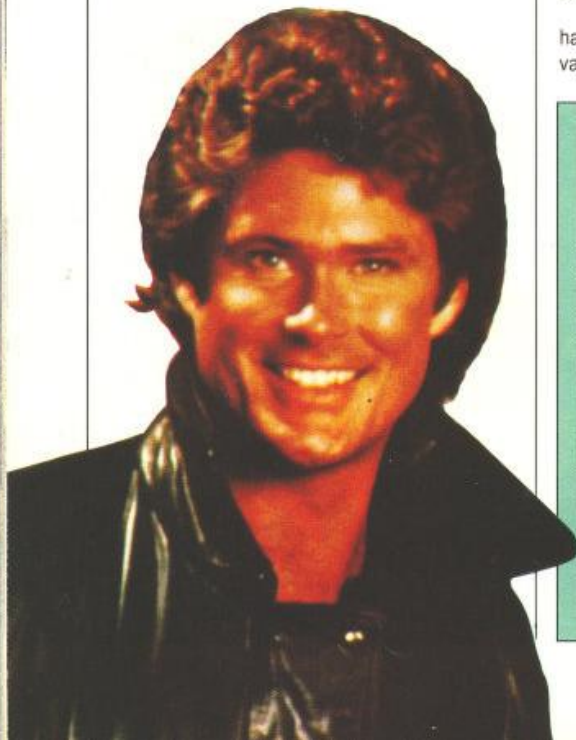
The dark days of Ocean were bright days for magazine publishers – nearly a year's worth of colour pages heralded the continually-delayed arrival of *Street Hawk* and *Knight Rider*. Multiple re-writes (which lead to one early version supplied via a mail-order catalogue) followed multiple re-writes until Ocean could finally delay no longer and released a pair of games that achieved the most disparate ratio between advertising spend and game quality ever seen before or since. Ocean learnt several lessons during this period according to Gary Bracey, Ocean's Software Manager, and has done things very differently ever since.

Amongst other slowcoaches there was *Star Trek*, acquired by Telecomsoft, announced in 1986, and previewed at the PCW Show of that year on a Starship Enterprise stand with gorgeous pouting nymphettes and not a moving screen in sight. Originally planned for a Christmas release on nearly all formats, all that ever arrived was the ST version, earlier this year, by which time early versions and demos of the game had been broadcast widely on the pirate circuit.



BROKEN TRANSPORTER AWARD

Star Trek



GAMES WITH 12 PENALTY POINTS ON THEIR LICENCE

Given the size and profile of the Eastenders audience... but we've already covered that one.

Still on the Beeb front, there was *Dr Who*, produced by BBC software specialists Micropower as their first major foray away from the BBC computer. The Micropowers that were, believed their Spectrum, Commodore and CPC programmers and booked the adverts. A clear six months after the five-figure adspend had run its course, the C64 and CPC versions of the game eked their way out. All Micropower needed was a Tardis, and things could have turned out fine and dandy.

Friday The 13th had all the ingredients for a rip-roaring licenced game – blood, gore, frantic action, tension and a hit series of movies, albeit with 18 certification. Unfortunately, Domark (in their naive period), hired a team of educational programmers to do the deed, and no amount of in-pack blood capsules and gory artwork could make up for the axe-wielding stickman on screen supposed to be Jason. If this was state of the art, the art was Primary School.

Sharing the 1986 PCW Show with *Star Trek* was another fledgeling turkey, this time one that was tied in to a mega-successful TV series and promoted by a leading software house as one of its great upcoming games. The company? Melbourne House. The product? *Inspector Gadget*. Despite the attributes of the central licenced character, the programmers and game designers proved clueless, and this planned full-price release slithered out quietly, after some delay, as a budget release from Mastertronic.

Honourable mention for accruing penalty points on a licence must go to Argus Press Software for *Max Headroom* – the game came rather late, and had little to do with the cult figure that fronted the TV series or featured in the movie. Powerful marketing and PR saved the day, however, with sycophantic magazine editors queuing up to put Max on their front covers.

But for overall dis-service to licences, Piranha must take the biscuit. Snapping up a host of valuable licences to IPC comic characters, includ-

ing Roy of the Rovers and a clutch of 2000AD characters (collected for a mere £1,000 apiece, so the rumour has it), Piranha spent a lot of time and money developing games before parent company Macmillan pulled the plug out of the aquarium asphyxiating Piranha and leaving the licences high and dry. So far, Gremlin have picked up Roy, but as for the rest...



GREEDIEST SPOILSPORTS

The ravenous Piranha



PRE-RELEASE NERVES

In their formative years, Domark underwent "an expensive learning process" according to Dominic Wheatley. After grabbing a James Bond licence for their second game, the Domarks were apparently told by game designer David Bishop that the *View To A Kill* game design would fit on the Spectrum 'no problem'. Two weeks before the launch, the Spectrum ran out of memory and gameplay 'had to be lopped out', leading to a very different game to the ones released for other machines. And last-minute litigation turned *Splitting Images* into *Split Personalities*.

Activision had a few problems with their mega-hit *Ghostbusters* on the Spectrum – in the rush to get the game into the shops in time for Christmas, they forgot to check whether it worked with a Kempston Interface. The Kempston joystick interface was, and still is, the most popular joystick add-on in the land of Spectrum game-playing, so you would have thought...

Think again. The first version of Spectrum *Ghostbusters* loaded fine with a Kempston interface attached to the computer, but select the appropriate joystick option and the ghost in the machine caused a crash. And who wants a crash? Thousands of games had to be replaced.

US Gold's 1986 *World Cup Carnival* disappointment saw lots of football fans paying for and playing a game they already had. Much disgruntlement. The official version of the fiasco involves US Gold being let down at the last

NEVER MIND THE GAMEPLAY, FEEL THE PERIPHERAL

Only two worthy contenders in this field – a driving sim and a surfing sim. Spirit Software sold a plucky steering wheel with their *Formula* racing game for the Spectrum and you looked a real James Hunt rolling it left and right across the top row of keys. Not surprisingly, the game never really caught on, later reappearing in a very similar incarnation on the Mastertronic label.

Overall winner has to be *Surfchamp*, from New Concepts – another company partly funded by a Development Agency, this time the Irish one. Available initially only for the rubber-keyed Speccy, you needed to stick a little plastic fulcrum over the central key on the keyboard, balance a little plastic surfboard on it and actually ride the waves with your fingertips. Grotty graphics, unpolished gameplay, and awful advertising artwork didn't help the product sell at £12.00-odd. After a short while, New Concepts apparently withdrew from the games market...



POTTIEST PERIPHERAL

New Concepts' six-inch surfboard

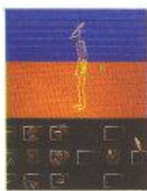
moment by a team of programmers, and being forced to cast around for a passable football game that could quickly be enhanced and included with the posters and other goodies in the *World Cup Carnival* package. Step forward Artic, with an ancient soccer game. Handier than Maradona, that US Gold crew, many people said at the time...



MOST ARTFUL SAVE OF THE SEASON AWARD

US Gold, who sold loads of copies of their last-

minute solution to a painful problem, even though many customers were left sick as parrots.



GAMES WITH SOMETHING MISSING

Ignoring the claims to infamy of a host of arcade conversions and a small army of mediocre releases that could well have been so much better 'if only...', a few releases make the shortlist.

When the company still had all the software inexperience suggested by its name, Virgin released a cricket game that was not only tedious but basically incompetent. BASICally incompetent, indeed – much of the user interface involved hacking into the BASIC and changing the contents of variables, but at least the game conveniently crashed into BASIC to make the player's life easier.

More recently, and during the life of ACE, we have been treated to *Eco* – a wonderfully pretty game from the Dentons, published by Ocean, but a game that cunningly avoids gameplay. It isn't a difficult game to play. In fact there's no point in playing it – if you realised what the aim of the game was when you started, it would probably only take about half-an-hour to complete, but as you don't get tipped off when you start, it takes about 4 hours to realise that YES, that's all there is to it.

And of course there's *Kwasimodo* from Robtek, for the Amiga, the game which has

attracted the lowest ACE rating so far.

But for real crap verging on the Kitsch, Firebird's compilation entitled *Don't Buy This* cleans up in this category. Released as a deliberate laugh in the early days of Firebird, when all they published was budget software, this was a collection of 'Sunday Sport' games – games that were so bad, they were almost good. There was a dog, that had to duck flying obstacles, and to duck it had to stand up because it was tallest when it sat down. Then there was the go-kart simulation, writ-

ten by Tony Rainbird (the man who went on to set up Rainbird software for Telecomsoft), where the controls reversed as you went round a bend on the track. A delicious set of awful games, sold under an honest title for a fair price.



DON'T BUY THIS AWARD:

Don't Buy This from Firebird

GREAT MARKETING DISASTERS

Imagine, first time around.

Apart from that, well-intentioned budget house Codemasters wrote a special game for the *Race Against Time* appeal, got lots of coverage including TV airtime for the project, released the game and shot themselves in the fund-raising foot by forgetting to clear the rights to the picture used on the inlay. The estate of Jesse Owens, the black athlete featured on the cover, hadn't been approached for permission to use the pic, and declined to give permission retrospectively. Cue total recall of distributed games and delays while the inlays were reprinted. By the time the game was on the shelves, everyone had nearly forgotten about it...

Poor old Prism Leisure snapped up the rights to a brand-new, destined-to-be-a-cult boardgame, *Eye*, and produced a more than competent computer version. Packaging it in an innovative and eye-catching manner (the box was praised by the Design Council), they sat back and confidently awaited mega-sales. Sadly, the computer game didn't prove to be a massive hit – nor was the boardgame. Few people managed to play the original, let alone the computer game: the problem was so acute that Virgin Books even published a "how to" book on *Eye*, but it was too late to save the game...

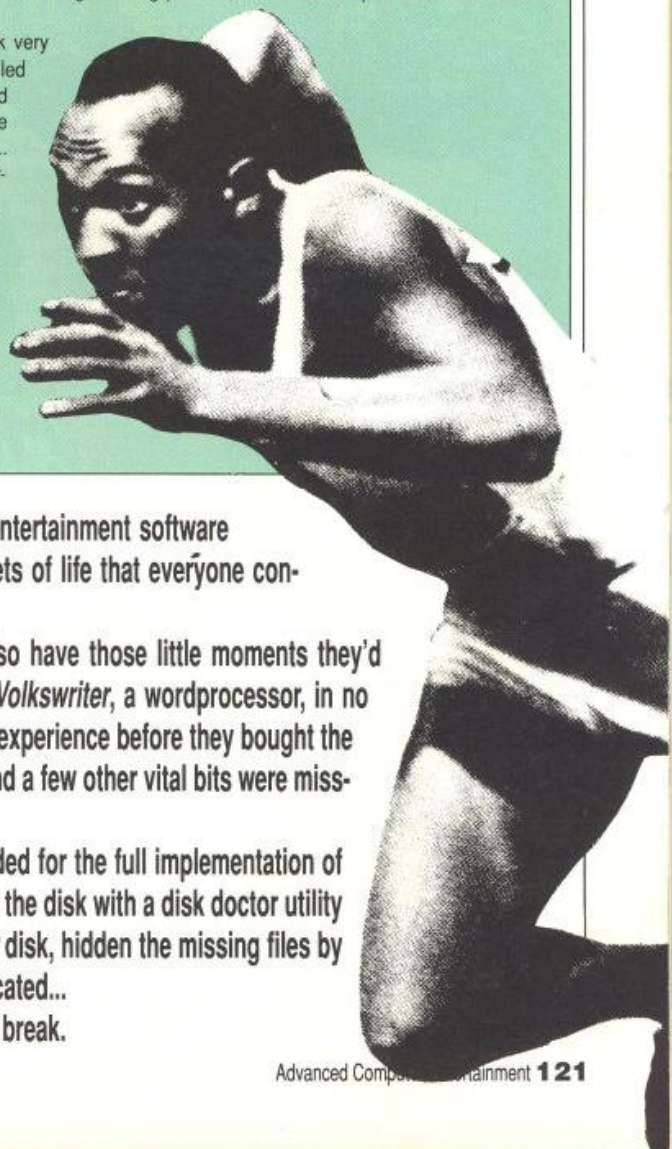
And when it came to presenting the image of his company, System 3, at the PCW Show some three years ago, Mark Cale had a problem. Bereft of games, all he could come up with was a bunch of scantily-clad bimbettes who pranced around suggestively on his stand at three-hourly intervals to a throbbing beat. Cue large crowds of tongue-lolling punters, hordes of complaints and the end of the bimbo show.

But then Ferrari-driving Mark very nearly launched a game called *Twister*, *Mother of Harlots* and was only saved when someone told him what a harlot was... Enter *Twister*, *Mother of Charlotte*.



THE MARK CALE AWARD FOR GOOD TASTE IN MARKETING:

Mark Cale



And finally (adopts a Dennis Norden voice), it's not just the world of entertainment software that suffers from those embarrassing little bloopers, those little snippets of life that everyone concerned wishes could be edited out. Certainly not.

The 'suits' over in the world of spreadsheet-serious software also have those little moments they'd rather forget. Like the marketing people who put a free demo disk of *Volkswriter*, a wordprocessor, in no less than 80,000 copies of a magazine, inviting readers to get hands-on experience before they bought the full version. The demo version was 'crippled' – you couldn't print out, and a few other vital bits were missing. Or were they?

As many readers discovered to their amazement, all the files needed for the full implementation of *Volkswriter* were on the freebie disk – all you needed to do was examine the disk with a disk doctor utility and 'undelete' them. Silly boys had merely taken a standard *Volkswriter* disk, hidden the missing files by changing their attributes under MSDos, and sent the disk off to be duplicated...

And on that note, viewers, it's time to hand over to the commercial break.

CINEMAWARE

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"Coming soon for the IBM and Atari ST."

ROCKET RANGER

In comes a new Editor, and out go some of the old ways. Prize-hunters scanning the letters pages this month to see if they have collected some free software will look in vain. Playing the role of Ace Axe Man, Graeme Kidd sorts through the postbag and decides not to award any prizes.

Until next month, that is. Starting with the January Issue, the monthly Top Letter earns its sender £100 worth of software, and the winner gets to choose the games he or she wants. A couple of £50 software spot prizes are also likely to be on offer – so get writing.

Trouble is, you'll have to come up with a totally original opinion to collect a prize, because the Editor is going to be taking personal charge of these pages, so he says, and letters on hackneyed old topics like the price of software or piracy simply won't get past his red pencil.

Rack the old brain cells, forget any 'my machine is bigger than your machine' thoughts you may have, and get writing. Remember, the Editor reserves the right not to award prizes. If inspiration is your problem, take a look through the features in the last few issues of ACE but whatever you do, make sure that your missives start some new debates rolling if you want to make sure the new Editor coughs up...

Write to

ACE LETTERS, THE EDITOR, 4 QUEEN STREET, BATH, BA1 1EJ

REBELSTAR ROUND-UP

Mr Iain Garner is not alone!

