## ISSUE 22•JULY 1989•E1.50

## ADVANCED COMPUTER EMTERTAINUENT



Games Design Explained, Ace Visitors - a Life In The Week of Us, Puzzles, Compos, and Results.

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## PRINTING

Severn Valley Press, Caerphilly

Games hardware and software designers from Britain, the USA and Japan and give their version of the future of computer entertainment.

## ROLES REJOICE .95

 Steve Cooke's RPG uide delves into Wizardry and Prophecy.

DESKTOP DISNEY
Pixel Professor Brian Larkman gets his hands on some state-of-the-art animation packages and shows how you can make your pictures really move it.


## GAMEPLAY

ARCADES
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We get down on some more hot and nasty coin-op gameplay with reviews of Fighting Fantasy and Hellfire.


## SCREEN TEST

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Stacks of summer releases, including Microstyle's hot bike sim RVF, Cinemaware's Lords of the Rising Sun, US Gold's Capcom licence Forgotten Worlds and a couple of corking PC Engine games

## TRICKS 'N' TACTICS

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Biggies this month include the second instalment in Mike Singleton's guide to 8 -bit War In Middle Earth, and for AD\&Ders the start of a two-part guide to Pool of Radiance - and our first tips for PC Engine games.

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Investigating Magnetic Scrolls' mail order Myth.


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## RVF

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Cast an eye over this month＇s masthead and you＇ll notice that ACE has changed hands．The magazine has been bought by EMAP， because they recognise ACE＇s position as the leading magazine in computer entertainment，bringing intelligent，lively，informative
－5：．And that＇s the way ACE is going to stay．We are committed to keeping it the leading magazine for anyone interested in what＇s new in computer－éntertainment hardware and software．ACE will continue to bring you state－of－the－art features on state－of－the－art technology wherever it applies to computer entertainment．And we＇re committed to doing whatever we need to get you the best－just

Cast another eye over the masthead and you might notice a couple of familiar names near the top；yes，folks，Pete Connor and Steve Cooke－launch editors of ACE back in August 1987 －are back at the helm，ensuring that ACE stays at the cutting edge of the market：And our committment to Advanced Computer Entertainment means that ACE will be bringing you some really special


## PDATE

Road racers on the PC－have they got it under the bonnet？Ciaran Brennan road tests The Duel，OutRun and Lombard RAC Rally，and comes to some encouraging con－ clusions．

## REGULARS

## NEWS

Microprose gobble up Telecom－ soft，Acorn produce a cheap （well，almost）Archimedes，Ami－ gas emulate the Macintosh（per－ haps），Accolade start up in the UK．．．and ACE goes on the road to Oxford and then to Denmark， where we take the lid off the international software piracy racket．


## LETTERS

In which we air your controversial（or should it be outra－ geous？）views．

## MUSIC

Jon Bates speaks of voicing software and compares two very different and very popular synth modules．

## SUBSCRIPTIONS

Go on－treat yourself to a year＇s worth of ACE－you know it makes sense

## IN THE PINK

Nigel from Rigel，the screwy scribe N＇Gar Thrombobo， some really odd ACE Odd Facts，competition results，the Crossword，the Puzzle，a Week in The Life of ACE（and what a week！］，your small ads，readers＇helpline and finally， in the end，ultimately and so on，you arrive at the The Blit－ ter End，where we round off this month＇s transmission with some not－so－serious stuff－including some stunning shots of those darling Domarks trying，not very successfully，to water ski．（Phew！now wasn＇t that a long sentence，Marcel！）

## 

He's big. He's back. He's James Bond 007..... and now in a thrilling adaptation from the new movie Licence to Kill, you can take his place.

Licence to Kill is a multi-level, multi-role game - you take the controls of helicopters, boats and tankers, perform some death-defying parachute stunts and take to the seas for a spot of barefoot watersking. Asteady aim and steady fire is neededshoot from the hip and take out the 'baddies'.
It's action packed and closely follows the latest adventures of the world's best kept Secret Agent in the brand new and most exciting movie of them all.
James Bond in Licence to Kill..... appearing shortly on a small screen near you.


## ALBERT R. BROCCOLI Presents TIMOTHY DALION as IAN PLEMING'S JAMES BOND OORE



Coming soon on the Atari ST, Amiga, IBM PC, Commodore 64, Amstrad and Spectrum

United Artists

## ts . . This time he wants revenge.



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THUNDERBIRDS - THE COMPUTER GAME - You have joined the world famous International Rescue. In four, 'race against time' graphic adventures, you must prove your abilities to Mr. Jeff Tracey.
These include MINE MENACE, SUB CRASH, The BANK JOB and a final climatic meeting with your arch-enemy 'THE HOOD' in ATOMIC TERROR.
Can you solve the puzzles in time? Can you help BRAINS, PARKER, LADY PENELOPE and all the International Rescue team in four dangerous missions? The World is waiting for International Rescue, $5 \ldots 4 \ldots 3 \ldots 2 \ldots 1 \ldots$ THUNDERBIRDS are GO!

Microprose's plans for the Birds... Acorn's new Archie...pricey power. The real F15 flight sim...

# IMMORTAL PROSE? 

Microprose's purchase of Telecomsoft, as revealed in a last minute report in last month's issue, has now made them one of the largest UK-based software companies.

The immediate effects of this will be the release of vast amounts of software onto the market that was previously held up by Telecomsoft while the sale was being negotiated. Tittes coming onto the market in the next couple of weeks include Weird Dreams, Rick Dangerous, C64 Star Trek, and Carrier Command for Spectrum owners.

The long term effects, however, are less certain. The three labels - Rainbird, Firebird, and Silverbird - are each highly individual. How will Microprose handle them, and what sort of products will they be bringing out?

Stuart Bell, Microprose MD, is 'totally confident' that Firebird and Rainbird will continue to release 'top-quality' games. 'We're delight-
ed to have the oportunity to give these labels our support and to give the games greater coverage. Our instructions from the States are not to release ANY product until we're absolutely certain that it will maintain our reputation for quality software.'

When it comes to the budget range Silverbird, however, Stuart isn't quite so forthcoming. 'This is something of a problem for us,' he admits, 'Microprose are used to selling games in the top end of the market, costing over $£ 20$. It's a big jump from there down to the $£ 1.99$ category. It's early days at the moment and we're still not sure what we're going to do.' Rumour has it that Silverbird may well be sold onto another company.

Rumour also has it that Microprose paid only $£ 400,000$ for the entire Telecomsoft empire. If this is correct tt would seem to be remarkably cheap. ACE has in the past investigated the economics of Tele-

## SCROLLED OFF...

The new lineup of product from Rainbird, including Spectrum updates of Carrier Command and other long-awaited titles, is everything one could have expected...except for Magnetic Scrolls.

According to MS' Anita Sinclair, Scrolls' contract with BT was not 'assignable': that is, in the event of BT being sold, the rights to distribute Scrolls product was not to be sold with it. Will Microprose be able to get their hands on the Magnetic Scrolls games?
'Microprose are a very competent organisation,' says Anita, 'and l've got the greatest respect for Stuart. We are ready to discuss the situation at any time.' Stuart Bell, for his part, believes that the Scrolls' games are 'quality adventures that we'd be proud to sell.' Despite this glowing evidence of mutual admiration, nothing seems to be done - and Magnetic Scrolls are known to have been canvassing software houses around the country in a bid to secure a new publisher.

Meanwhile, Anita Sinclair is not a happy woman. 'For the last four months,' she claims, 'we've been in complete turmoil and have suffered serious losses as a result. Our products were not properly distributed during this time and Fish in particular was very badly affected. As far as we're concerned, the whole story is one of complete mismanagement by Telecomsoft. We never knew what was going on and we were never consulted.'


ST Starglider - just one of the titles bought by Microprose when it snapped up Telecomsoft.
comsoft and rumours that the operation was running at a heavy loss were firmly denied by Telecomsoft Paula Byrne. The circumstances of the Telecomsoft sale could well suggest that the company was indeed losing substantial amounts of money. 'I'm contractually bound,' said Stuart Bell, 'not to discuss the historical performance of the company.' Paula Byrne was not available to comment.

## LOOKING AHEAD

Meanwhile, ST owners can heave a sigh of relief: many American companies give less support to the ST format than they do the Amiga because the ST has not yet taken off in the US - and many believe that it never will. Microprose, however, are adamant that they will be giving both ST and Amiga owners in the UK complete, and equal, support.

Techno-freaks will also be glad to know that the 'birds are in the hands of a company committed to new technology. Microprose are investing heavily in coin-op hardware under the direction of ex-Atari founder Gene Lipkin and are also, according to Stuart Bell, 'maintaining a close watch over the $C D$ scene.

The Microprose coin-op system is due for launch in July. Will we see the first ever Rainbird coin-op game in 1989?

## GAMES MAD

Stuart Bell, the man who's at the head of Microprose UK and now of the Bird labels has at least one thing is his favour: Unusually for a company director he's mad about playing games.
'Ive got an ST, an AMiga, a 286 PC compatible, a C64, and a Spectrum,' boasted Stuart, '... and an Atari 400 for playing olden goldies.'

One reason Stuart was pleased to get his hands on Telecomsoft was that it meant he got a free copy of Weird Dreams. 'I put in fourteen hours on it over the weekend,' he enthused. Obviously a case of a man who liked the game so much he bought the company.


Stuart Bell

# ARCHIE GOES TO WAR... <br> <br> .against the Amiga and ST as Acorn announce <br> <br> .against the Amiga and ST as Acorn announce 'cheaper' model. 

 'cheaper' model.}

Acorn have at long last announced a lower cost Archimedes - but it's still going to cost you $£ 649.00$, and that's without the monitor. The A3000 actually bears the BBC name on the box, but to all intents and purposes it's a cut-down Archimedes and is fully compatible with software for the Archimedes 300 and 400 - and
that means it will run Zarch, 3D Pool and any other Archie program you can remember. Emulators are expected to be available soon to allow the machine to run BBC and MS-DOS packages.

The A3000 is being aimed at the education market and at what Acorn's Michael Page describes as the 'serious home user'. Page

## CHEAP ARCHIE, CHEAPER MAC?

When is an Apple not an Apple? When it's an Amiga fitted out with A-Max, a Macintosh emulator from US-based software publisher Readysoft, the team behind Dragon's Lair.

By utilising a set of Apple ROMs (either 64K for a standard Mac or 128 K for a Mac Plus) in conjunction with a cartridge and software package, Readysoft claim that A-Max will run 'many' Mac software packages at 'full Mac speed'.

If it lives up to its manufacturer's claims, A-Max would allow Amiga users access to a range of powerful software products, including some stunning Mac RPG's (see Quarterstaff review on page 96).

The package costs $£ 134.95$ - about $£ 2000$ cheaper than a lowend Mac. Not surprisingly, Apple have put the affair '...in the hands of our lawyers.

A3000 - THE SPEC

responded to questions on the machine's price by describing it as "better than a Macintosh; it's very affordable for the facilities.'

Acorn are unlikely to make much of a dent in the Amiga/ST market at the price tag they have chosen. Rather, as Michael Page says, they hope to 'create a new market, to encourage those who may not have thought about buying a computer before.' He expects to do this by emphasising the machine's 'flexibility', with its built-in sound facilities and powerful graphics.

## SHOULD YOU MESS WITH ARCHIE?

There's no doubt that the A3000 (and other Archimedes machines) specifications far outstrip anything available on other home micros: it's faster, has superb graphics, built-in stereo sound, and offers MS-DOS emulation (with a $£ 99.00$ software package).

So if it's sexier than an ST or an Amiga, should you break the piggy bank and rush down to your local Acorn dealer? Well, hang on just a minute. The basic A3000 costs $£ 746.35$ by the time you've paid VAT, and on top of that you've got to get a decent monitor (what's the point of 4096 colours if you can't see them?), which could set you back another few hundred quid. so we're talking an total price of getting on for $£ 1000.00$, which ain't chickenfeed.

Then there's software although there are, according to Acorn, approaching 1000 software packages available for the Archimedes range, not many of these fall in the area of entertainment. Not too many problems if you want to do graphics or music or simply word processing, but if you want a good, wide choice of games there just isn't a lot around. This situation may change - if the A3000 takes off. But given the market Acorn are aiming at education and the 'serious home user' - it seems unlikely that the A3000 will ever have the range of entertainment titles of, say, the ST or the Amiga.

## ST SHOW EXTRAS

This month's Atari Computer Show - opening at London's Alexandra Palace on June 23rd - has special events to cater for both the dedicated tecchie and the hardened games player.

On the tecchy side there'll be seminars on making music with the ST, a DTP workshop and a programmers' workshop. For the games players there's the Games Arcade, which will be the venue for a Game-A-Thon in which school teams will compete against one another for a prize to be donated to charity.

## NEW GEOS

A new version of the Commodore 64/128 disk operating system GEOS is now available in the UK from Microdealer International.

GEOS (Graphics Environment Operating System) offers 64 and 128 users the benefits of WIMPs environments, including pull-down menus and pop-up desk accessories.

GEOS is endorsed by Commodore as the official disk operating system for 64 and 128 machines. Bundled with the operating system software are two utilities, geoPaint and geoWrite.

## LOAD-IT?

Frustration over faulty tape loading has been the bane of many a C64 owner's life. The LoadHt data recorder aims to ease C64 stress by offering an eay-to-use recorder with singnal strength indicator and adjustable head alignment.

We haven't tested one yet, so we can't tell you if it really is just what the doctor orders. But it's not a cheap prescription - the Load-t' will cost you £39.99. Maybe you should give up tape loading altogether - the UK market is still suffering from its over-dependence on tape software.


The Load-It! data recorder: could it cure C64 headaches?

## DI'S SECRET WEAPON


#### Abstract

In the first instalment of a new regular column featuring hot topics and personalities, ACE turns the spotlight this month on Dave Marshall - the man who designed Digital Integration's 952 -rated F16 Combat Pilot...


Hmmm.looking at Konix's plans for a home hydraulic unit and Microprose's plans for dedicated flight sim consoles, here at ACE we're wondering just how long it will before you can actually draw back the cockpit cover in your own living room.

The F16C Fighting Falcon is very much the flavour of the month these days as far as flight simulations go. . As the aircraft is an American design, it's not really surprising that most of these simulations were originated by American programmers... except, that is, for our very own Digital Integration's F16 Combat Pilot. With the Amiga version due out in the latter half of June, we went to Camberley to find out how DI pulled it off...

What emerged there was that DI have a secret weapon of their own - none other than programmer/game designer Dave Marshall. Dave's importance stems not only from his work on games, but also from his work on the real F16 on-board software systems.