For years a group of friends and I have been fans of **Rebelstar Raiders**. We waited for the promised scenario expansions from Red Shift and none appeared, and then Red Shift went bust! Indeed so keen was that I immediately broke into the game on the Spectrum (naughty but easy) and began to produce my own scenarios. I have since taken this further and written a utility to produce Rebelstar Raiders scenarios on the Spectrum.

I have since 'upgraded' to the ST and I am very disappointed by the standard of the games available (just count the number of vertical scrolling shoot-em-ups!!)

I would be grateful if you could pass my address on to Mr Garner so that he may benefit from my extension to what I, too, regard as a classic strategy game.

Mark Holroyd
Birmingham

I read in your magazine that **Laser Squad** by Target Games was to be released on the ST. So being very excited, I wrote to them and asked if it was true. Yes, they said, in March next year!

How long does it take to convert a game?

I am now thinking of buying a Spectrum so I can play **Laser Squad**... or going into a deep state of depression.

Martin Beresford
Mansfield

Good news all round on the Rebelstar front – a quick chat with Firebird's resident Rebelstar addict, Jo, elicits the information that Rebelstar II should be available for £1.99 on the Spectrum and C64 by the time you read this.

Julian Gollop, Rebelstar's creator, explains that the sequel uses the same game system but is played over an alien landscape featuring a wide variety of terrain, including rivers and vegetation. The objective, to damage aliens or steal their eggs, is based on the victory point system.

He went on to explain that Rebelstar II was written long before **Laser Squad**, so for the ultimate upgrade, go for **Laser Squad**. The Gollop brothers hadn't originally intended to publish 16-bit versions of **Laser Squad**, but then someone approached them and offered to do the conversion. It all took a little while to set up and get going, but the ST version will boast re-designed scenarios. "We decided to market a game worthy of the ST rather than do a straight conversion from an 8-bit game" was the line from the Gollops. So there you have it...

GK

DISAPPOINTED CUSTOMER

When I went to the PC Show, on the Saturday, I went with the impression of purchasing some really new software. But there were only a couple of games actually available for sale. I went up to Hewson, and asked if I could buy **Nebulus** and the man told me that it wasn't released until the following Friday.

Afterburner and **R-Type**, two more games which I was desperate for, also wouldn't be released for ages, I learnt. It looked as if all the Rainbird games were finished, but they weren't for sale.

Could you please explain why!

Tyrant
Doncaster

The Show does seem to be moving more towards a showcase for all the exciting new games due for release in the months running up to Christmas, and less of a marketplace for avid games-buyers. Maybe you missed the queues around the Elite stand when Overlander went on sale, or maybe that particular game just wasn't on your shopping list. Either way, the smaller shows dedicated to single machines or hardware from a single manufacturer tend to be the better option for bargain hunters and folks keen to get the latest releases – the PC Show is more of an event than a software department store...

GK

NO RELATION?

I wish to bring to the attention of

ACE
•
LETTERS

ADVANCED COMPUTER ENTERTAINMENT

LETTERS

yourself and your readers, a name: CLIK

Clik, Amiga specialists, recently supplied me, with the utmost of despatch, disks for two recently-released games, at very competitive prices.

It's not difficult to imagine my horror and frustration when the games failed to load and, ultimately, I was forced to return them.

Equally, it's not difficult to imagine my surprise at having Mr Simon Halley phone me from Clik to explain that we had contracted a virus, previously unknown to him. He then went on to explain that he would send us, at no extra charge, two more copies of the games plus two virus-killer disks.

I am not particularly familiar with computer software companies; maybe such events are common. But be this so or not, I feel that Clik and Mr Halley deserve the highest praise for action which I consider to be above and beyond the call of commercial duty. Please, please pass on this story to your readers.

Tom Jenkins
Gwynedd

It just goes to show that some mail-order companies are trustworthy and helpful. So there's your free plug for Clik Tom. **GK**



DAZZLING

I walked into my newsagent and dashed outside again. I went and bought a pair of sunglasses and then re-entered the newsagent. With the sunglasses on I managed to look at the cover of your October '88 issue, without burning my eyeballs out!

This was the first issue of ACE I've ever bought, so I flicked through it wondering if my £1.50 had been well spent, or whether it was another waste. Well, ACE itself is a good magazine, clearly set out and with generous ratings, so that's it

isn't it?

Not quite. I wanted to read a few Atari 8-bit reviews. There are plenty of them around and at least two games a month could surely be reviewed? Atari User manages plenty, so there are a lot still being released. The Atari 8-bit is having a bad time at the moment, so help it out!

Then you weren't very nice about the Oric Atmos on page 35. It's a great micro - I've got one and so have thousands of others, and there's still plenty of software coming out for it. Seeing the photo I take it you actually have an Atmos, so if you don't want it I could give it a good home!

Your competitions are good too, but I don't understand the Ace Card way of doing competitions, so please enlighten me.

So overall, remember the minority micros (including MSX and BBC) and keep having interesting features and keep blinding people with dazzling colours on your front cover.

The Monster
Birmingham

Well, we do call the magazine ACE, which stands for Advanced Computer Entertainment. Which means that reviews of Atmos

software have no place in our pages. It's not that we've got anything against the Atmos or even Atari 8-bit machines, it's just that we feel we need to concentrate on the mainstream machines.

As to the ACE card, take a look at the ACE Card page (page 15 this month) and all will be revealed...you need to write in if you are a new reader in need of a card. **GK**

ATARI RUMINATIONS

I read virtually all the computer magazines available, and have noticed that several have mentioned that Atari are intending to release a new 'Super' ST early next year. This wonderful new machine will, it seems, have 4096 colours and stereo sound. Well, surprise surprise, Atari are releasing what is virtually an Amiga clone! Does this mean that they finally accept that the standard ST is inferior to the Amiga, and a Super model is required to try and equal (or presumably surpass) Commodore's finest? Doing this is really a waste of time for Atari, because the new ST is sure to be compatible with all ST's - let's face it, the market will be too small to justify Super-ST-only games.

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If you doubt this, then please take note of the way in which they (software companies) can't even write software that takes advantage of the Amiga's extra features, preferring to port them directly from the ST. The only people at Atari who've got their act together is the marketing department. I would love to read a reply directly from someone at Atari, to see if they could possibly justify the way in which they continually upgrade their machines, leaving the earlier buyers in the cold.

Sputnik

Hmm. When quizzed, an Atari spokesman refused to confirm or deny the existence of a new Super ST, but went on to say that 'Atari is always seeking to upgrade the quality of their product'. Would you have it any other way, Sputnik? GK

MIND-CROSSING

I have been playing **Carrier Command** on my Amiga and have been amazed with the smooth graphics and the equally good sound, but one thing crossed my mind. With all this talk about multiple-player games over the telephone or using leads as in MIDI Maze, I wondered why the writers didn't incorporate this into the game as it is the obvious thing to do. Then such things as championships for the game could be set up. With less islands of course. Also you could have two people per carrier, so you could have more complex attacks.

Matthew Randall
Hounslow

It's chickens and eggs, really. While your idea sounds fun, it's unlikely that Realtime or Rainbird would have found it commercially worthwhile to implement the concept. When Telecom cuts the price of phone calls and modems become as cheap as pocket calculators, then multi-player phone games could come into their own. Maybe Rainbird are in an ideal position to exert a little pressure...

GK

TRY BEFORE YOU BUY

Instead of your readers moaning about the price of software or the problems of piracy, or low class programs, why don't they join a hire company, and hire for a few pounds the programs they are thinking about buying? Then if the program turns out to be rubbish or so easy that it is completed within a day, then only a few pounds are lost. If the program is good then it can be bought. This will encourage software houses to make quality

software. Also it will ensure value for money in what is bought. Although for computers such as my Amiga A500, the libraries are still in their early stages, software libraries for computers such as the Spectrum are vast. If people can resist buying the game with the most advertising, and wait to test it in the comfort of their own home, then quite a few problems could be solved.

Stuart Parker
Weybridge

Given the lack of opportunity to actually play games in computer shops before you buy them, libraries could serve a useful purpose. Paying a fee to roadtest software sounds fine and dandy in principle, but the reality is that while libraries work fairly equably for books, software libraries lead to extra piracy. What's more, software houses usually sell their software on condition that it is not hired out, so software librarians are effectively breaking the law.

And you wouldn't want to encourage people to be accessories after the fact, now would you...?

GK

POWER XTREME

I am the owner of a CBM64. I have one of the old black power packs, and after about 30 minutes the power pack becomes very warm and the computer crashes when I am playing a game. I then have to wait about half an hour for it to cool down. If I try to switch on too early, the screen stays blank and the red light on the keyboard stays very dim. Can you help?

Justin Neal
Eastbourne

Without wishing to state the obvious, Justin, it's time you got a new power pack. Your current one appears to be broken and could be downright dangerous. Check out the Pink Pages, and you should find a good deal...

GK

LOUD AND CLEAR

I think I've finally worked out the quiet and noisy disk drive problem on the Amiga.

Just under the Amiga logo, you have a Commodore logo. All of the machines, with a brown badge enclosing a C, will have a quiet disk drive and their keys, mouse keys and disk eject button, will all be different from the one without the brown badge.

This only applies to Amiga 500s.

Kullinder Oulai
Basingstoke



SENSELESS STUPIDITY

I own an Atari ST and I'm quite proud of it – it is a good all-rounder and very reasonable in price (\$700AUS). But I see no point in going out and harassing an Amiga owner. The recent bombardment of criticisms, in my view, is just senseless stupidity. Just because some other people's tastes do not measure up to their standard, some people start to get abusive. In almost every issue there is some half-wit who thinks it is clever to criticise a particular machine. The Speccy seems to be the usual punching bag for these 'experts', and while I am not familiar with the Spectrum, it seems to be a competent enough unit, despite its age. Just remember, the Spectrum was all the go before these bigger computers.

I also think the critics are forgetting the fundamentals of owning a computer – after all, isn't a computer for enjoyment? I say to you 'experts', forget the petty squabbling, grow up and keep your traps shut otherwise you will all look like 'Pommie Whingers'.

Grant Rowe
New South Wales, Australia

Exactly

GK

SIMPLE AUSTRALIAN

Recently here in Queensland (I'm not sure about the rest of Australia) legislation has taken place to legalise the taping of music cassettes and records as long as the copies are not sold to anyone. However, the same legislation has placed a sales tax on blank cassettes. This extra levy is paid to the record companies.

It is my belief that such a law within the software industry imposed internationally would reduce losses by software houses by software houses due to piracy. As the companies receive more revenue from blank disks, they will be able to reduce the price of software, thus attracting more people to buy software. Wouldn't it be great to see games for less than the price of a blank disk? This could be achieved by providing software companies with cheaper disks than the retail market.

Alex Borodin
Queensland, Australia

Sounds simple, but you haven't thought things through. What about the people who buy blank disks to store data – do they have to pay the levy? And just who is going to supply software companies with cheaper disks than the retail market?

Piracy is always going to put the price of software up, no matter how to try to avoid it. If software houses make fewer sales as a result of unauthorised copying, then they are going to have to cover their costs and make a profit on fewer actual sales, which means higher prices in the shops. Unless, of course, all software is sold mail-order, direct from the software houses but then you wouldn't have all the convenience of popping down to your local software supplier to choose a game...

GK

PC PRAISE

I have an IBM and would like to say it is about time the IBM got some recognition by a British gaming magazine. It isn't just a machine for Accountants and Businesses... EGA really does something for games, but admittedly, CGA sux!

There are really heaps of games that use EGA now, like **Pirates, Rampage, Reach for the Stars, Flight Simulator III**, to name but a few. Some of them even support VGA (even better!)

And what about some more IBM games reviewed please (with pictures but only if they are EGA – can't let all these Amiga owners be the only ones with big heads).

James Fisk
South Australia

Strange you should say that. In this very issue Andy Wilton examines the PC's potential as an entertainment machine, and we review a host of PC games. GK

LETTERS

MACHINE-IST CRAP

One interesting little thing that has popped up recently is the controversy between Spectrum/64 and Amiga/ST owners. People with 16-biters drag on an on about how rubbish and outdated 8-bit machines are. Then they slag off their own machines! Can't they be contented with what they have? Heck, I'm chuffed enough (when it works) with my (un) trusty 64. I mean, my friend, Steve Fearn (he always did want to be famous) right, he sold his 64 to me, with the intention of buying an Amiga, then after some other kid with an ST started saying how crap the Amiga is, how wonderful the ST is and that anybody who hasn't got an ST is a total wally, my friend ended up buying another 64!

Another part of the argument which I know 16-biters don't agree with is this: 8-bit games are just as playable as 16-bit games. In fact in some cases, a lot more playable. Take *Wizball*, for instance. Just because 16-bit games can boast better graphics and sound than the 64 or Spectrum, they reckon the 8-bit market is dead.

As a potential buyer of a Sega system, I'd like to ask you a few questions concerning Sega software. Being a budding pixel artist, having discovered the excellent NEOS mouse and Cheese on the Commodore, I was wondering if there are any or ever will be any art packages for the Sega? If there are, can a mouse be used? In my mind the Sega System offers incredible value for money but I'd like to ask whether it's worth selling my 64 for a Sega, as I only play games and draw pics.

Robert Stephens
Sidmouth

Sensible opinions on the 8-bit/16-bit debate at last!

As for the Sega, the helpful Lesley of Virgin Mastertronic (the people who sell the system in the UK) says there are no plans for graphics software. So the simple

answer seems to be buy a Sega and hang on to your C64... **GK**

PROUD OWNER

I am the proud owner of an Atari 520STFM and was wondering if you could plug the computer into an amplifier from a HiFi system. Can you help me?

Wayne Harris
Oxford

Yup. To do the job properly, you need to get a plug to fit the monitor socket on the back of your machine. (Refer to your manual.) Pins 1 and 13 should give you the right sort of signal to drive an amplifier, so get some speaker cable and solder it onto the appropriate pins in your new plug. It might be wise to get someone with electronics knowledge to check your work and make sure that the signal won't do any harm to your amplifier before connecting the other end of the cable to a phono jack and plugging it into a line in socket on the amp. Make sure your ST and amp are switched off before plugging in, and if something odd happens when you power up, switch everything off again, double quick.

We can't take any responsibility for things that may go wrong if you attempt this little project - and remember, you might invalidate the guarantee on your equipment. **GK**

GHOST IN THE MACHINE?

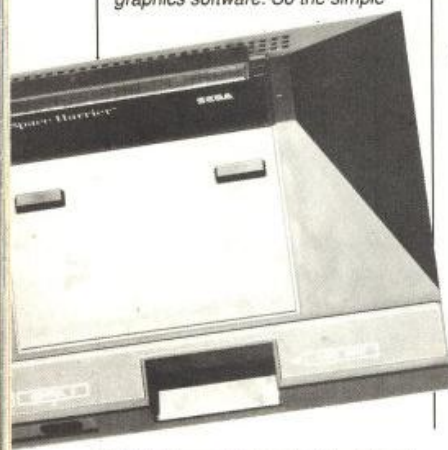
I am the owner of a Commodore 464 and I have a small problem.