In modern fighters, these onboard systems are awesomely complex. By means of sophisticated software a pilot is able to select instantly any weapon, radar system, or other in-flight operation. Until recently, however, these systems suffered from the same problems as home computer software - massive incompatibilities of design and implementation. Around ten years ago, the American Department of Defence felt, just like the Japanese did before MSX came out, that it was unnecessarily complicated to have so many different operating systems so they developed a concept that came to be known as 1750 . This standard was just a wee bit more successful than MSX, and it is now implemented on many NATO aircraft, including the F16.

The British Ministry of Defence nominated D's Dave Marshall as their chief representative within the 1750 working group. With a degree from Bath University in control systems engineering, he worked at RAE Bedford for three years designing flight simulators - a natural outlet for someone who started flying at the tender age of 13 and went solo on his 16 th birthday.
'Of course, in those days,' says Dave, 'computers were a lot more primitive than they are now. So the flight simulators we used were essentially electro-mechanical, typically consisting of a cockpit mounted on hydraulic jacks in a dome with a TV in front. The TV was linked to a computer-con-

trolled camera by closed circuits and this was positioned over a huge man-made model of a flying area. As the pilot flew his aircraft, the camera moved over the terrain. We achieved a lot using this system, simulating many different types of aircraft, even imaginary ones.'

When home computers started to emerge, I was intrigued by the idea of how much of the simulation we could capture on a computer. I wrote a program on the ZX81 which really just consisted of numbers, there were no graphics at all. But amazingly after we had tweaked the program a bit, we found it had a potential market - and that was how DI was born.'
'Of course the program looked a lot better on the Spectrum and even today Fighter Pilot is our most successful title ever. Actually, we were amazed at how much could be achieved - the Z80 is very good with vector graphics and the view a game player could get looking on his TV gave a good idea as to what our pilots saw back in my days at Bedford; the main difference being the actual cockpit - and we still haven't come close to capturing that yet!'


LOGO A-GO-GO!


GO! may be a gonner but US Gold are - in their own words 'never a company to stand still'. The software giants have gone and created 'new dynamic corporate fogos' for both US gotd and Capcom which, they hope, will 'introduce a new image designed to further establish the brand through the 1990s.'

This month we receive our first ever letter from the Supreme Being (does He really live in Redcar?) and hear how you can earn five million smackers for the price of a stamp. Honest. Even letters from minor Gods are appreciated, so get writing (or dictate to an Angel) and send your missives to ACE LETTERS, 34 FARRINGDON LANE, LONDON, ECIR $3 A U$. And remember - even the Gods have the chance of winning a £25 prize..

## HIGH TREASON

I have recently moved into the world of communications and find there is a big argument going on about HACKING.

When the case about the RUSSIANS paying some teenagers thousands of pounds to hack into the NASA computer hit the headlines people seemed to be shocked. I even heard people saying that the teenagers should have been sent to prison for life as though it was murder. I get the feeling that a lot of people think that only the RUSSIANS attempt to get information by illegal forms and that they think that good old BRITAIN and AMERICA are so sweet and innocent. When in fact they are doing exactly the same thing. As they will always do because any information held on computer can never be safe because passwords can always
be found out. The chances are, even the AMERICANS are hacking into our computers and vice versa because even though we seem to be best of pals we have always got some secrets that will never be made known.

If it had been the AMERICANS doing the hacking to the RUSSIANS do you think there would have been as much fuss? Of course not. In fact everybody would have clapped their hands and said it was a pity they were caught.

My conclusion is that hacking will always carry on from the 14 year old kid who tries to hack into the odd bank to the professionals who hack into the supercomputers. As I said before, passwords can alwavs be found out. The only way to keep any private information safe is to store it in the brain.

## J. Thornton, Blackpool

If your brain's anything like the ones around here, it's about the last place you should keep important information. Brain security aside, you seem to be just a little naive about what goes on in the world of politics and espionage. And remember - if you go about passing sensitive information to foreign powers (any foreign power) it's treason. And that could get you banged up for 40 years.

## OVER THE TOP AGAIN

Daniel Hollings' letter in your last issue (saying that the Speccy was better than the Archimedes) was either a bad joke or the work of a lunatic. How could anyone in their right mind claim that the Speccy,

## EASY MONEY?

After personal experience I feel that I should let other readers know what they are letting themselves into by advertising in your classified advertisement section.

Recently, I advertised in your magazine and only received genuine replies - until now. An air mail envelope came through my letterbox, and when I opened it I found that it was from an Arthur G. Mercieca in Malta offering me the 'opportunity to become rich' through an easy-to-play game.

In this game you are sent a list with six names on it. When you get this list, you send $£ 5.00$ to the person at the top of the list, then cross his name out. You then add your own name and address to the bottom of the list and send out copies of the letter and the list to 10 people, who will, hopefully, repeat this process. Theoretically, by the time your name is at the top of the list, and providing that everyone sends you the money, you should be $£ 5,000,000$ richer. Sounds wonderful?

I would recommend that under no circumstances should anyone send money to a stranger because of a letter like this. Life is not simple enough to become a millionaire by handing out ten pieces of paper and paying a fiver.

As a conclusion to this letter I would like to advise your readers - most of whom, like myself, will be teenagers - to put their money in a bank, and not make other people rich.

I enclose the letter and the list with the knowledge that they won't be getting any money off me.

## Grant Robson <br> Bridge of Weir

Many thanks for bringing this chain letter to the attention of other readers. You've done the right thing by resisting what at first glance seems to be a very tempting offer: as you point out, a $£ 5,000,000$ return for a $£ 5.00$ investment looks like pretty good going. Of course, some people do do quite well out of such schemes - usually those who get in right at the beginning, since the longer the chain gets, the more likely it is to break down.

Any other readers who receive chain letters offering them instant riches should treat them with great scepticism. And anyone who, like Mr. Mercieca of Malta, wants to start circulating a letter - just leave ACE readers alone, will you?
with its pathetic tinny sound and puny graphics could be a match for the mighty Archie? I've owned an Archimedes for six months now and I think it's the best machine around - and that includes the Amiga and the ST.

OK, so it's a bit more expensive, but just look what you're getting - amazing colours, stunning animation, brilliant sound, and some great software. And if Daniel Hollings can't understand it he should stick to the dead flesh of his rubber speccy keys.

## Jo Smith, <br> Oswestry

In reply to Daniel Hollings' biased view of his Spectrum...I could start digging into his Spectrum but there is no point in more insult to this already dying machine. The Archimedes specifications are above that on the Amiga, basically meaning that there is no comparison between $16 / 32$ bit games and the ageing 8 bit, unless you like the beeps, mono, slow and unplayable games (sorry I had to insult the Speccy sometime!)

Games quality can't go on if we still have to cater for the stubborn 8 bitters who want a version for their machines (notice they already get cut down versions of 16 bits) I myself don't code any more for the 8 bits, as the 16 bits are selling well enough to work specifically for them. OK, the Archimedes hasn't got a big enough software market for us coders to start coding for, but when/if it ever opens up I will make use of the best hardware available for games!

## Daniel Clapson, Shaftesbury

Some tough talking, but perhaps it's merited - Daniel Hollings was just a little on the abusive side. However, let's not dismiss the Speccy's noble contribution to the creation of the computer games market: there probably
wouldn't be an Archimedes today if it hadn't been for Sir Clive's litthe rubberkeyed baby. And it's all very well for Daniel Clapson to say he'll start writing for the Archimedes when people start buying it - but what about the people who won't buy it until coders start writing for it? It could be a seriously ongoing chicken and egg situation.