Occasionally, I switch on my computer and as the display comes up I get a lot of interference, sometime noise, sometimes printouts. A lot of the time I get the @ sign all over the screen. The problem is, how do I get rid of it? And why does it happen?

S N Cours
Birmingham

Your 64 isn't very well. Wrap it up nice and cosy and send it off to a C64 hospital, detailing the 'problem'. (This service is not available on the National Health, so you'll have to go private.)

After a short wait, your computer should come winging back to you, good as new. A faulty Kernal or poorly BASIC ROM could be the problem. A firm such as Video Vault will effect the repair for about £35, but it just might be worth seeing if the same thing happens when you use another C64 power pack - borrow a friend's or see if your friendly local shop can help... **GK**



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There's nothing wrong with a little creative assistance in playing games (cheating, to use the full technical term). If a game proves almost impossible to complete, scan these pages for a little help, advice and general cheater-pokery to help you on the way. And if you've mastered the gameplay on a particular release, or know a sneaky sequence of keypresses that make the joystick-weilder's life easier, pass your inside knowledge on. Maps and POKEs are welcome in this section, too – remember, we're offering six of the best to the top tipster. Six of the best releases for his or her machine, that is...

CYBERNOID II

■ Is Mr Cecco's sequel proving too tough for you? This tip gives you infinite lives on the Spectrum.

When you come to redefine the keys, select the keys:



Easy isn't it when you know how!

Ian and Paul Roper, Bridgewater.

ELIMINATOR

■ John Phillips' latest ST classic is a tough game to crack. It's not so tough if you know the level codes though.

STAGE	PASSWORD
02	AMOEBA
03	BLOOOP
04	CHEEKI
05	DOINOK
06	ENIGMA
07	FLIPME
08	GEEGEE
09	HANDEL
10	ICICLE
11	JAMMIN
12	KIKONG
13	LAPDOG
14	MIKADO



Press the **HELP** key once the game has loaded and type in the above passwords to progress to your chosen levels.

GENERAL TIPS

1. On some levels, ramping onto the roof and flying upside down can actually be the best way to reach the end.
2. When firing at aliens, always move left and right to avoid their fire. Standing in one place is usually fatal.
3. Always keep an eye on your ammo levels because when you come to collect an extra weapon or more ammo, you must decide which you really need.
4. Once the game has been completed, the rate at which ammo depletes is almost double, so choose your targets carefully. Try to dodge the oncoming aliens instead of shooting them, as you'll need to save your shots for the barriers.

■ A.J.White, Huddersfield.

MORPHEUS

■ For infinite energy on the C64 version just type in this listing and RUN it.

```
10 PRINT CHR$(147):REM MORPHEUS CHEAT
15 FOR A=1024 TO 1089: READ B:POKE
  A,B:C=C+B:NEXT
20 IF C<>6164 THEN PRINT CHR$(147):"DATA
  ERROR, CHECK AND CORRECT!":END
25 PRINT CHR$(17):CHR$(17):"INSERT MOR-
  PHEUS TAPE";
30 POKE 157,128
35 SYS 1024
40 DATA 32,86,245,169,32,141
45 DATA 117,3,169,21,141,118,3,169,4
50 DATA 141,119,3,76,167,2,169,35,141
55 DATA 143,8,169,4,141,144,8
60 DATA 173,8,169,48,141,91,8
65 DATA 169,4,141,92,8,76,16,8,169,0
70 DATA 141,48,15,169,173,141,122,66,169
80 DATA 28,141,219,70,76,16,8
```

■ R.Thompson, Oswestry

MENACE

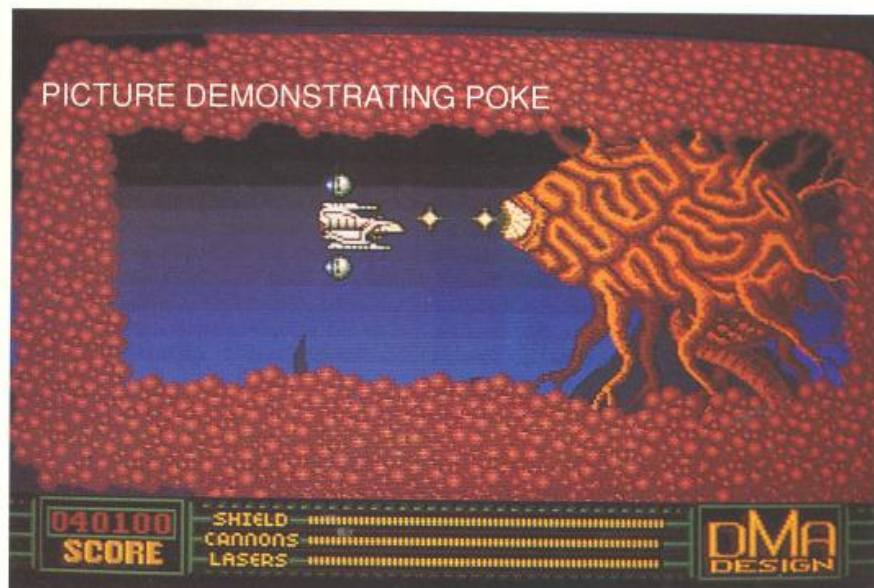
■ The Psyclapse game may be proving tough, this Amiga cheat gives you all the weapons and infinite energy.

All you have to do is type in the following once the level has started: **XR3ITURBONUTTERBASTARD**

Now, press keys 1-6 on the keypad for the levels. Press **HELP** key to replenish weapons. Press **RETURN** key to go to the end of level guardian.

■ Phil Lukeman, Liverpool.

PICTURE DEMONSTRATING POKE



STARGLIDER II

■ Rainbird's high flyer may have some of you ST and Amiga owners confused, but never fear - T'N'T's here.

To build the neutron bomb you will have to find nine things and take them to Trem. He is found in the tunnel network on Apogee. The closest entrance to the start is right behind you. The nine things and how to get them, are as follows:

CRATE OF CASTROBARS. First get a petrified tree from Enos and take it to the depot on Castron. You will automatically get the Castrobars.

VISTAN WINE. Nip over to Vista - the wine is scattered all over the surface.

FLAT DIAMOND. On Vista, have a good look round. Somewhere you'll find a hole in the ground spitting out flat diamonds. Tractor one of them.

CLUSTER OF NODULES. These can be found on the surface of Dante.

ASTEROID. Pick up one of these in the asteroid belt between Millway and Apogee.

EGRON MINI-ROCKET. This is found on Aldos. It takes a bit of a search, but it is definitely there.

NUCLEAR FUEL. This can be found lying about on Aldos.

ROCK. This is lying on Q-Beta.

PROFESSOR TAYMAR. He is driving an Emma 2 on Broadway. These Emma's are VERY difficult to get in your tractor beams. Don't carry Castrobars when you pick up Taymar!

Once Trem has Taymar, work on the bomb begins. When you have delivered everything to the depot, the bomb will soon be finished. When it is, pick it up and fly over to one of the Moons of Millway. Drop a bouncing bomb on a station there and head into a tunnel. Pick up four missiles and head of towards Q-Beta. Just next to Q-Beta is a hologram. Fly into this and you'll find a space station and eight mini-sentinels. Blow up four of them with the missiles and fly back to Apogee to refuel.

Fly to another moon of Millway and pick up four more missiles. Drop another bouncing bomb on a station and go through the hologram. After destroying the remaining four sentinels, load up the neutron bomb and go above the station. Pull down so you're facing the space station and drop the bomb. It should hit the station and you'll have completed the game!

■ Charley Allen, Ipswich.

POWERPLAY

■ If you're feeling really silly, just remove disk b from your ST whilst playing the game and insert a blank disk. Now the same question will keep coming up!

■ Jonathan Burton, Luton.

CALLING ALL TIPSTERS!

Every month we give away literally hundreds of pounds worth of software. How can you grab a slice of that action? It's easy really, just get your thinking cap on and come up with some maps, tips and pokes for some of the latest games. Don't bother sending in tricks and tactics for games that are years old - everybody knows those tips already, get to work on the games that have been reviewed in the last couple of issues of ACE. You KNOW it makes sense. Send your contributions to the following address:

**TRICKS 'N' TACTICS
ACE MAGAZINE
4 QUEEN ST
BATH
BA1 1EJ**

WHIRLIGIG

■ Want to get to the Perfectspaces quickly on the ST? Read on.

SECTOR	RESOURCES	SECTOR	RESOURCES
0	---	499	FM
1	FMC	500	---
2	---	501	FC
4	M	502	M
5	F	503	F
6	C	504	---
12	---	505	FM
13	FM	506	C
14	---	507	F
28	M	508	M
29	F	1016	C
1	FMC	2032	M
2	---	4064	---
3	F	8128	M
9	F	8129	F
27	F	751	FMC
81	FC	752	---
82	M	753	FM
164	---	78	---
165	F	234	---
495	F	235	FM
496	MC	53	F
497	F	54	---
498	---	162	---

Continue from Eigenspace 162 to Eigenspace 181 in consecutive steps (162,163,164...). Fuel dumps occur every other space. Missile dumps occur every third and Chaff dumps every fifth space. From Eigenspace 181 the route continues...

32761	FMC	524224	M
32762	---	1048448	---
32763	F	2096896	MC
32764	M	4193792	---
65528	---	8387584	M
131056	MC	16775168	---
262112	---	33550336	MC

F(fuel) M(missiles) C(chaff)

VINDICATOR

■ The codeword for access to the second level on the C64 is:

ENOLAGAY

(note: one word)

■ A. Flipper, Oxon.

■ Jolyon Smith, St Neots.



ELITE

■ One of the greatest computer games ever written may be causing new ST owners a few problems. These tips may help you.

TRADING. Trade in food and wines until you can afford to start trading in medical supplies/computers and furs (medical supplies are a new feature, that poor agricultural worlds will pay lots for). The quickest way to build up some money is to shuttle between two safe planets that have opposite economic structures (i.e. ferry medical supplies/computers from a rich industrial high tech world to a poor agricultural world, and load up with furs for the return trip).

EQUIPMENT. All of it's useful, but the first thing you'll want to buy is a large cargo bay. With one installed your profits increase that much faster and it's not long before you'll be able to afford a docking computer. Next most essential item is the energy unit, followed by an ECM system. Fuel scoops can be handy for picking up free space cargo, but remember – you run the risk of picking up contraband. Retro rockets are an expensive luxury. If you're in that much trouble during a fight, resort to dropping an energy bomb.

DOCKING. By the time you've earned enough to buy a docking computer, you'll have docked often enough to be proficient at it anyway. But it's still worth buying one, as it takes all of the worry out of docking. Note – if you're flying towards a station with the docking computer on, and you've got some pirates or Thargoids on your tail, they can still destroy you before you dock.

LASERS. Obviously the Military laser's the thing to have mounted on the front as soon as you can afford it. A mining laser's useful if you want to spend your time chasing bits of asteroid around the Cosmos, but for combat forget it.

ENEMIES. Some are easier to kill than others, and it won't take long for you to recognise the tough ones (always I.D. a target before attacking!). Once you get a condition red on screen, stop and line up on the enemy. Keep firing until they're either destroyed or start firing back, and then apply some speed and start ducking and diving until you get on their tail (always remember to switch your scanner to X2 mode). Note: one of the easiest ways to get into Witchspace is to put your power up to max before entering Hyperspace. This doesn't always work, but persevere and you'll soon find yourself in amongst a whole bunch of Thargoids.

IKARI WARRIORS

■ Suffering on the Amiga? Help's at hand.

Qualify for the high score table and enter your name as **FREERIDE**. You'll now be able to play a one or two player game with complete invincibility!

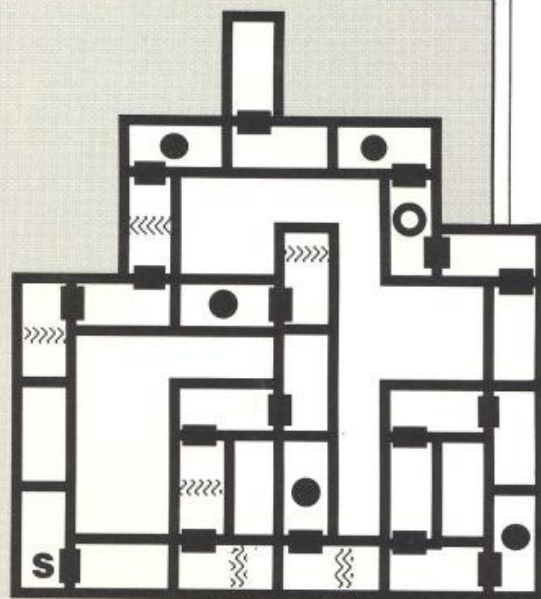
■ Steve Sellek, Leonards-on-sea.

BARBARIAN II

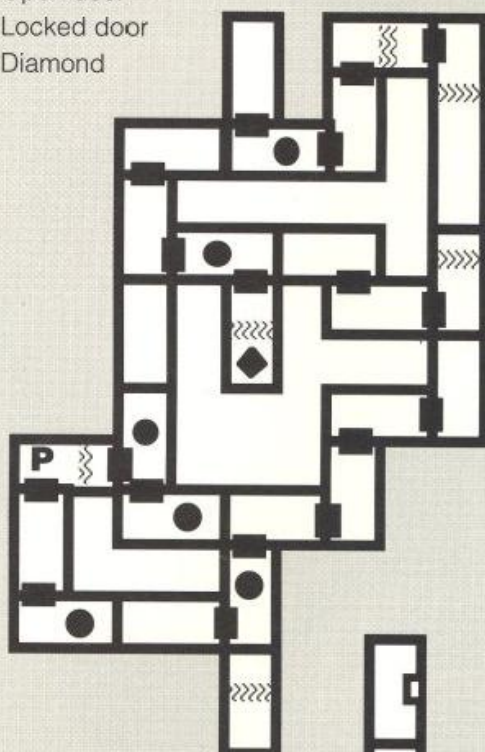
■ Lost in the wilderness? This map will show the way (all you have to do is survive!).

■ John Fowler, Broxbourne.

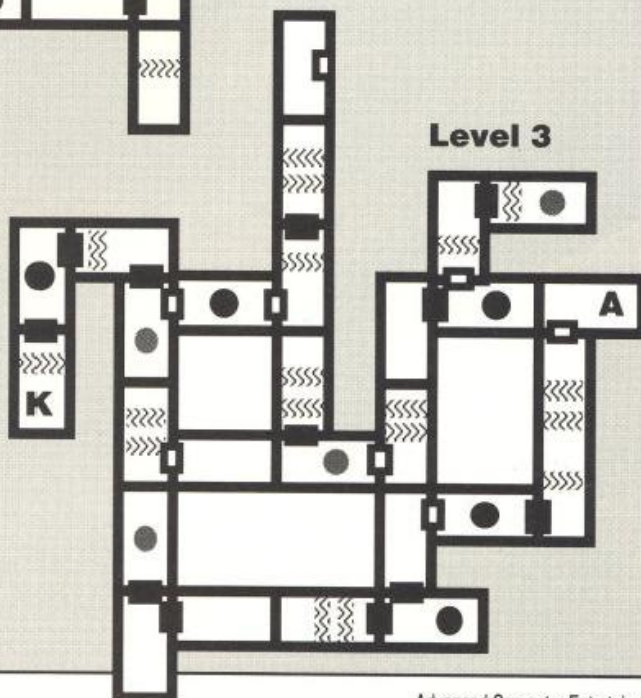
- S** Shield
- P** Potion
- K** Key
- A** Axe
- Pitholes
- Pithole monsters
- Improved resistance to harm
- ≡≡≡ Slime
- Open door
- ◻ Locked door
- ◆ Diamond



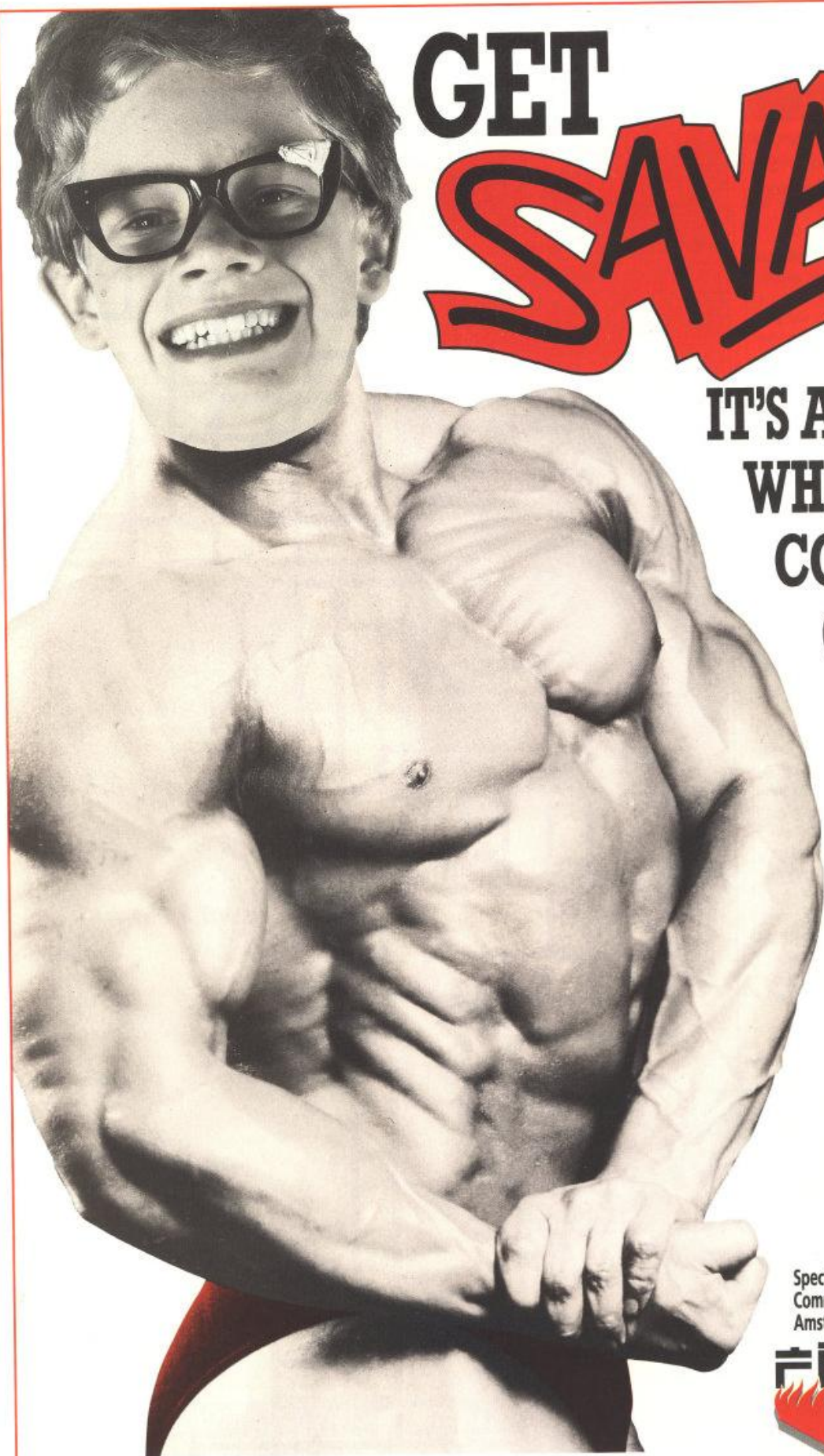
Level 1



Level 2



Level 3



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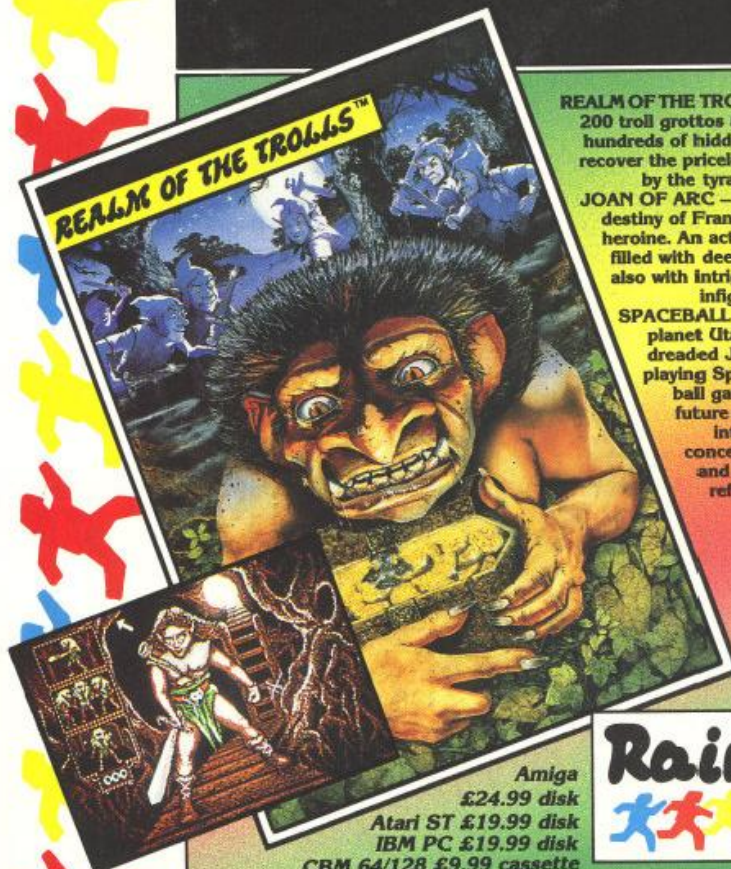
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BUBBLE BOBBLE

■ Having trouble with the Amstrad version of this wonderful game? For infinite lives, simply type in the following listing.

```
10 DATA c5,e5,f5,06,f6,ed
20 DATA 78,fe,00,28,06,f1
30 DATA e1,c1,c3,00,00,f3
40 DATA 2a,5f,00,22,39,00
50 DATA 21,84,00,22,60,39
60 DATA 18,eb,cd,4c,3d,2a
70 DATA 39,00,22,5f,00,f3
80 DATA 21,50,00,22,39,00
90 DATA fb,c3,00,3c,cd,00
100 DATA 40,21,8e,00,22,c1
110 DATA 3e,39,cd,c9,01,3e
120 DATA a7,32,26,6d,32,87
130 DATA 6d,c9
140 MEMORY & 3000: Y=0
150 FOR X=&50 TO &99
160 READ A$: A+VAL ("&"+A$)
170 POKE X,A: Y=Y+A: NEXT
180 IF Y<>&1c85 THEN 210
190 LOAD "BUBBLE 1
200 CALL &70
210 PRINT "DATA ERROR!"
```

■ Barry Swann, Hornchurch.

WANNA WIN SOME SOFTWARE?

Don't tell everyone, but we at ACE give away oodles of software every month to red-hot tipsters who get their maps, tips and pokes printed in the magazine. There's nothing to stop you joining in the fun either, just make sure it's your own original work you send in and you too could win loads of software!

This month's 'Tip of the Month' prize goes to Jolyon Smith, who wins himself copies of Eliminator, Starglider2, Elite, Powerdrome, Joan of Arc and Nebulus for his ST. Pretty good huh? Other winners are John Fowler and R.Thompson who both win Bombuzal for their C64s. Charley Allen also wins Bombuzal for his Amiga and A.White collects Powerdrome for his ST. Last, but by no means least, the Young brothers win themselves a copy of Operation Wolf to fight over.

Send your contributions to:

T'N'T, ACE,
4 QUEEN ST, BATH,
BA1 1EJ

LASER SQUAD

■ Here are some handy tips for this great skirmish wargame.

QUICK TIPS

1. Always leave your men on opportunity to fire.
2. The Marsec auto-gun is the best all-round weapon.
3. If a door remains open it means that there is a man (an operative) lurking there.
4. On Level Three (The Mine), examine all the dead operatives when you kill them. You will find that one of them is carrying a 'Video Key'. Take this to the room with the video console and insert it into the 'Vid-screen' - it activates the video cameras in the mine and allows you to see the operatives when you select scanner mode.
5. On the lower skill levels buy the Rocket Launcher.

GENERAL TIPS

1. The price of weapons on each level does not vary, so calculate how many credits to spend on armour making sure you have enough left over for weapons!

2. Don't go on a spending spree if you have money left over. Carrying too much equipment reduces the available action points.

3. Weapon choice (listed by cost)

Heavy Laser - powerful, with loads of ammo, but heavy and burdens your men, reducing their action points.

Marsec Auto-gun - best all round weapon, powerful and accurate.

M4000 Auto-gun - best 'budget' gun, but lacks the accuracy of the Marsec.

L50 Las-gun - not very powerful or accurate.

Sniper Rifle - lacks autofire, but is cheap, powerful and the most accurate.

Marsec Pistol - has autofire but lacks power.

Dagger - excellent for using in close combat.

AP50 Grenade - good for blowing up operatives who are waiting around a corner. CAUTION get out of its blast range and ALWAYS remember to prime it before throwing it!

Rocket Launcher - a luxury for the early levels: its power is awesome but it lacks ammunition and has a nasty habit of blowing up the user if he is too near.

4. Take your time, you have plenty of turns. Explore the area carefully and ALWAYS leave your men on opportunity fire.

5. Use a couple of men to guard the rear of your squad.

6. On higher levels always scavenge the dead operatives for weapons and ammunition.

THE SCENARIO

1. THE ASSASSINS

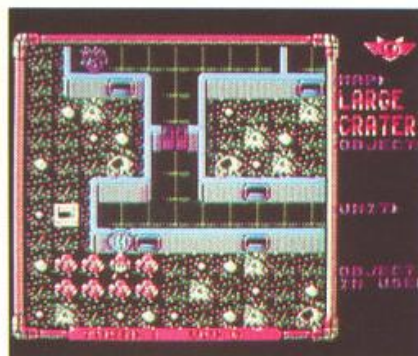
On the first skill level you can equip your men with rocket launchers and blow up the house

(and Sterner Regnix) without even entering the building! On the latter levels better progress can be made if you split your squad into two parts, one at each end, and explore the building carefully. You will find that the droids usually keep some sort of pattern, but that's not always the case. When you find Sterner, concentrate your fire on him because once he's dead the game is over.



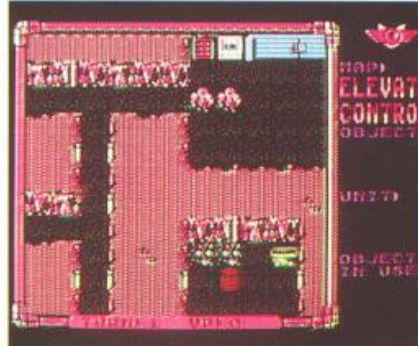
2. MOONBASE ASSAULT

The bottom left is probably the best place to deploy your men. Split your squad into two for the best results. Move your men toward the central area where most of the Databanks and Analysers are. Gas cylinders and oil drums can be blown up causing large explosions (and even chain reactions). Watch an operative doesn't shoot a cylinder or drum near you!



3. RESCUE FROM THE MINES

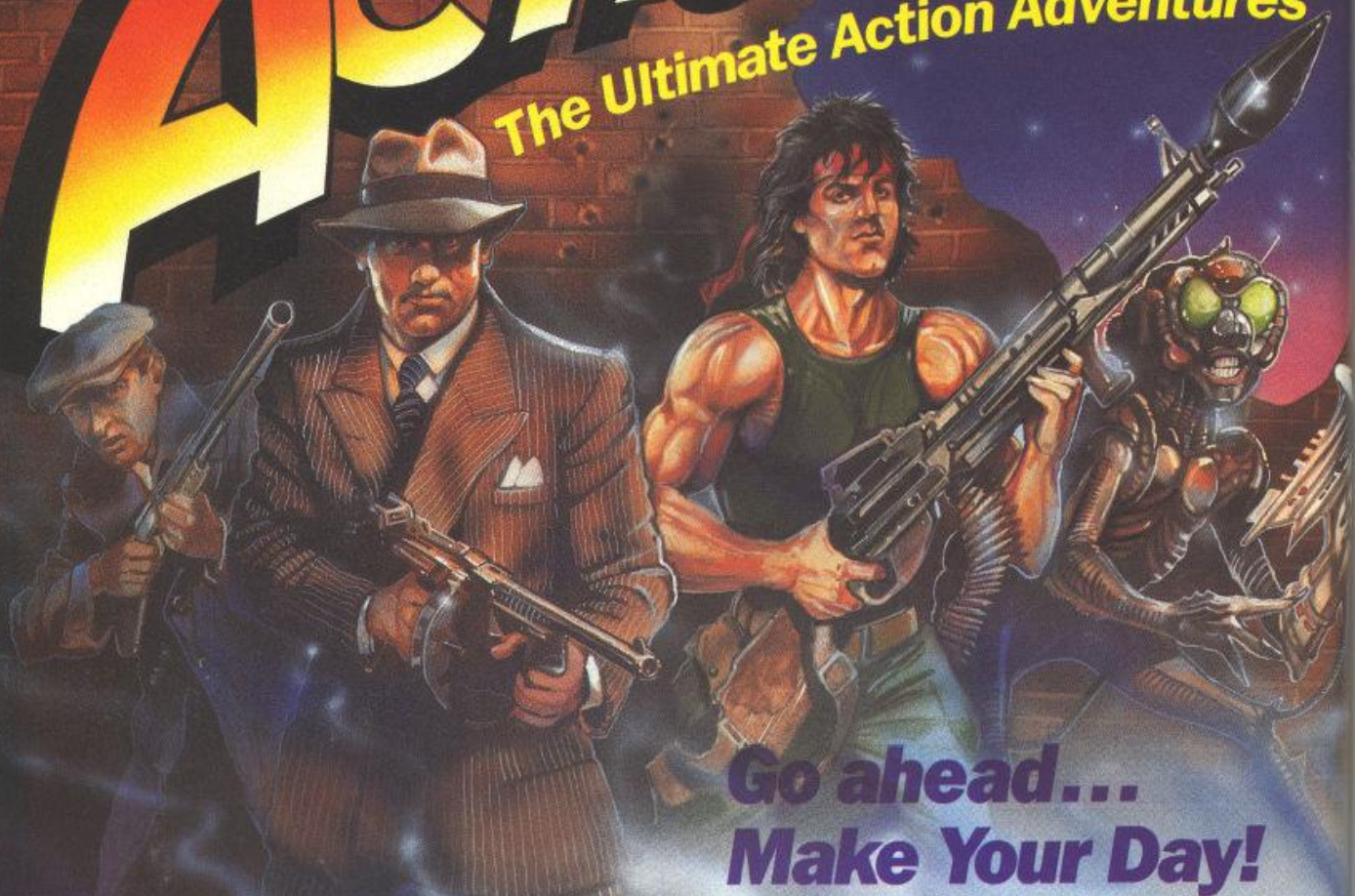
Before you use the explosives (which you need to blow up the prison doors) move the prisoner away from the door so he doesn't get caught in the blast. Remember to prime the explosive before dropping it and get clear of the blast. Go for the Video Key.