## PERSON TO PERSON

Scott Ramsay is barking up the wrong tree in his letter about mul-tiple-player games in the June issue. As a gamelayer of many years standing (ZX81, Speccy, ST, Amiga) I feel that computer gaming is mainly a solitary pursuit.

I play a lot of RPGs and adventures and l've tried multiuser games such as MUD. They're boring in comparison to the challenge and excitement offered to the lone player.

Games players like me get their interactivity from the pages of magazines like ACE; it's there that we find out where we went wrong and can swap tips and opinions with other enthusiasts. I don't want to play against other people - I want to have the challenge all for myself; just me against the computer and the programmer.

## James Tracy <br> London

Thanks to Mr. Ramsay for stumbling on an interesting minefield of discussion. I own an Atari ST and formerly owned a C64, which could also be used for dual player control. I only ever had one program that did this on Commodore and that was Twin Tornado, an excellent piece of 8 bit simulation programming. Unfortunately, this does not appear to be available any more. However, the ST has more multi-player games than ever now and more planned for the near future, no doubt.

What people really want is a cheap way of talking to anyone with a computer. I know that if you use a modem or a phone line
there are many things that can happen or go wrong which makes you have to start all over again. Before you know where you are you have a bill for $£ 100$ or so because you have accumulated several hours of user time on the phone (unless someone phones you of course). If you're a loadsamoney type you could invest in a pocket radio system. Unfortunately, you have to do a Radio Amateur exam to get a transmitting licence. And then you need to get planning permission to erect large aerials in the back garden. Then there's the radio equipment itself - a shack full of the stuff could set you back a few thousand. I have had the thought using $C B$ radio to send data, which is practically free communication after the initial cost of the rig. Unfortunately there are are still problems of interference and people cutting in or blotting out your transmission.

A better solution would be CB system for computer users with a relatively interference-free band allocation would be a better solution. Perhaps we could all moan at Telecom to get then to create a cheaper network. They do make loadsa millions of quid profit a year - so let's have some of it back.

## S.P. Law <br> Warwick

The lone games player has certain satisfactions but I can't believe as an RPG player that you wouldn't find it every bit as satisfying, if not more so, to compete against*another human.
$C B$ ? I thought $C B$ had snuffed it years ago. I must say your suggestions sound pretty impracticable to me. What wouild be the effect on the country's motorways if all those Yorkiechomping truckers were playing Falcon as they speeded down the fast lane?

LEGAL, DECENT HONEST?
As software retailers we should like to express our concern that certain software houses seem to
be prepared to publish sub-standard games to an unsuspecting public. At Christmas 1987 we saw US Gold push out Out Run very hard. It only then appeared a short while before Christmas when it was too late for most magazines to review it. Whether this was planned or coincidental. We shall never know. The result however was a hugely disappointing game.

We have recently taken into stock the Amiga version of After Burner from Activision. For anybody to charge $£ 25$ for this dismal usage of the Amiga's capabilities is, in our view, outrageous.

The point we are trying to make is that it is not the software house that the customer remembers letting him down, but the retailer - i.e. us.

It surely must be time for the advertising authorities to look into the claims made by the games publishers, as in many cases they prove to be very misleading.

## Stewart Farmer <br> SFA Computers,

 RenfrewshireTricky topic for the Ad standards people: how would you decide on the truthfulness of a claim such as 'This is the toughest and most realistic Morris Minor simulation you've ever seen" if there are 30 such games in existence? Extravagant claims are made for the excitement, fear, pleasure etc. you might get from books or films and, as far as we know, no publisher or film maker has ever got into.trouble for misrepresentation. The best that can be done is for consumers to excercise their judgement when buying games by reading reviews first and if they can't find a review they should try before they buy.

## SUPREME BEING

I am writing in protest at the revolting blasphemic 'game' that has recently cursed computer shops and magazine reviews.

Unashamedly provocational, it is the most blatantly 'religionist'
piece of software propaganda yet to have disgraced the industry.

The program in question (which I dare not name for fear of being struck down by a bolt from the heavens) positively encourages the innocent youths who play this game to go around summoning earthquakes, volcanoes, floods and armageddon against defenceless, peace-loving people.

I have set up an action group called P.O.P.U.L.O.U.S. (Protection Of People Unhappy with Lamentably Obnoxious Unholy Software) and I would be immensely grateful if you could forward any spare copies of this dire monstrosity for our ritual burning ceremony.

## David Greer

(Supreme leader and allknowing deity of P.O.P.U.L.O.U.S.)

Redcar, Cleveland
All-knowing deities come in many shapes and sizes but this is the first time l've heard of one living in Redcar, Cleveland. How does it compare to Olympus? Or even Heaven? Please let us know more...As far as the aims of your society are concerned, I really don't think you'll have much success, all-knowing or not. Populous - there, we've named it - is just too good and too popular to succumb.

## WILLING

Reading through the March edition of ACE Letters I was outraged at the pitiful amount of money being awarded and I cannot see how the editor has slept since. To rememdy this terrible situation and sleepless nights, I feel it is my duty as a regular ACE reader to let you know that I am willing to receive $£ 25$ worth of software.

## Stephen Cook <br> Gloucestershire

I trust this isn't a serious attempt to take advantage of our goodwill.


cambridge is well known for its computer connections but its great university rival, Oxford, has never quite managed to equal that success.. until now. Oxford Digital Enterprises have already written successful games like Trivial Pursuit - now they are about to launch a new label, Empire, with an original and unlicensed game on the ST and Amiga: Sleeping Gods Lie.

It's a total departure from their previous games, combining role-playing and adventuring with arcade elements. It mixes Freescape-style landscapes with bitmapped graphics to create a 3D world even more realistic and interactive than Driller or Mercenary. All the characters are animated, over five megabytes of bitmapped graphics being used in all. Their claim is that it "inaugurates a new generation of realtime fantasy"

The code for the game, devel oped by Steve Green, places the animated characters in a 3D environment, chooses which angle to display, and 'dynamically squashes the bit-mapped image to the correct size'. ODE claim that this technique 'creates a believable 3D world which, for the first time, displays realistic animated characters in real time.'

To get the character sprite designs exactly right, they ended up by putting a small animated model on a turntable and viewing

## ODF ON THE ROAD <br> Oxford Digital Enterprises, programmers of Trivial Pursuit and The Hunt for Red October, are about to build a whole new solid-3D Empire...

it from eight different angles through a video camera.

SGL takes place in eight kingdoms full of characters to fight, talk to and befriend. To save the world of Tessera, its one remaining god has to be woken to deliver the land from the evil Archmage. So it's going to be a long trip through all eight kingdoms.

The almost-complete version of SGL on show had plenty of action and adventure and there is already talk of an SGL 2, particularly if the first one does well. The programming techniques will certainly be used again, probably first in the game-of-the-book Team Yankee by Harold Coyle. ODE have already successfully converted a novel by Tom Clancy, The Hunt for Red October, so tackling a second comes naturally. Team Yankee is concerned mostly with tank warfare; which ODE think is an "ideal starting point for a game design".

They are aiming for a combination of strategy and tank simula-


The lads at ODE (left to right): Luzita Ball, graphics; John Wood, LSGL game design; Steve Green, programmer - he was asleep at the time, so something else stood in for him;.Kevin Ayre; David Pringte; Richard Yapp; and Richard Horrocks (LSCL Amiga version programmer).
tion, using much of the technical detail and battle planning from the novel. The prospect of bit-mapped animated tanks battling on a 3D landscape is exciting, but some tions.
way off. This one will be available on the 8 -bit machines as well as 16 -bit.