■ Colin and Gavin Young, Glasgow.

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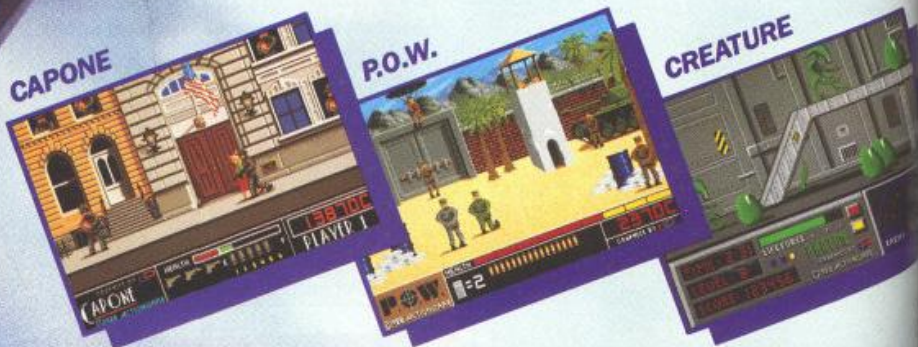


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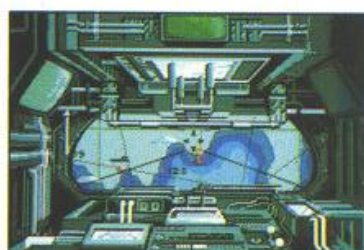
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* Atari ST (Mouse only), AMIGA (Phaser Gun or Mouse), IBM PC and Compatibles (Phaser Gun, Mouse, or Joystick), Commodore C64 128 and Apple IIGS Versions coming soon.



OPERATION NEPTUNE

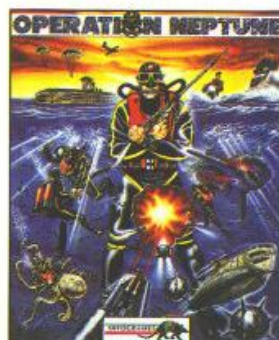


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Amiga ST, PC, Amiga £24.95

Amstrad £14.95 (disk), £9.95 (tape)

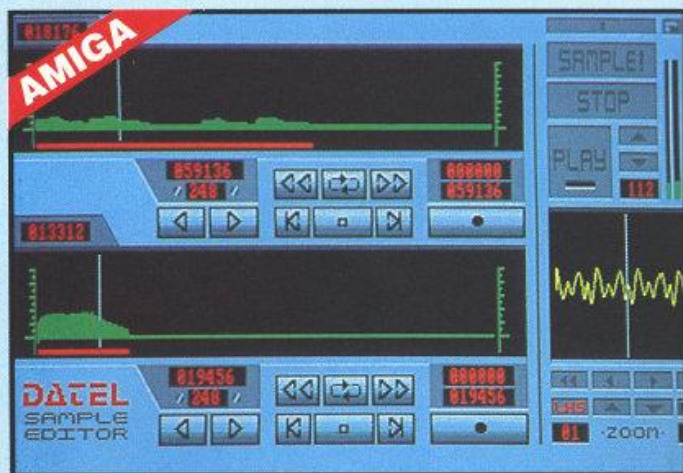
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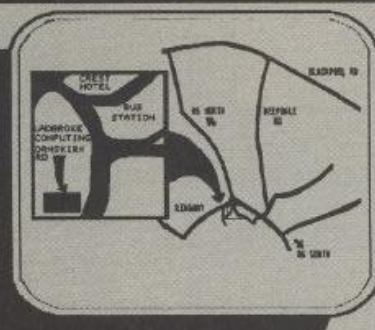
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Upgrading to a more powerful computer? Check the facts. Buying a new game? Check the ratings. Bored with life? Check the puzzles. All this and more in ACE's premier, pinkest pages.

Our thanks go to Dave Bowden of London for his superb Nigel from Rigel cartoon strip.

NIGEL FROM *RIGEL* By Dave Bowden



INDEX

● The Git in the Machine is at it again and things are getting messier. Meanwhile, in the ACE offices the only dirt being spilled is some odd facts about new boys Graeme Kidd and Kevin Cox. Plus more juicy lists.

ACE PUZZLE NO 9.....	152
ACE SERIAL	151
ADVENTURE HELPLINES	167
BLITTER END	170
BRAIN GAMES	142
CARTOON STRIP	139
HARDWARE UPGRADE GUIDE.....	148-149
LISTS	158
ODD FACTS.....	158
PENPALS	169
PRIZE CROSSWORD 9	156
PUZZLE GAMES	140
SECOND HAND BUYS.....	165-169
SPECIALS.....	143
USER GROUPS.....	169

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RECOMMENDED GAMES

ACE!

GAMES YOU'VE GOT TO HAVE

All of the following games are **ACE RATED**, that means they're all red hot masterpieces of computer entertainment. Some of the games were available long before the first issue of ACE came off the presses however, so we never had the chance to review them in the magazine. These games are marked with the **ACE CLASSIC** flash, and rest assured, they're all superb pieces of software and are well deserving of the title.

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.



BONECRUNCHER

Superior Software ● C64 £9.95cs £11.95dk ● Amiga £14.95dk

At first sight this recent release may appear to be nothing more than a Boulderdash rip-off. However there are a number of **highly 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**.



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 at 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.



DEFLEKTOR

Gremlin/Vortex ● Spectrum £7.99cs ● C64 £9.99cs 14.99dk
● Atari ST £19.99dk

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**.



NEBULUS

Hewson ● C64 £8.95cs £12.95dk ● Spectrum £7.95cs

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.

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RECOMMENDED GAMES



SENTINEL

Firebird • Spectrum £9.95cs • C64 £9.95cs £14.95dk
• Amstrad £9.95cs £14.95dk • 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 clear brain and fast trigger finger are both
necessary in this very original and large - 10,000 possible landscapes - game.



SKULLDIGGERY

Currently undistributed

Boulderdash clone that completely outdoes the original on this particu-
lar machine. Again (see Boulderdash, above) you're digging for diamonds in caverns
over 100 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 entertain-
ing two-player option.



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-price release - what a bargain then to be able to pick it up for
£1.99!



TETRIS

Mirrorsoft • Spectrum £8.99cs £19.99dk • C64 £8.99cs £12.99dk
• Amstrad £8.99cs £12.99dk • Atari ST £19.99dk • 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 rectangu-
lar 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 in tightly so that doesn't hap-
pen. 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.



THINK!

Firebird • Spectrum £1.99cs • C64 £1.99cs • Amstrad £1.99cs

Originally released by Ariolasoft at full price, but now available for a frac-
tion 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. A compelling puzzle which incorporates many additional features and
skill levels.



XOR

Logotron • Spectrum £7.95cs • Amstrad £9.95cs £14.95dk
• BBC £9.95cs £12.95dk

Extremely tricky maze game involving the player controlling two shields, and collect-
ing 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, the fish and chickens
are the least of your worries as bombs, transporters and dolls crop up to conspire
against you. Smooth scrolling, simple graphics, this one requires planning to com-
plete successfully.

BRAIN GAMES

Fed up with mindless blasting? Want a game that offers you an
opponent who's worthy of your skills? 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.

RECOMMENDED GAMES



COLOSSUS CHESS 4

CDS ● Spectrum £9.95cs ● C64 £9.95cs £14.95dk
● Amstrad £9.95cs £13.95dk

Best bet for **8-bit machine owners**, with choice of 2D or 3D view, umpteen levels of difficulty, and myriad options which enable you to play, watch, work out chess problems, etc against a **fine computer opponent**.



COLOSSUS MAH JONG

CDS ● C64 £9.99cs £14.99dk ● Amstrad £9.99cs £14.99dk

Rummy-like **oriental game of strategy and chance**. A tutor program and short manual make this an easy to use and highly entertaining piece of software for veterans and novices alike.



INFOGRAMS' BRIDGE

Infogrames ● Amstrad £12.95cs £15.95dk ● MSX £12.95cs

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 imagination and flair department), and features a **wide range of options** and bidding conventions which you can toggle on and off according to your style.



POWERPLAY

Arcana ● Amstrad £8.95cs £14.95dk ● C64 £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 Pursuit*. *Powerplay* is graphically very pretty in its **setting on Mount Olympus**, home of the Gods.



SCRABBLE

Leisure Genius ● Spectrum £9.95cs ● C64 £12.95cs £14.95dk
● Amstrad £9.95cs £14.95dk ● IBM PC £24.95dk

The hugely popular word game **translated very successfully onto the micro**. Fast, excellent display, and a surprisingly large vocabulary (even if it does include some strange looking words on occasions). Good enough to give even strong human opponents a **tough game at the higher levels**.

SPECIALS

Original works that are simply unclassifiable feature in this section.



ATF

Digital Integration ● C64 £8.95cs £12.95dk ● Spectrum £8.95cs £12.95dk
● Amstrad £8.95cs £13.95dk

Excellent **combat/flight simulator** that's a bit of a change for Digital Integration, the simulation specialists. The emphasis is on **solid action**, the result being a sure-fire hit.



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• Amstrad £12.95cs £14.95dk
• BBC £12.95cs £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 gameplay. 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.

MAGNETRON

Firebird • Spectrum £7.95cs • C64 £8.95cs £12.95dk

Puzzles and action Steve Turner style. Save the world by dismantling eight satellites. Steal parts from the enemy droids to upgrade your own droid, and hopefully make your job a little easier. The **ideal game for all Quazatron fans** looking for a similar, new challenge.

MATCH DAY 2

Ocean • Spectrum £7.95cs £14.95dk • C64 £8.95cs £12.95dk
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Definitely **the football game on micros**; magnificent animation, great gameplay, vicious and skilful computer opponents. Various improvements over the original make this a **must for all computer football fans**.

QUEDEX

Thalamus • C64 £9.99cs £14.99dk

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.

SPINDIZZY

Electric Dreams • Spectrum £9.99cs • C64 £9.99cs £14.99dk
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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 gaps, 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 exploration's the thing.

STARGLIDER II

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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 Egrons** to destroy, making this **combination** of blasting and exploration a game that stands **head and shoulders** above the competition.

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WIZBALL

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• C64 £8.95cs £14.95dk

A **compelling and original** ball game in which you become the wizball and must set out to conquer the 'colour creatures' which are intent on eliminating the spectrum and rendering the landscape grey and drab. Controlling the wizball is **great fun** and makes this **one of the most playable games** to have appeared for a long time.

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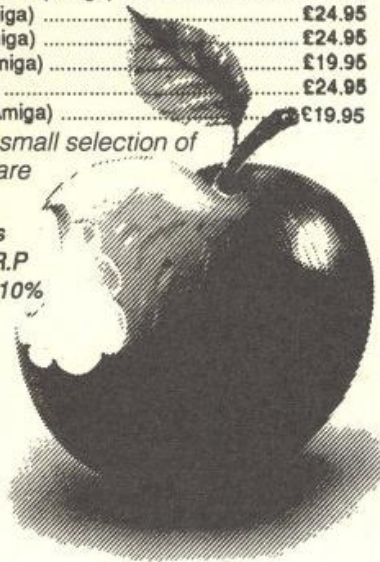
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HARDWARE UPGRADE GUIDE

	ACORN ARCHIMEDES	APPLE MACINTOSH
THE RANGE	The 305 and 310 are home machines, while the 410 and 440 are only really of interest to serious users.	The Mac SE comes in a distinctive upright monitor/system box with built-in drives, while the Mac II's system/drive box and dedicated monitor are separate. Both have separate keyboard and mouse.
MEMORY & CHIPS	The 305 has 512K of memory while the 310 has 1Mb, but both use Acorn's own super-fast 32-bit ARM chip as their central processor.	Though both machines have 1Mb of memory, the SE only has a Motorola 68000 to push it around while the II uses the much faster (but closely related) 68020.
PRICES	Recommended retail prices start at £801.60 for the 305 on its own. There's no sign of a second-hand market as yet.	Recommended retail prices start at £2,294 for the SE and £4,329 for the Mac II. Macs tend to keep their value well, so second-hand ones aren't terribly cheap. Cut-price brand new ones are rare too, so the cheapest thing can be to personally import one from the States (i.e. fly to New York, buy a Mac and bring it back with you).
GRAPHICS	Screen resolution is variable: typical modes would be 320x256 in 256 colours 640x256 in 16 colours or – with an expensive multi-sync monitor – an impressive 640x512, again in 16 colours. There's one hardware sprite – the cursor – but with that speedy ARM chip for power, the Archie's blindingly fast in software.	The mono-only SE has a screen resolution of 512x342, while the Mac II runs to a 1027x760 screen in 16 colours, chosen from a palette of more than 16 million!
MONITORS	B/w – composite video; colour – RGB + sync; no TV modulator.	As well as the built-in (SE) or dedicated (Mac II) Apple units, there are plenty of third-party monitors offering million-pixel screens and similar. Like most things Mac-ish, these get very pricey.
SOUND	The Archie's built in sound features 16 channels (in 8 stereo pairs) and a range of six octaves, all fed through a good-quality internal speaker.	The Mac's four-channel sound chip can produce some very acceptable noises – stereo on the Mac II – but you'll need a third-party MIDI port add-on if you're serious about music.
DRIVES, MICE & JOYSTICKS	The built-in drive is quiet and fast, and packs a healthy 800K onto a 3.5in disk. The Archie comes with a nice 3-button mouse – but has no joystick port!	The fast, reliable built-in drives pack 800K onto a 3.5in disk. The keyboard's very high-quality stuff, as is the one-button mouse.
SOFTWARE	Games for the Archie are rare things indeed. Superior and Grand Slam are both committed to supporting the machine, but for now the only major titles are Zarch and (for 310 owners) Conqueror, both ACE-rated games. There's still no sign of a game that really pushes the Archie to anything like its limits. The handful of graphics packages available should keep art-loving Archie owners happy for now. Other applications areas are ticking over nicely if not exactly booming.	Games software is not terribly plentiful on the Mac, though adventurers are well catered for. There's a huge amount of graphics and desk-top publishing software – most of it firmly mono – and a fine range of titles for the business user. There's also plenty of great software for the MIDI musician, but it doesn't come cheap.
PROSPECTS	The Archie's educational leanings make for a poor games outlook – there's no sign of support from any of the big-league houses – and the lack of a joystick port doesn't help. The graphics software base would mushroom if Acorn cut their prices, but until then things don't look too hot here either.	The future for the Mac is excellent, but mostly on the serious side of things.
OVERALL	The Archimedes is years ahead of its time, and vastly more powerful than the competition. A stiff bit of price-cutting would make it an unbeatable leisure machine, but Acorn just don't seem to be interested. At the current price it's a worthwhile buy for computer scientists and people with money to burn, but that's about it.	The Mac's a very upmarket machine, and is priced accordingly. Almost essential for DTP users, it's a luxury item or Yuppie toy for the rest of us.
RATINGS	<div> <p>Graphics 5</p> <p>Sound 4</p> <p>SOFTWARE:</p> <p>Range 1</p> <p>Quality 2</p> <p>Prospects 2</p> </div> 	<div> <p>Graphics (SE) 3</p> <p>Sound 4</p> <p>SOFTWARE:</p> <p>Range 4</p> <p>Quality 5</p> <p>Prospects 4</p> </div> 

ATARI ST

COMMODORE AMIGA

IBM PC AND
COMPATIBLES

The 520STFM and 1040STF both come as combined keyboard/system/drive consoles.