Before that will be the appearance of two other games, Time and Persplex. Time is an animated adventure, on the 16 -bit machines, in which a nifty charac-ter-generator allows over 200 animated characters to interact. It looks like offering the same sort of graphic detail and presentation as The Kristal but using icon control and many more characters and locations. It's still in mid-development but the signs are good for a very involving and challenging game.

Persplex is being developed on the 8 -bit machines and can only be described as a 3D derivative of Tetris. Not that the comparison can do it anything but good. It's much more complicated than its 2D predecessor because spinning three-dimensional shapes around and fitting them into a grid requires much more thought. Both the Spectrum and Amstrad versions were progressing well, but there is no release date as yet.

Later on in the year we will be treated to Paul Gascoigne's Soccer Simulation on all formats: presumably a mixture of scoring goals for England and stuffing Mars bars in your face.

CLAIMS TO FAME
ODE's first ever game was the adventure Macbeth published by Creative Sparks. Since then they have tackled a wide range of game styles for various software houses. There was RMS Titanic and Sailing for Activision, Trivial Pursuit, TP: A New Beginning and Blockbusters for Domark, Yes Prime Minister for Mosaic, The Hunt for Red October for Grand Slam and Better Dead than Alien for Entertainment International. EI are handling the Empire label which will initially be solely ODE games.

Let Sleeping Gods Lie has been under development for over 15 months. Steve Green devised new routines for the rapid display and animation of bit-mapped images viewed from eight direc-


Their other claim to fame is getting the White Elephant of All Time award in the Dec ' 88 issue

## ROLL UP CHAPS

In fact, roll up as many chaps as you like. ODE claim that their new techniques for animating characters are '...very exciting. From a library of about 100 K in size, we can create any number of new characters utilising only about 100 bytes of extra memory. These characters may be viewed. either in side-on animation with 32 frames, or highly detailed facial views with a wide range of animated expressions.' Stand by, Desmond Morris, the computer game Manwatching commission could be just round the corner.
of ACE. It was for the development work on Reach for the Moon intended to be published by Rainbird. ODE claim the award is rightfully theirs and that the nonappearing game certainly didn't cost six figures. How about five, then?

# $£ 5$ Off. Has our computer gone haywire? 



Between 5th June and 1st July you can save $£ 5$ on selected Amiga and Atari ST software titles at Boots.

Get down here quickly, before we fix the computer.

Available at larger stores, subject to stock availability.

## A better buy at




# HOTTER THAN THE SUN... 

...and cooler than ice-cream.
This month's up-and-coming titles are already fighting for space on next month's reviews pages. Here's your ringside seat...


Harrison Ford's digitised mug shot - does

he get a royalty for this, we wonder.
INDIANA JONES
AND THE
LAST
CRUSADE
U S Gold

Indiana Jones is about to leap back into action on the computer screen as US Gold launch their latest game based on the adventures of Hollywood's favourite hero. The game takes its name from the title of the film, in support of which two different games will be released - an arcade adventure from Lucasfilm in America and an action game that USG will develop themselves in the UK. Details are scant about both games but the Lucasfilm title is believed to feature much platform leaping, rope climbing and cracking of whips.

US Gold are not going to have all the Summer film tie-in action to themselves as Domark pitch in with the conversion of the latest Bond movie. The race is on to get the first film blockbuster on the streets. Both games will be covered in the next couple of issues of Screen Test.

## BLOODWYCH Mirrorsoft

Other hot titles in Mirrorsoft's Summer catalogue are a split screen, 3D roleplaying game called Bloodwych. The Maxwell software house has a lot to live up to - being the home of the award winning Dungeonmaster.


## P-47 Jaleco

The classic World War II scrolling shoot 'em up is finally here - though not from Firebird - for various home computer versions. The PC Engine just pips it at the post. It looks pretty special too - judging from these screen shots. You take to the skies in a fighter plane winging your way across Germany attempting to singlehandedly take out the combined air and ground forces of the Third Reich. Monster planes at the end of each level - and stacks of power ups - make this is a scrolling shoot 'em up of extraordinary smoothness and speed. The word from Firebird is not to expect the home computer versions of P47 until the Autumn. Aw - what a shame.


P47: bomb lobbing; below: level 2.


P47: (below) Computer versions will struggle to beat this PC Engine offering.



## XYBOTS Domark

Domark's latest Tengen licence introduces the appallingly named heroes Major Rock Hardy and Captain Ace Gunn.

This split screen two player blast 'em up challenges you to penetrate a vast underground complex and destroy the Master Xybot.

Although Xybots can be played as a solo game it really comes into its own as a two player challenge - each player taking a separate section of the maze, picking up keys, energy pods, super weapons
 and coins as you go.

The cash is used at the end of a level to purchase extra fire power for your Zapper. Full reviews next issue.

## MARS COPS Arcana

It's the year 2029 and there is trouble on the Earth colony of Mars. Apart from the general lawlessness of the mining colony there is an increasing number of UFO' sightings. These UFO's take to firing asteroids at planet Earth - which is where the Mars Cops. alias Charley Matthews and Monique Isobel come into it. In a series of missions it is your aim to land on Mars and defeat the UFOs.

The split screen presentation of Mars Cops looks like a cross between between the old coin-op classic Asteroids and Starglider. Arcana are keener on the Starglider analogy than the Asteroids one, stressing that the game has a lot more to it than just deep space pyrotechnics. 'All of the controls that flank the central window work and serve a purpose in the game', Arcana assure us. ST and Amiga versions will be launched in June. The Bristol-based software house have not yet decided whether or not there will be 8 -bit versions of the game.


we're sitting in a dark and dingy basement, dominated by an advanced stereo, a big color TV, a couple of videos and - most important - an Amiga 500. Floppy disks and ashtrays litter every available surface apart from the chair, currently occupied by a 17 year old Danish programmer.
'As soon as l've cracked a

## 'It's the job of the 'spreader' to make sure that we send the disks to the right people.

game,' he explains, 'I call the 'spreader'. His job in the group is to keep track of all rumours concerning new software - whether it's been cracked and, if so, who by. He also keeps in contact with other hacking groups because there's always someone you owe a favour to or want to develop good relationships with.
'For example, if we hear that a certain group has been cracking a lot of games before everyone else, we will want to get in their good books by sending them early versions of software that we have managed to break into. By doing this we ensure that they will put us high on their distribution lists. It's the job of the 'spreader to make sure that we send the disks to the right people. He has a huge list of people we should send disks to...

And what about the police? We understand they've been taking an interest in your activities...?

Yes, but the laws in Denmark against software piracy are very weak - certainly not enough to stop people doing this sort of thing. I've heard that later this year we should get some new

# DENMARK <br> DENWAFK 

ACE recently spent a sunny day in a darkened basement in Denmark. We were there to meet a young programmer who claimed intimate knowledge of the international software piracy scene. After some 'involvement' with the Danish police, our contact reckons that most hackers would rather be writing games than cracking them.
laws to prevent us copying and spreading the software, but let's wait and see...

Would you personally support that legislation?
'Now...yes. There was a time when I supported what I regarded as the individual right of the programmer in these cases, but in the last six months it has been clear that piracy has had a huge effect on software sales. I understand that some UK companies, for example, can sell only 100 or so units in this country, despite it being one of the most computer active (certainly in the Commodore market) in Europe. I'd prefer to be able to buy from a wider range of games than to be able to hack into just a few!'

In England we have a group called FAST - Federation against Software Theft - who have been very active against piracy and achieved considerable success. Do you have anything like that here?
'Yes - it's called SUS. They're trying very hard to bring cases against some of the smaller offenders but the cases they bring are often very weak. The hackers may respect them, but they carry


Our man in Denmark. He reckons that hackers would rather write games than crack them...

- and so far there hasn't been any big piracy case.

Could price reduction make a difference?
'Absolutely. The most common pirate in Denmark today is the person who will not pay between 400 and 700 kroner for a game...

700 kroner! That's about £60!
'Exactly, and most people can't afford it. We read about

## 'We read about these games in English magazines, but we will never be able to buy them!'

these games in English magazines, but we will never be able to buy them. If games came down to about 100 kroner most people would want to buy them...and get the manuals!'

What about concentrating on copy protection?
'It certainly helps to discourage people. The fact is, however, that it is only our attitudes that need changing and that is happening already. A couple of years ago everyone wanted to belong to the best 'crackergroup' - now the real glory goes to those who program the best demos. Many crackergroups would give anything to be taken on as game development teams instead.'

And they'd be able to put in some good copy protection!
'Perhaps. But the real impetus for copy protection has to come first from the industry itself.

There are plans in the UK to do that. lan Hetherington of Psyg. nosis believes that the future of copy protection is to code-stamp every disk, using new production methods...
'Sounds great. Meanwhile the best system we've come across are the ones that require you to enter stuff from the manual. The

Rainbird games are very difficult to crack.'

Would you help in designing such a system?
'Of course! But only if someone paid me!'

Many of the games we've seen advertised in the Danish papers are from games we havent' even seen in the UK yet. How does this happen?
'The large cracking groups in the US, and some of the ones in

## 'The fact that pirated copies get distributed so quickly isn't because hackers want to distribute the game - they want to advertise their skill.'

Europe, often get hold of pre-pro duction copies of software from 'moles' in the software companies themselves. This tends to be easi er in the States - the English companies are more careful..

Yes, but how do they distribute them so quickty?
'By modem. A good hacker can sometimes

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Amiga, Rocket Ranger, Summer OL, Virus, Katakis, Platoon,Major, M, Whirligig, Down at the Trolls, BoB Moran. Ring for nykL 18:00. $\mathrm{Kr}, 20,-1$ tht
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## break open a

game's protection and transmit the file via his spreader to his contacts in Europe, in a single day. You must remember that everyone wants to be seen to be the first to crack a game. The fact that pirated copies get distributed so quickly isn't so much because hackers want to distribute the game, they want to advertise their skill. Most of them insert their own names and cali signs into the program code, so that when a new game is pirated, everyone who runs the pirated version will immediately know who was responsible...
.And then they can be arrested.
'Not in this country they can't. At least...not yet.

# ARCADE ACE 

ANDY SMITH CHECKS OUT ALL LATEST ARCADE ACTION MACHINES



A first round monster: get too close to that tail and you'll feel the pinch.


Keep at it and you'll soon learn its weak points, which you can exploit.


Still on the first round: keep hitting the shield till it shatters and you'll find this nasty much easier to deal with.
(Right) Round Two: having bought a mace with your winnings from the first round, it'd be nice if that dragon would stop flapping its wings and let you get near enough to hit it!

## Data East



In the Hippodrome Arena an annual contest is held to find the maddest, baddest son-of-a-monster on this side of the Andromeda Galaxy. Guess what: you've been picked to represent us in the contest.

This side-viewed chop-em-up has you hacking and slaying through a maximum of nine rounds in three legs, collecting prize money along the way. Saving the money enables you to purchase better equipment at the end of the round such as a mace or halberd. However, a porkier weapon does have its drawbacks: a halberd has greater hitting power, but it's also shorter than a sword, so you have to get closer to the baddie in order to use it.

The various baddies get predictably tougher with progress through the rounds: for example, the first three nasties making up the first leg are all pretty simple and have only one main advantage - the Medusa-like creature has a sword and a
long tail with which to attack you - while the three in the next round have two main advantages - there is a dragon that breathes fire and can flap its wings, the resulting wind ensuring you don't get close enough to hit it, and a wizard with a magic shield who can call on acid rain and lighting to come from the heavens to give you a short, sharp shock.

As you might expect, the final three contestants have three advantages, but having got that far, you'll probably have earned enough money to purchase extra energy and better weapons.

Contests are decided in classic beat-em-up style, with an energy bar for each character at the top of the screen which diminishes every time that character takes a hit. The first to hit his opponent enough times to reduce the bar to zilch, wins. Simple stuff with few frills and little to keep you playing.


Round Two: that magician is just about to conjure up some acid rain, so make ready to dodge the energy-sapping droplets.


## EXTENDED PLAY

## CRACK DOWN - Sega 30p

It's a dirty job, but someone's got to do it. As Special Agent Ben or Andy you must infiltrate an enemy city and blow it to kingdom come. You wander round small areas of the city dropping timebombs on large, red 'X's that are painted on the floor. To make life tricky, the city is crawling with guards who invariably shoot first and ask questions later, but you're armed too... Great fun, and in two player mode even better.

## GOLDEN AXE - Sega 30p

Williams started the anti-drugs trend with Narc and now Sega are continuing it: part of the title screen is emblazoned with 'Winners don't use drugs.'

The game is a one or two player, horizontallyscrolling chopemrup with a fantasy theme. You can play one of three characters, including an axe-wielding dwarf, aiming to chop up nasty Orc-like critters that are kidnapping children and bashing up cripples. There are dragons to ride and magic to use, making this a great game that'll keep you playing.

## PREHISTORIC ISLE IN 1930 <br> - SNK 30p

SNK's latest is a horizontally-scrolling shootem-up that involves flying a biplane over a recently discovered island teeming with prehistoric creatures. Extra weapons include a rotating drone that shoots directly down to take out pedestrian beasties. The graphics are great as you fly in front of and behind trees, giving a good 3D impression, and the end of level dinosaurs are tough. Another winner from SNK.

## BATTLE RANGERS

Data East 30p
Followimg firmly in the footsteps of Commando and the Ikari trilogy, this simultaneous two player beatand shootem-up boasts a terrific example of Japlish: it appears you're out to help the 'top urgent crisis of our nation' so you better start shooting and kicking those enemy guards! OK, but has little new to offer.

## BAY ROUTE - Sega/Sunsoft 30p

A horizontally-scrolling simultaneous two player shootem up in the Rolling Thunder mould. Platform elements creep in as you troll about shooting baddies, collecting extra weapons, and avoiding parts of the scenery that try to do you in. Good, but..

## SNIPPETS...

SNK jump on the machinegun bandwagon with a simultaneous two player machine called Mechanized Attack. Good for gratuitous violence and the feel of a machine gun in your hands. At the time of going to press we couldn't find the name of a coin-op that's much in the Renegade, Vigilante and Double Dragon mould but has some rather odd baddies: beside punks with Mohican hairstyles and bullwhip-wielding women in black basques, there are chaps who come after you with menacing pelvic thrusts! Your energy takes a dive as they ...erm... well, you'll recognise it.

## BONDEAL CHART

The Bondeal Chart is supplied by Bondeal Limited Hong Kong and is based on games operated in Flashback, the world's largest video-only arcade. The chart is reprinted here with kind permission from Coin Slot International.