The A500 is a single unit with built-in disk drive, while the A2000 has a separate keyboard and system box.

IBM's PC is the original, but the best buys these days are 'clones' like Amstrad's PC1512 and 1640. Specifications apply to most modern PCs, but check the details for yourself before buying.

The 520STFM has 512K of memory, while the 1040STF has 1Mb. Both use the Motorola 68000 processor.

The A500 has 512K of memory and the A2000 a hefty 1Mb, both of them using a Motorola 68000 for processing power.

PC compatibles normally have 512K or 640K of memory, with an Intel 8086 or related processor. (The 8088 is slower, while the 80286 and 80386 are faster but more expensive.)

Recommended retail prices are 520ST - £299.99, 520ST plus 20 free games - £399.99, 1040STF - £599.99. There's a strong second-hand market in 520ST's, but most of these are fitted with the old single-sided (360K formatted capacity) drive.

Recommended retail prices are: A500 £399, A2000 £1236. Shop around for lower prices or package deals. There's a fair old second-hand trade in unwanted A500's, though the recent drop in RRP means that prices here may not be too good. Also still available is the creaky old A1000, the first Amiga model and, with its lengthy boot-up sequence and puny (256K) memory, deservedly discontinued.

Prices start at around £400 for a mono PC, but a 640K machine with an EGA display and top-flight monitor will cost more like £1000. There's a thriving second-hand market, and even buying brand new you're well advised to shop around.

TV or colour monitor users can get at two screen modes on the ST, medium res (640x200 in 4 colours) and low res (320x200 in 16 colours), both working from a 512-colour palette. Users with mono monitors can only access one mode, high res, which gives them a 640x400 screen in black and white.

Hardware sprites and scrolling make conventional games easy to write, while the built-in blitter greatly speeds up large-scale graphics operations. Typical screen modes are 320x200 in 16 colours for games, 320x256 in 32 or 4096 colours for art, or 640x256 in 16 colours for serious use. In all cases, colours are taken from a palette of 4096.

The three main graphics standards are CGA, EGA and Hercules. None of these offer sprites or scrolling in hardware.

The main CGA (Colour Graphics Adaptor) modes are 320x200 in 4 colours and 640x200 in mono. CGA has no palette as such: the 4-colour mode comes in two colour-scheme choices, but that's all. An EGA (Enhanced Graphics Adaptor) PC can produce these two CGA modes plus a few of its own, offering displays of up to 640x350 in 16 colours from a palette of 64. Hercules graphics are mono only, but with a maximum resolution of 720x348 they can be very useful for applications like DTP (Desk-Top Publishing).

RGB, Mono, or built-in TV modulator (520ST only - 1040ST needs separate modulator).

SCART output for e.g. Commodore's A1081 monitor (£349.99, but look out for bundling deals). TV modulators are available, but aren't included in the price.

Normally standard RGB, with no TV output.

The internal sound chip's poor, with only three channels and no stereo, but the built-in MIDI port's made the ST a must for penny-wise musicians.

Built-in sound is excellent, with 4 channels in 2 stereo pairs offering you a nine octave range or some reasonable human-ish speech. You'll need a third party add-on to get MIDI compatibility, mind you.

A weak sound standard is very much the PC's Achilles' heel as a games machine, and speaker quality is usually low accordingly. MIDI interfaces are available, but the ST and Mac still beat the PC as machines for the musically minded.

The internal drive stores 720K on a 3.5in disk, though there are still some old 520ST's around that can only manage half this capacity. A two-button mouse plugs into one of the inconveniently situated controller ports, leaving the other one free for a joystick.

The Amiga's built-in drive is often noisy and always slow, but it does pack 880K onto a 3.5in disk so it's not a total disaster. The two-button mouse takes up one of the machine's two controller ports.

Though 5.25in 360K disks are still the standard, the newer 3.5in 720K drives are becoming more common. There are two different joystick standards, IBM (which is analogue, and the norm for older or American games) and Amstrad (which takes a standard Atari-style stick).

With the best games support of any machine listed here, the ST's probably still leading the upgrade race. Graphics software's some way behind the Amiga but catching up fast, with new titles stretching the ST's limited hardware quite remarkably. The ST's built-in MIDI port has earned it outstanding support on the music front, with some excellent packages from a wide range of companies. Serious software's looking up too.

On the games front the Amiga's now coming out of the ST's shadow, at least to the extent that most ST games also appear in Amiga form. Unfortunately they are still usually straight conversions, taking no account of the Amiga's extra hardware. There's a wide range of art, video and animation packages for the machine, many of them excellent. Music's less well catered for, but the built-in hardware's got great potential.

There's a vast software base for PCs, but relatively few games that are good by modern standards. This situation's rapidly improving though, as is the art side of things (especially on the EGA front). Music software is available (if rather expensive), but it's only on the serious side of things that the PC really wins out.

Great, especially if the price cut materialises as expected. The ST's rapidly catching the 8-bit market leaders on numbers of titles, and easily outstripping them on quality.

Looking very bright now, thanks to Commodore's recent price cut.

Prospects for a PC games boom are good, especially if Amstrad's rumoured ultra-cheap PC leisure clone shows up.

An excellent all-rounder, the ST delivers no-frills power at an affordable price. It's number one for MIDI fans, terrific for games and - with mono monitor - a great machine for serious use as well.

Though its hardware makes it a great games machine, the Amiga still lacks the software to really show it off properly. It's a must-buy for the computer artist, however.

The PC's a fine all-round machine, and the workhorse of modern computing - but if you're just interested in games or music, you'd best look elsewhere.

Graphics 4
Sound 3
SOFTWARE:
Range 4
Quality 4
Prospects 5



Graphics 5
Sound 5
SOFTWARE:
Range 3
Quality 4
Prospects 5



Graphics 4
Sound 1
SOFTWARE:
Range 5
Quality 5
Prospects 4



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Ballyhoo	7.95			Mini Office Professional		22.95		Arkamoid	3.50		3.50	Midnighter	9.95	9.95	9.95
Barbarian 1 or 2 PAL	9.95	11.95		Mini Putt		17.95		Arkamoid 2 Revenge	5.50	9.95	6.00	Mini Office 2	9.95	13.95	9.95
Bards Tale 1 or 2	16.95	16.95	16.95	Monsters of Night	17.95	17.95		Armalite	6.95			Mini Putt	6.95	10.45	6.95
BAT	17.95	17.95	17.95	Mortville Manor	15.95	15.95		Army Moves	3.95	3.95	3.95	Motor Massacre	5.95	8.95	6.95
Batman Caped Crusader	11.95	14.95	11.95	Motor Bike Madness	9.95	9.95	9.95	Athena	3.95	2.95	9.95	1943	6.25	8.95	6.95
Battle Chess		17.95	17.95	Motor Maycare	13.95	13.95		Barbarian Psychosis	6.95	6.95	6.95	19 Boot Camp	6.95	6.95	6.95
Better Dead	11.95	11.95		Music Con Set	17.95		17.95	Barbarian 2 Palace	6.95	6.95	9.95	Netherworld	5.50	8.95	6.95
Beyond Ice Palace	11.95	14.95		1941	13.95	16.95		Bards Tale 1	6.95	6.95	10.45	Nigel Mansell GP	6.95	6.95	10.45
Bionic Commandos	13.95	16.95		Netherworld	13.95	13.95		Bards Tale 2 or 3	6.95	6.95	10.45	Nightdrifter	6.95	6.95	9.95
Black Tiger	13.95			Neuroancer		17.95		Batman Caped Crusader	5.95	9.95	6.25	Ocean Compilation	7.95	11.95	7.95
Blazing Barrels	11.95	11.95		Nigel Mansell	16.95			Battlefront		14.95		Ooops	5.50	6.95	9.95
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Bone Cruncher	11.95	14.95		Operation Wolf	11.95	14.95	11.95	Best of Elite Vol 1	3.95	3.95	3.95	Overlander	5.50	9.95	6.95
Borrowed Time	7.95		7.95	Outrun	11.95	14.95		Beyond Ice Palace	5.95	9.95	6.95	Pacland	6.25	6.25	9.95
Bubble Bobble	11.95	11.95		Overlander	11.95	14.95		Bionic Commandos	6.25	6.95	9.95	Pacmania	5.95	6.25	9.95
Bubble Ghost	11.95	11.95		Pandora	11.95	11.95		Black Tiger	6.00	6.95	9.95	Pacton vs Rommel		10.95	
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Fit Disc European	13.95	13.95	19.95	Suzanne & Bianca	7.45	7.45	7.45	Game Set & Match	8.95	11.95	11.95	Super Sports	5.95	8.95	6.95
Fit Disc Japan	13.95	13.95	19.95	Summer Olympiad	11.95	11.95	14.95	Garfield	6.00	6.50	6.50	Supersprint	2.95	2.95	
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Garrison 1 or 2	14.95	14.95		Three Stooges	14.95										

RANDOM ACCESS

N'Gar Thrombobo plunges the world ever deeper into the mire but could be facing big trouble in the form of an avenging virus. Another batch of ACE odd facts and a couple of TPLs (Totally Pointless Lists). Not forgetting the brain twisting puzzle and crossword.

Horace Claghandle stared at his toilet mournfully. Hour by hour the water level in the basin was rising. His worst nightmares were coming true — he'd feared that one day a malevolent sprite might take control of Grimleythorpsedale's Municipal Sewerage Disposal Plant and reverse the polarity of the pumping motors, and here it was actually happening! Heaven knows the number of times he'd written to Mr. Tord, the Irish plant superintendent, outlining the danger. There was no excuse, of course, for those replies, and there was some suspicion in little Horace Claghandle's mind that his insistence on the problem might have helped lead, in some way, to his confinement at the Grimleythorpsedale Lunatic Asylum.

He measured the level in his toilet bowl once more, then wriggled across to the door in his straitjacket and banged it with his elbow. No-one paid much attention, though — hardly surprising seeing that the door was upholstered with three inches of Acme Schizocomf Luxury Insulative Padding. Behind him he heard the first slopping of water on the floor as the level in the toilet reached the rim.

N'Gar Thrombobo was lonely. The flood of reports coming in indicated that his plans to bring the world to its knees were progressing well, but the problem was that there was no-one to worship or applaud his greatness. He'd gone through the Sewerage Disposal Plant's data banks many times, but the only other sprites he'd encountered were the ones that sat in the corner of the Flow Rate Indicator Diagrams on the main pumping station's terminals. These were stupid, surly, shovel-wielding humanoids who were far more interested in flocculum collection and methane control than prostrating themselves before superior intellects. The best he could do by tinkering with their feeble animation subroutines was to make them shovel twice as fast every time he made a speech, which was somehow rather unsettling.

Eventually, the water level in Horace Claghandle's cell reached the light fitting. Horace Claghandle was beginning to think the end was nigh. By pushing his face down the neck of the straitjacket and blowing he'd managed to inflate it and keep himself afloat, but if the water didn't get him now, the noxious gases would. Several hours-worth of material had built up in the sewers beneath the asylum since the pumping motors had been reversed, and since Horace Claghandle's room was in the cellars, it was all coming out of his toilet.

Then the light fused. A jagged spark flashed blue in the sudden darkness, eleven different types of

THE ACE SERIAL

The Git In The Machine: Part 4

gas, each more noxious than the last, ignited simultaneously, and the resulting explosion blew the door off the cell. Horace Claghandle was swept out of the door and along the corridor on a foaming tide of effluvia and straight past the office of Doctor Slammer, the asylum director.

'Doctor Slammer, you have to listen to me — the world's in mortal danger!' shouted Horace Claghandle as he raced past in his overinflated straitjacket.

Doctor Slammer stopped writing, put down his pencil and checked his pulse.

It was the gardener who finally apprehended young Claghandle, who'd been left high and not really all that dry on the compost heap by the subsiding flood. Thinking he'd discovered some kind of mutated albino marrow, the gardener had pricked the object with his pitchfork, and had then nodded wisely when

the alien vegetable screamed and deflated explosively, circumnavigating the compost heap three times before coming to rest amidst the rhubarb.

'You must be mad!' said Doctor Slammer as Horace Claghandle told him his theory.

'But it's true, Doctor Slammer. It's happened at last, like I always said it would.'

'We left you locked up in that room too long,' said Doctor Slammer, thinking more of the huge quantity of effluent that had been disgorged with young Claghandle rather than any effect the confinement might have had on his mental condition.

'There's only one way to stop him,' said Horace Claghandle, 'and for that I need to use your Amoeba.'

'Well I'm not sure I can let you use my own personal computer,' said Doctor Slammer doubtfully, brushing chocolate biscuit crumbs off his floral dress and putting down his binoculars. 'Just what is it you intend to do?'

'I'm going to write a virus!' said Horace Claghandle with a glint in his eye.

'Oh dear,' said Doctor Slammer, who'd only just recovered from a nasty cold.

'Oh dear,' said the parrot on his shoulder.

'Oh dear,' said N'Gar Thrombobo, who'd been monitoring the conversation via Doctor Slammer's telephone...

SOLUTION TO PRIZE CROSSWORD NO7

The first correct entry out of the bag was Patrick Stanley of Clapton, who wins £25 worth of software for his micro. This is what the completed crossword should have looked like...