## TOP TEN VIDEOS •

Tetris Atari, Bowling Capcom, Ikari III SNK, Cabal TAD, Turf Tough Sega,
Buccaneers Duitronic SA, Fighting Fantasy Data East, Ace Attacker Sega, Vindicators Atari, Romper Namco.
TOP FIVE DEDICATED GAMES Super Off Road Leland, Apache 3 Tatsumi, Champion Sprint Atari, Street Fighter Capcom, Final Lap Atari.


Well into a level, and equipped with plenty of firepower. At this stage, the aliens are still coming on from the front, so sticking to front-firing is the intelligent move.

## Toaplan/Taito



Single front-firing, single backwards-firing, double side-firing or quadruple diagonalfiring: these are the weapons options in Hellifire, Taito's and Toaplan's latest hori-zontally-scrolling shoot-em-up.

You fly a spaceship, viewed from the side, blasting through several stages of alien territory, downing flying aliens and destroying ground installations. Controls include two buttons: one is a fire button and the other's a fire direction selector. You start the game firing forwards, but soon alien ships arpear with gun emplacements on the front and back: taking the front ones out is no problem, but you simply can't hit the rear ones, so you have to

Those wall installations mean you're going to have to switch your firing direction to diagonals to get at them. The symbol in front is a speed-up; worth collecting.



The start of Level One: blast the front off the front of that alien ship and a power-up will be revealed.
hit the selector and switch to either side or backwards firing to get at them. Simple.

Why is it worth going to the trouble? Why not just let them sail past? Extra weapons, that's why. Some installations release symbols which, when collected, increase fire power, speed the ship up or give a points bonus. So it's well worth going for them, especially when the firepower's increased from simple single shots to powerful laser beams that can cut a swathe through the enemies.
Hellfire's a fun shoot-em-up. It's not going to set the arcade world alight, but the fire direction control is novel and it's certainly tough and addictive enough to keep you pouring the coins in for 'one more go'.


DI's F16 Combat Pillot knocked up a 952 rating in our May issue. It's burning the shelves at your local software shop right now, waiting for take-off on ST, C64, and PC formats. Thanks to DI, you could be taking off as well this month we've managed to fix up a last-minute compo to send a lucky ACE reader into space (well, into sub-sub-space) at the Biggin Hill airshow, as well as eyeballing the Red Arrows and 200 other aircraft that will be on parade at the event.

There's just one teensy problem here. The Biggin Hill airshow takes off in the middle of the month during which this issue of ACE goes on sale. We didn't want to pass up the opportunity, however, so we've arranged a special telephone hot-line for entrants. All you have to do is telephone the DI Competition Line on the date indicated in the panel below and follow the procedure described. The lucky winner will be sky-borne two days later.

If you're unlucky enough to miss the deadline and be unable to make your call, you can still try for one of 20 F16 Fighting Falcon colour books. These will be awarded to the senders of the first 20 postcards naming THREE previous Digital Integration titles. Just jot down your name and address together with the three titles, and pop it in the post to ACE DI COMPO, Priory Court, 30-32 Farringdon Lane, London, EC1R 3AU.

And if you miss out on all counts, don't forget you can still get hold of the game itself!

## WHAT YOU HAVE TO DO...

It couldn't be easier.

1. Use your mindboggling intuition, skill, and judgement to guess the exact number of bytes of data used by Digital Integration in their source file for F16 Combat Pilot.
2. WAIT until FRIDAY, 15TH MAY. The DI Compo Hotline will not be available before that date.
3. Telephone either 0273553307 or 0273675503 between the hours of 9.30 am and 5.55 pm ONLY. Those calling outside these times will not be eligible for entry.
4. When asked, give your answer only. You will be asked for your telephone number.
5. Stand by the phone at 6 pm that day. If your answer was the nearest to the correct number as supplied by Digital Integration, or, in the case of several correct answers being received, it is the first out of the hat, you will be notified by phone at 6 pm .
6. Keep Sunday 18 th June (two days later) free - just in case you're the lucky winner!


Those of you with your fin-
ger on the button can win a champagne flight for two at Biggin Hill...And for latecomers, we've got 20 F16 books to give away in our great Digital Integration competition.


Your head-up display in F16 Combat Pilot - just one of many excellent graphic
screens. screens.


Last month we reported on the vision of companies like Cinemaware and Electronic Arts who envisage teams of script writers, animators, and video experts all working under the direction of a 'producer' - as interactive entertainment takes on the scale and grandeur of movie making.

The systems that these interactive movies will run on are being kept strictly under wraps by the hardware manufacturers and chip designers. It is by no means clear what systems will be the standard for the nineties - but at least the battle lines are now clear. Video Disk Interactive, Compact Disk Interactive ( VDI and CDI ) and the CD Rom (already here now) are the likeliest contenders.

What VDI and CDI systems have in common is the potential to provide windows into which game designers can slot real filmed action - be it Star Wars, Disney, Neighbours or whatever else. This material can then be used interactively to provide entertainment - as well as training, education and business applications.

Meanwhile, Compact Disks are getting a
strong foothold in the games market in some areas outside Europe, and in Japan in particular. CD has now almost completely replaced vinyl and tape for music - and games fanatics in Japan can purchase the sound tracks from their favourite computer and coin -op games alongside the latest from Madonna and Def Leppard in their equivalent of the Virgin Megastore. And even if the Japanese don't bring the world its first genuine CDI game they are certainly streaking ahead in the CD sound and music accompaniment stakes.

Most machines can be linked to CD sound systems. Take the latest RPG mega game for the Sharp 68000 (see our MADE IN JAPAN box). Not only does Death Bringer have amazing whiz bang game play and graphics as you would expect from the Sharp 68000 but it also has a CD story and music score that can be used in conjunction with the game through an interface.

## UK NOT OK?

Activision's top man in development in the UK Charles Cecil - is not optimistic about the role
of Europe in these developments. 'Europe will lag behind,' he warns, 'Its incredible to think that the floppy disk has not even caught on properly in the UK yet, never mind CDI. People still prefer to buy their games on cassette'.

Cecil also expresses doubts about the when's, where's and how much of CDI. There is little doubt that some form of CDI as a storage and reproduction system for computer code will be with us in the next decade. The problem is that the processing power technology - the chips needed to handle the switching around of these vast amounts of data is not moving nearly as fast. The storage medium is one thing - the computing power required to organise and use it is another.

Part of the problem is that the processor industry itself is in something of a confilct over conventional and RISC technology. You can read Flare Technology's view of this in the Strength in Numbers box. Meanwhile, consider the hottest coin-op game of the moment to illustrate the point. Galaxy Force from Sega (to be released later this year by Activision on Speccy, C64,ST, Amiga, PC et al) uses the


Streetfighter on CD-ROM for the PC Engine. These graphics are hand-drawn future releases could use the vast capacity of CDs to offer fully digitised natural backgrounds.
multi-processor approach advocated by Flare (though the chips aren't RISC models). It features two 32 bit processors and a 16 bit processor handling its computer graphics. With this degree of muscle being thrown at a 'mere' coin-op, it's rather daunting to realise that CDI demands processing power several orders of magnitude in advance greater.

## GAME DESIGN

Clearly if we are going to have ten or a hundred times the storage capacity for code through hard disk or CD Rom then we are going to need a break-through in games design. Forget the technology for a second. Shoot 'em up, beat 'em up, arcade adventures and even hybrids like Defender of the Crown with its CD sound enhancement wouldn't do this hardware justice - computer game design needs to move forward too.