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THE ACE PUZZLE NO9

Set by Archie Medes

Jamie has decided to treat himself to a brand new computer system for Christmas. Drawing out his savings from the bank, he was soon trying out the latest systems at the nearest computer retailers. After much deliberation he decided on the 'Superchip Mk1' which comes complete with an integral VDU screen and disk drive. The new system cost him EXACTLY two thirds of the cash he had.

A dust cover, as an optional extra, cost him a further £4.99. Realising that he would need some software, he had soon selected a number of packages. Having already paid for the computer and dust cover, he counted his remaining cash and found the software he wanted would now cost two thirds of this residue. A couple of books cost him a further £19.99.

After paying for these items some blank disks caught his eye. These cost one quarter of the money that he had paid for the software. Finally a joystick cost him six sevenths of the amount remaining.

On leaving the shop with his purchases, he realised he'd forgotten the most important thing of all - as he had exactly £1.50 left, he nipped back into the shop and soon emerged with a huge grin on his face and the latest copy of ACE under his arm!

Can you say how much money he started the day with?

Instead of working the puzzle out with pencil and paper, why not devise a simple listing that will allow your micro to solve it for you?

NAME

ADDRESS

COMPUTER OWNED

SEND YOUR ANSWERS TO PRIZE PUZZLE 9, ACE, 4 QUEEN
STREET, BATH BA1 1EJ. CLOSING DATE DECEMBER 5TH.

SOLUTION TO THE ACE PUZZLE NO7

The first correct entry out of the postbag was Bob Whitaker of Cambridge who wins £25 worth of software.

There are 116 different multiples of seven in the grid. These are shown below.

7	14	21	28	35	42	49	56
63	77	84	91	98	119	175	182
189	196	217	343	357	413	441	448
735	749	763	784	840	847	917	924
938	945	994	1281	1743	1757	196	2618
2793	4130	4193	4627	4753	4760	4774	4837
4879	4956	6034	6321	6349	6594	6916	7119
7175	7357	7483	7735	7840	7924	7938	8162
8911	9387	9436	30674	39144	47194	47264	47537
47747	49567	51821	61894	63497	65947	69167	71281
71757	74774	74837	74956	76034	76349	76594	76916
77357	79387	79437	83972	89117	91448	94367	95123
475377	491743	498162	518217	747264	749567	763497	765947
769167	783972	794367	844193				

A six by six grid can be dissected into 616 component numbers. For example, a line of six digits also holds two five-digit numbers, three four-digit numbers, four three-digit numbers, five two digit numbers, and six single digits.

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Burmuda Project	18.75	Whirligig	5.95	Pac Land	14.95	5 Star Compilation	14.99	Motor Massacre	14.99
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BARCLAYCARD



The program works by first dissecting the grid into its component values and storing these in the array L\$(616). The order of the digits in the grid are first read from the DATA lines at the end of the listing. The first two DATA lines contain the horizontal and vertical lines respectively, while the second two contain the two sets of diagonal values. The two FOR/NEXT loops at lines 160 and 170 split each of these lines into as many smaller parts as they contain, each in turn being stored in the array (line 180). This results in 290 different values, each having from two to six digits. Lines 200 to 260 complete the array by computing the reverse of each of the values so far obtained. Single digit values are not considered at this stage as there is only the one acceptable value (7) and this is accounted for later.

The 580 values so far obtained are next tested for divisibility by 7 (lines 280 to 320). If your computer has a MOD function, this can be used as an alternative. Any value failing the test has that section of the array cancelled (line 310). Finally, all duplications are removed in the routine at lines 330 to 370. Once this has been done a count is made of all remaining values in the array. The count is started at 1 (line 390) to take account of the single-digit value 7 which we can see is present in the grid.

NOTE: This listing will run on any machine capable of using Microsoft BASIC.

```

THE Listing
100 DIM G$(30),L$(616)
110 FOR L=1 TO 30:READ Z$:G$(L)=Z$:NEXT
120 L=1
130 PRINT "DISSECTION OF GRID IN PROGRESS"
140 FOR N=1 TO 30
150 Z$=G$(N):Q=LEN(Z$)
160 FOR S=1 TO Q-1
170 FOR D=2 TO Q-S+1
180 L$(L)=MID$(Z$,S,D):L=L+1
190 NEXT D:NEXT S
200 FOR L=291 TO 580
210 Z$=L$(L-290):R$=""
220 FOR F=1 TO LEN(Z$)
230 R$=MID$(Z$,F,1)+R$
240 NEXT
250 L$(L)=R$
260 NEXT
270 L=L-1
280 PRINT "DIVISIBILITY TEST IN PROGRESS"
290 FOR F=1 TO L
300 V=VAL(L$(F))

```

```

310 IF V/7<>INT(V/7) THEN L$(F)=""
320 NEXT
330 PRINT "REMOVE DUPLICATIONS"
340 FOR A=1 TO 615
350 FOR B=A+1 TO 616
360 IF VAL(L$(A))=VAL(L$(B)) THEN L$(B)=""
370 NEXT B:NEXT A
380 PRINT "PRINT RESULTS AND COUNT TOTAL"
390 T=1:REM(TO REPRESENT THE SINGLE DIGIT 7)
400 FOR F=1 TO 616
410 IF L$(F)<>" THEN PRINT L$(F):T=T+1
420 NEXT
430 PRINT:PRINT "TOTAL: ";T
440 END
450 DATA 430674,794367,518217,347194,749567,783972
460 DATA 475377,391448,048793,632159,761967,477472
470 DATA 73,590,3146,74837,747264,89117,3597,964,77
480 DATA 77,667,0314,34297,498162,71757,5499,343,78

```


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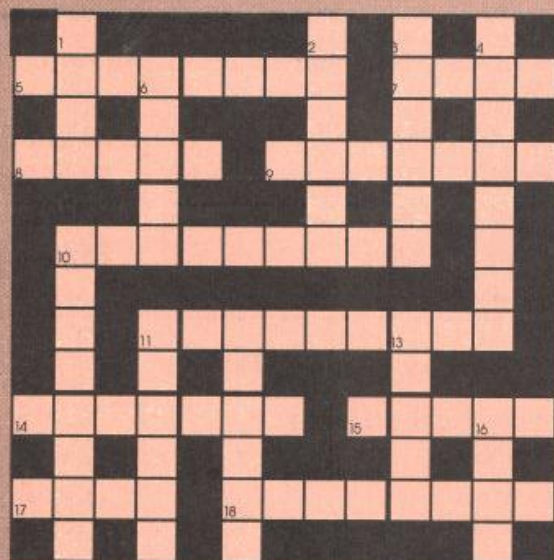
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ACROSS

5. Sari they ripped in game - it's madness! (8)
7. Surrounded by dancing maid charcaters (4)
8. Warms up in preliminary races (5)
9. See 6 down.
10. Lose Jonah playing game that never was from Piranha (4,5)
11. Friends returning to war game (9)
14. 'Dune' man rewrote for software house (7)
15. See 13 down.
17. Yield from seed, say (4)
18. A kid, Nora, playing Ocean game (8)

DOWN

1. Get your teeth into, say, some data (4)
2. Bird game from Mirrorsoft (6)
3. Point to computer language fundamentals (6)
4. Put the boot in, say, at beginning of Mirrorsoft game (8)
- 6 & 9 ac. Game causing a complete blackout (5,7)
10. Gremlin's strong man (8)
11. Dreads becoming unhappier (6)
12. Book of the year (6)
- 13 & 15 ac. Greet Rene running around blockhead's Imagine game (5,5)
16. Be up to no good (4)

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THIS MONTH'S LISTS...

The ACE team have been bursting with list ideas again but these were the only three that were printable.

TOP 10 FUNNY ANIMALS

1. Opus (Bloom County, The Guardian)
2. Calculus Cat (Escape)
3. The Three Bears (The Beano)
4. John the Monkey (If..., The Guardian)
5. Lamont the Buffalo (Badger)
6. The Penguin (If...)
7. Bill the Cat (Bloom County)
8. Firkin (it has slipped our minds what he's in)
9. Bullwinkle J. Moose (Rocky and Bullwinkle)
10. SPG the Hamster (The Young Ones)

TOP 10 SUMMER DANCE HITS

1. Sex Machine - James Brown
2. Somebody to Love - The Blues Brothers
3. Ballroom Blitz - Sweet
4. The Theme from S-Express - S-Express

5. Tiger Feet - Mud
6. ABC - The Jackson Five
7. Ready Teddy - Little Richard
8. River - King Trigger
9. Pump up the Volume - MARRS
10. Rhythm Stick - Ian Dury and the Blockheads

TOP 10 PROGRAMMES FROM THE 50's AND 60's

Top 10 TV Programmes from the 50's and 60's

1. Mission Impossible
2. Marine Boy
3. Johnny Staccato
4. Lost in Space
5. Hawaii Five-O
6. Whirlybirds
7. I Dream of Jeanie
8. The Addams Family
9. Stingray
10. Mister Ed

ACE ODD FACTS

Revealing information (also useless) about the ACE team. This month highlighting newcomers Graeme Kidd (editor) and Kevin Cox (publisher).

GK had a letter published in the Radio Times when he was 11. KC once paid a magazine contributor in pizzas. GK isn't as old as Steve Cooke. KC is nicknamed Kippers. GK has a three legged cat called Bogey. KC used to pack Kit Kats. Andy Wilton cooks great chilli. Andy Smith had a pet monkey called Charlie. Bob Wade's favourite football teams are Wimbledon and the Miami Dolphins.

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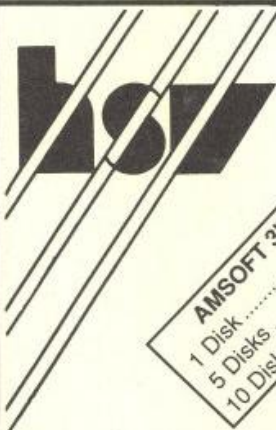
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SEGA MASTER SYSTEM, excellent condition, still boxed, 10 games including Out Run, Afterburner, Rocky, many more, also Light Phaser and 3 joysticks, great bargain at £130. Ring 01-864 5502 ask for Daniel.

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AMSTRAD 6128 COLOUR monitor, over £600 of software, AMX mouse, Mirage Imager, cassette recorder, joystick, leads. Good condition £450 ono. Ring 0227 792021.

SPECCY ORIGINAL SOFTWARE, many well known titles (eg Out Run, Combat School).

Send a SAE for your free list to Mark, Lyme House, Devil's Lane, Longsdon, S-O-T, ST9 9QP. Tel: 0538 385074.

AMIGA A500 with modulator, mouse, D-Paint, four games, colour monitor, TV tuner and manuals, boxed, as new, 3 months old. £465 complete (will split). 061 748 5947 (Manchester).

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ATARI 520STFM with joystick, mouse, discs, books, mags, word processor, software includes Defender of Crown, Out Run and Space Harrier with packaging. Excellent condition only £250. Phone 01 979 4504 London after 5pm.

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COMMODORE 64, data recorder, joystick, modem, books and well over £450 software, boxed, will sell for £150. Phone Iain (0408) 21614 after 6pm.

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THE ACE HELPLINE

Here's a great way of receiving free advice from public-spirited readers. If you make use of this service, please respect the Helpline code:

- If writing for help, enclose a stamped, self-addressed envelope.
- Do not make phone calls at anti-social hours.

I have completed the following: The Pawn, The Bard's Tale, Ultima IV, Phantasia I, Dracula, Never Ending Story, Zork III, Wishbringer, Enchanter, Borrowed Time, Kobayashi Naru, Heavy on the Magic, Legacy, The Prince of Magic, Claws of Despair, Wizards & The Princess.

Derek Wong, 42 Ingram Road, Thornton Heath, Surrey. CR4 8EB.

Wishbringer, Labyrinth, The Hobbit, The Hulk, Spiderman, Seabase Delta, Kobayashi Naru.

Ann Gray, 9 Ainess Close, Birchwood, Lincoln, Lincs. LN6 0YX.

The Pawn, Sorcerer, Planetfall, Leather Goddesses of Phobos.

C.F.H. Bass, 21 Third Close, E Molesey, Surrey, KT8 9PW.

Heroes of Karn, Imagination, Seabase Delta, D.A.A. n Everything, Fourt Protocol I, II & III, Ship of Doom, Message from Andromeda, Kobayashi Naru, Questprobe III, Forest at Worlds End, Wild Bunch, Knight Tyne, Spellbound, The Hobbit, Bugsy Part 1 only, Mops To, Heroes of Karn, Seabase Delta, Gremlins, Lord of the Rings (Part II only), Robin of Sherwood, After Shock.

Russell Cooper, 12 Butlers Close, 52 Butlers Road, Handsworth Wood, Birmingham. B20 2PA.

Let me know your problem with Football director, The Double Soccer Boss, Premier League and Soccer Star and I'll sort you out. Send SAE to:

Paul Phillips, 29 Ormestone House, Hartcliffe, Bristol.

Adventure Quest, Aftershock, Apache Gold, Arnold Goes to Somewhere Else, Boggit, Bored of the Rings, Brawn Free, Castle Blackstar, Castle of Skull Lord, Classic Adventure, Colossal Adventure, Colour of Magic, Crystal Theft, Dodgy Geezers, Dracula, Dungeon Adventure, Dungeons, A.A. 'n Everything, Emerald Isle, Enchanter, Erik The Viking, Escape from Khoshima, Espionage Island, Fantasia Diamond, Forest at Worlds Ends, Heavy on the Magic, Heroes of Karn, Hitchhikers Guide to the Galaxy, Hobbit, Imagination, Inca Curse, Jewels of Babylon, Kentilla, Lords of Time, Message of Andromeda, Mindshadow, Morden's Quest, Necris Dome, Never Ending Story, Price of Magic, Project Volcano, Qor, Questprobe III, Red Moon, Return to Eden, Seabase Delta, Seas of Blood, Smugglers Cove, Snowball, Souls of Darkon, Spellbreaker, Spytrek, Subunk, Sydney Affair, Terrormolinos, The Case of the mixed-up Shymer, The Trial of Arnold Blackwood, Vera Cruz Affair, Very Big Cave Adventure, Warlord, Wise and Fool of Blackwood, Worm in Paradise, Zork I

Joan Pancott. Telephone 0305 784155 - Any Day - Noon to 10pm.

For technical help on Commodore 64 Basic and Machine/Assembler language. Please contact Johnathan Kendall (for most problems would you please write!) I will endeavour to reply to all letters - if you enclose a stamped addressed envelope! Johnathan Kendall, 27 Bishop Bridge Road, Norwich, Norfolk, NR1 4ES. Tel: 0603 625987

The Pawn, Sorcerer, Planetfall, Leather Goddess of Phobos, Hitchhikers Guide to the Galaxy

Colin Bass, 21 Third Close, E Molesey, Surrey, KT8 9PW.

The Pawn plus early stages for Guild of Thieves (I've only scored 300+ points so far).

Clive, 66 Billett Lane, Berkhamstead, Herts, HP4 1DR.

Jack The Ripper (p1-3), Dracula (p1-3), Hampstead, Big Sneeze and others. N Buzzard, 11 Faversham Drive, Weston-super-Mare, Avon, BS24 9NZ.

I can help Spectrum owner with GAC, +2 loading problems, removing attribute clash + any basic programming problems, GAC, PAW and I also have an extensive knowledge of ZX BASIC. I can help fellow P B Mers on Hade Games 'Avalon'. Just send an SAE to: Matt Burke, 33 Brookhouse Hill, Fulwood, Sheffield, S10 3TB.

Adventure Quest, Beyond Zork, Infidel, Plundered Hearts, Starcross, Trinity, Castle Blacktar, Classic/Colossal Adventure, Dungeon Adventure, Emerald Isle, Gnome Ranger, Guild of Thieves, Hacker, H.H.G.T.G. Jinxter, Knight Orc, Leather Goddesses, Lords of Time, Mindshadow, Nord and Bert, The Pawn, Planetfall, Price of Magic, Red Moon, Return to Eden, Snowball, Wishbringer, Worm in Paradise

Phil Armstrong, 92 Dryden Road, Low Fell, Gateshead, Tyne & Wear. NE9 5TX

Tel: (091) 4875639

The Colour of Magic Part 1 and some of Part 2.

John Morris, 130 Avondale Road, Shipley, West Yorkshire. Tel: 0274 586238 weekdays 3-6pm, weekends all day.

For tech help on Dungeon Master Tel 0734 780508, ask for Chris.

Amiga owner willing to swap hints & tips on the following games: Great Giana Sisters, Leathernecks XR35, F18 Interceptor, Test Drive, Xenon, Firepower, Hollywood Strip Poker, Tetris, ECO, Vampire Empire, Soccer Supremo, Garrison I & II, Bubble bobble and over 100 more.

Mr S Lyte, 27 Stansted Close, Chelmsford, Essex, CM1 2TW. Tel: 0245 356641 after 8pm or weekends

Adventure Land, Colossal Adventure, Circus, Colditz, Greedy Gulch, Jewels of Babylon, Knights Quest, Magic Mountain, Pharaoh's Tomb, Eye of Bain, Planet of Death, Ship of Doom, Espionage Island, Hobbit, Invincible Island, Inca Curse, Ten Little Indians, Perseus and Andromeda, Lords of Time, SAE required

with all requests for help.

Nirmal Singh, 104 Vansittart Road, London, E7 0AA.

Colossal Cave (original adventure), Guild of Thieves, Leather Goddesses of Phobos, The Pawn, Jinxter.

Clive J Mewse, 66 Billett Lane, Berkhamstead, Herts, HP4 1DR.

All aspects of BASIC especially adventures, debugging, compression and protection, simple machine code including RSXS, playtesting, poking. Please state level of understanding. Have got a CPC464, GT64, Multiface II+, DK 'tronics Speech rom. General Amstrad queries welcome but solutions not guaranteed.

Sean McManus, 226 Chertsey Rise, Stevenage, Herts. SG2 9JQ.

The Pawn and Knight Orc (part 1 and early part 2).

Shazad Ahmed, Tel: 01-340 9176 (4-10pm).

Bard's Tale I & II, Ultima IV, Phantasia 1, Gnome Ranger, Mindshadow.

Derek Wong, 42 Ingram Road, Thornton Heath, Surrey, CR4 8EB.

Dungeon Master

SAE to: Anthony Hopkins, 91 Springfield Avenue, Sandiacre Nottingham, NG10 5NA.

Commodore 64 help service, a new, free way 2 reviewing help on all games. Every arcade game is covered with pokes maps and tips. Old and new games send for information.

Mark Essen, 26 Thick Hollins Drive, Meltham, Huddersfield, HD7 3DL.

The pawn, guild of thieves, Jinxter, Leather Goddesses of Phobos, Colossal Cave.

Clive J Mewse, 438A, Ewell Road, Tolworth, Surbiton, KT6 7E2

Jinxter, Pawn, Guild of Thieves, Leather Goddesses, Colossal Cave, Mr X. Clive Mewse, 438A Ewell Road, Tolworth, Surbiton, KT6 7EL.

The Pawn, Guild of Thieves, Jinxter, Corruption, The Hitchhikers Guide to the Galaxy, Hollywood Hijinx and I have 80+ points on Wishbringer.

Anil Tohani, 5 Orchard Avenue, Rainham, Essex RM13 9NY.

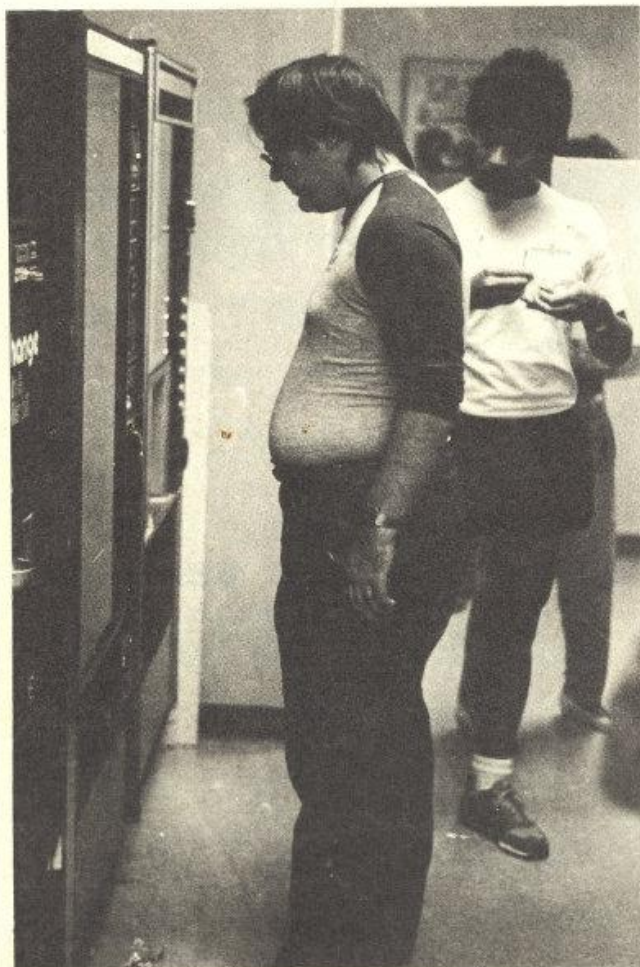
Any help on Ultima V appreciated. All letters answered. I have most character replies on disc in text files, almost complete dungeon plans, and will attempt to reciprocate on any info.

N.B.H Vickerstaff, 670 Yarm Road, Eaglescliffe, Cleveland, TS16 0DP. Tel: 0642 781073

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THE BLITTER END...



BIG IN AMERICA

WARNING: due to the fast paced action and intense excitement induced by Actionware products, they are not recommended for pregnant women and those with weak hearts." Thus reads the stern, public-spirited notice on the box of Actionware's *Capone*, but you could be forgiven for wondering why. Is a boring old *Hogan's Alley* style shoot-out game really going to do pregnant women a mischief? Is a light-gun an unsuitable plaything to have around a maternity ward? Maybe they don't build their expectant women any too tough over in the States, but here at the Blitter End we reckon British mums-to-be are more than a match for such simple blasting fare. Watch out for *Operation Wolf* machines in an ante-natal clinic near you, real soon!

And hopping deftly from buns in the oven to snacks in the microwave, how about this startling photo from ex-editor Steve Cooke's candid (or even candied) camera? Steve was at Microprose's Baltimore HQ when he spotted this stout fellow using the company's extensive electronic meal-dispensing facilities. Apparently you can get a full range of sweets, TV dinners, Ding Dongs and other essential forms of nutrition, all at the touch of a button. Isn't technology wonderful? (We would like to strongly deny that the actual link between this and the previous item has anything to do with unusually large waist measurements. Why, the thought never even entered our heads.)

GO WILD!

Tony Ling from Dorchester won't forget 'lucky' issue 13 in a hurry. Why? Because he was the fortunate chap who managed to win the ACE/SSI competition. Tony's now won himself a whopping £600 worth of travel vouchers. Mrs Wendy Stokes-Clare from Coventry is also pleased with herself at the moment as she scooped the second prize of 60 worth of *Advanced Dungeons & Dragons* books. The answers were as follows:

1. The city overrun by monsters in *Pool of Radiance* is Phlan (Phelan counted).
2. The ruined temple your party penetrates in *Heroes of the Lance* is Xak Tsaroth.
3. NPC stands for Non Player Character(s).

THE WHAT???

Let's face it folks, we've made our fair share of foul-ups in our time here on ACE. Indeed, we've used up several other magazines' fair shares too, and will probably need to turn out a few dozen mistake-free issues just to balance the books again. That said, Issue 14 contained an error that fairly rocked us on our heels, an OOPS! so awful, hurtful and misleading that we can hardly bring ourselves to believe it happened.

We're referring, of course, to Steve Cooke's fond farewell on Page 132, where he appeared to describe his bosom buddies Bob Wade, Andy Smith and Andy Wilton as 'The Ugly'. As all ACE readers will instantly have realised, this should have read 'The Snuggly', a fittingly sentimental tribute from good old Steve to his bestest mates, his favourite people in the whole world etc. Needless to say, a rigorous internal enquiry is in progress to find out who it was that so cruelly mauled Steve's kind parting words.



Snuggly, or ugly!

ADVERTISERS INDEX

16 Bit	144
A.T.S.	158
Actionware	134
Activision	54, 55, 65, 92
Ashcom	144
Atari	80, 81
Athene Consultants	142
Bath Computer Shack	155
B Bytes	142
Best Byte	141
Big Apple	57
C.B.S.	146
Cheeta	160
Compuart	63, 77
Computer Adventure World	126
D & H Games	136, 137
Datel	104
Digital Integration	34, 35
Domark	88, 89
Dynamic	83
Electronic Arts	140
Evesham Micros	168
Exmouth Micros	168

Gifford Soft	153
Goliath	39
Grand Slam Entertainments	29
Gremlin	16, 17, 40, 60, 61, 131
Homesoft	152
Homeview	153
I.D.S.	162
Incentive	86, 87
Infogrames	135
Ladbroke Computing	136
Logic Sales	146
M.C.D.	150
Maitcenta	154
Mailsoft	164
Mandarin	39
Martech	107
Megaland	147
Megasave	144
Microprose	6, 66, 106, 113
Microware	166
Mirrorsoft	14, 25, 122
N.B.S.	162
Ocean	1FC, 3, 12, 13, 20, 98, 110, 1BC

S.D.C.	163
S.E. Kent	144
S.T.D.	166
Sabre 16	166
Selec	158
Shekhana	168
Softsellers	157
Software Cellar	142
Software City	159
Software Express	164
Softville	142
Sublogic	124
Sound and Vision	156
Telecomsoft	46, 93, 102, 108, 130
Telegames	168
Thirsk	168
Topsoft	143
U.S. Gold	30, 31, 48, 68-73, 96, 97, 103, 132, OBC
Video Vault	64
W.A.V.E	146
Worldwide	166
Yorcom	145

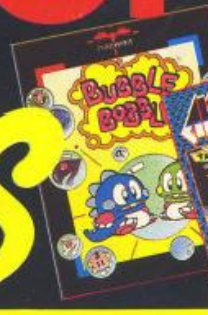


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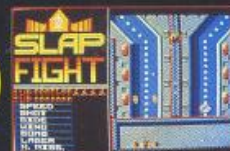
COIN-OP

Hits



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RASTAN The Warrior King. Lands that produce men of legend, dragon slayers, lie in his shadow – guardians of evil fear his fire-swording sword, the one he wields as swift as lightning. State of the art programming makes a true simulation of the Arcade for your home micro, enjoy superb graphics and realistic action as RASTAN takes on a world of dangers – magical wizards, fire-breathing lions, bats, snakes, skeletons and finally the living dead. Is it more than you can handle?



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SLAP FIGHT You are the pilot of the Slapfighter and must destroy the evil alien swarms which confront you, wave after deadly wave on the ever hostile planet of Oric. To aid you in your challenge collect ions and substantially increase your fire power and speed. Superb graphics and split second timing give this game an addictive edge.



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RENEGADE REBEL WITHOUT A CAUSE? In the knife-edge world of the vigilantes there is no place to rest, no time to think – but look sharp – there is always time to die! From the city subways to the gangland ghettos you will always encounter the disciples of evil who's mission it is to exterminate the only man on earth who dares to throw down the gauntlet on their path – the Renegade. **PLAY RENEGADE...PLAY MEAN!**



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ARKANOÏD The era and time of this story is unknown. After the mothership "Arkanoid" was destroyed, a spacecraft "Vaus" scrambled away, only to be trapped in the void... You control the Vaus and have to penetrate 32 levels and then confront the "Dimension Changer" whom you must destroy in order to reverse time and resurrect the "Arkanoid." Frantic action and split second timing combine to produce the most addictive and compulsive game.



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FLYING SHARK HOT FROM THE ARCADES. Flying Shark is the definitive conversion of this shoot-em-up, chart-topping classic hit from Taito. Develop your strategy as you face swarms of enemy planes, tanks, gun emplacements and a host of sea-borne craft as you bomb, blast and battle your way into arcade history.



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ARKANOÏD REVENGE OF DOH. Eons have passed...yet despite apparent annihilation in the original ARKANOID game, Dimension-controlling force "DOH" has come back to life, and occupying the huge space-craft ZARG, has entered our Universe. ARKANOID type space-fighter WOTEC runs through long forgotten computer data until it finds the answer to his threat. "VAUS 2" is launched and speeds towards the threatening alien presence, before it can extract its revenge. "The Revenge of Doh"



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BUBBLE BOBBLE TAITO'S NO. 1 ARCADE HIT IS HERE! Meet Bub and Bob, two of the busiest beasts you ever saw, as they battle their way across 100 levels of controlled chaos in search of their girlfriends (ohhh). Jump around picking up goodies and secret weapons as you seek to outsmart your enemies. But... beware...hang around too long and you'll face Baron von Blubba, from whom there's no escape!

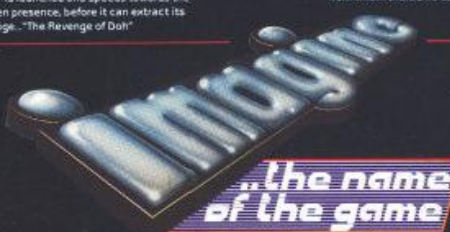


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LEGEND OF KAGE Legend has it that long ago in Japan the beautiful Princess Kiri was kidnapped by the evil Dragon King, and Kage, a young ninja who was working with her in the forest at the time, was given the formidable task of rescuing her. You must help Kage in his quest through the forest to the Dragon King's palace, gain entrance, find Kiri and take her to safety, while avoiding the Dragon King's ninja guards.



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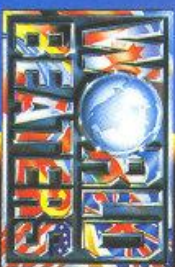
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