In this area everything is in the melting pot. For example, although the Japanese are definitely in a strong position to take a lead in CDI, that doesn't necessarily mean that Japan's software houses will also take a lead in CDI games. ${ }^{\prime}$ ICOM are developing CDI games in Chicago now as are Cinemaware and Electronic Arts in California,' says Akihiko Yabu.

It's perhaps disturbing that here in the UK and Europe companies are falling behind in game design while US companies move into the lead. One of the reasons for this is that there is already a strong tradition of entertainment design in America thanks to the the movie industry, and it's no coincidence that much of the computer entertainment design being done there is heavily influenced by the cinema. Why not here in the UK as well?

The first and foremost problem is one of cost. UK companies are used to paying advances of around £15-25000 for the production of a top rate game, with more in exceptional circumstances. Whatever the figure, however - and the figures vary enormously from one company to another - it has to pay not only for coding, but also for graphic design, which is becoming more and more important on 16 -bit machines.

This doesn't leave an awful lot for the games designer. What's more, most people still have very primitive ideas as to what constitutes a proper game 'design' - in the old days programmers did their own design, and most games featured simple storylines or scenarios with lots of action. Most games still do just that. The alternative, now being explored in the States, is very different.

Take scriptwriting, for example. Hollywood script-guru Bob McKee is on record as saying
that it takes a professional scriptwriter at least six months solid work simply to work out the plot for a standard featurelength movie...and that's before he's even started writing the dialogue.

Far from being simpler, the case with computer games is even more complex. A film starts at $A$ and moves through to $Z$, with the audience sitting submissively in their seats. In a computer game, the player interacts constantly with the game and the scenario needs to adjust accordingly.

With the advent of CDROM, this situation is going to get even more critical. Even with standard RAM-based games, there is a rapidly growing need to tackle the problem of games design, including the associated activities of picture research, source material gathering, and so on.

If computer games are to woo an audience
large enough to pay for the costs involved in their production using $C D$ technology, then they will have to invest more in design. To give you some idea of the costs involved, to plan a complete historical simulation to run on a 16 -bit machine and provide extended gameplay, you could be looking at up to four man years of work. At the moment the UK industry just isn't able to meet this sort of expense.

## THE FUTURE

By now you should have got the idea that the future of games using new technology - CD or otherwise - is far from being clear-cut. There's a real danger that, far from entering a golden age of advanced computer entertainment, we may be entering a period of conflict between different standards, viewpoints, and technologies. CD is certainly promising, but it could be a long time before we can all afford it - and

## MADE IN JAPAN

VDI and CDI, although preferred by the Americans, are by no means the only contenders for the Number One slot in future game technology - nor are the game developers of Silicon Valley the only players in the field - despite often coming across as self appointed spokesmen for the genre. ACE got onto it's Japanese correspondent for a rather different viewpoint on the next generation of gaming...

Akihiko Yabu is Editor of Japan's premiere computer games magazine. The fortnightly Login outsells ACE, C+VG, and The One put together. This doorstep-like publication is the bible of Japanese computer gaming - and CDI and CD ROM have been a fertile ground for the magazine in the last few issues.
'There are five games available for the PC Engine CD Rom and NEC have sold about ten thousand units,' reports Akihiko. 'I guess


CD-ROM works hand-in-glove with the PC Engine, but runour has it that the Nintendo 16 -bit console will not have you could call it a successful start but the games are not as interesting as we expected'. The PC Engine, it seems, may be a dream machine for most UK game players but it is not the stuff of which dreams are made in Japan.

Far sexier than the Engine is Fujitsu's FM Towns computer - which has a CD ROM built-in as standard. This amazing looking 32 bit computer has a powerful 80386 processor at its heart, producing 8 channel stereo sound and has a CAD-quality graphical capability, offering up an amazing one million possible colour combinations.

Sexier still - and the computer voted the Login readers' favourite - is the Sharp 68000. It's not quite in the home market at a whacking $£ 2,000$ but that doesn't stop Login's readers lusting after it-easy to see why when you consider its super-fast 20 meg 16 -bit processor and an even more powerful graphics capability than the FM Towns. There's a growing library of CD-backed software to go with it. Like the FM Towns and PC Engine the Sharp 68,000 has its own CD Rom device. Interestingly, Akihiko confirms that the much talked about 16 -bit Nintendo games machine will not have a CD Rom add-on.

The Fujitsu FM Towns machine: one million colours with 32 -bit muscle and 8-channel stereo sound.


# "THE FUTURE IS DIGITAL..." 

...says DMA Designs' David Jones, programmer of Psygnosis' Blood Money and Menace.

Blood Money (see page 50) makes excellent use of digitised sound and graphics. We asked programmer David Jones to give us his view of the future of gaming.
"Most game scenarios consist of two distinct elements, similar to a scene in a film. There is the setting, or background, and the characters and objects that may move about against that background.
"Until now, animated characters in games have been drawn by a graphic artist using a normal paint package. This does not always produce decent results and there are many games with poor graphics and rough animations. It is in this area that we see one of the biggest changes in games programming occurring, with a consequent quantum leap in games graphics quality. We're speaking, of course, about digitised graphics.
"Frames from a video or cine film of live models can be digitised one at a time until a life-like set of animations are built up. This gives us a real figure to work with in a relatively short amount of time. The artist can then go over the animations by hand, making changes or adding features to suit the game. A digitised person walking along the street isn't very interesting, but stick a large sword in his hand and bolt on some armour and you've got a mediaeval knight out for a stroll.

This sort of technique was employed in the film Tron, where the computer graphics were overlaid onto traditional cine sequences to produce a similar effect. At present, the same technique can be used in games, but only in a limited way. The prob-
lem you come up against is lack of memory, but as soon as machines start coming with 2 mbytes of RAM as standard we can look for ward to some very realistic action in games - and action is what it's all about. If you're in any doubt about how important good animation is in an arcade game, look back to the original Impossible Mission, whose main character did a lot for the 'feel' of the program by virtue of his - for the time - excellent animation.

The second element of a game - the background or scenery graphics can also be a candidate for digitising. Most games, however, tend to have large areas over which the action takes place, often running into hundreds or even thousands of screens. This requires far too much memory. One method, however, that can produce very realistic and complex scenery is the use of Fractal Landscapes. Fractals, as you may know, are algorithms that mimic the naturally occurring patterns of almost everything from your local shoreline to the Swiss alps. The only drawback is the processor speed that's required to generate the graphics using this method, but as with limited RAM, this is an obstacle that can soon be overcome by the continually dropping price of technology.

As a designer of good arcade software, I'm convinced that the future of games technology lies nearer than we think. We need only a few more megs of memory and processors with a bit more oomph - both achievable and affordable within the next five years. A new emphasis on realism will give birth to the game of tomorrow."


The intro sequence from Blood Money... digitised graphics in action. ODE have also experimented with digitised animation routines: see the article on page 14.


The Americans are already throwing movie-industry money at game development - this Lucasfilms title is a typical example.
possibly even longer before we can all go out and buy a well-supported standard system.

Right now, it seems that RISC technology (see Strength in Numbers above) is the closest to becoming a new high-performance standard for us games-players. You can read more, about it in ACE next month, along with details Phillips/Sony's secret CD weapon.

## PC HARD DISKS RULE OK?

There is undoubtedly going to be an interim stage before we make the full leap to CDI. CD for sound enhancement will be part of it. More immediately we are likely to see the use of hard disk for home machines - to store the vast amounts of graphic code that are used in the latest 16 -bit games designs.

According to Randy Thier of American company Accolade this is '...already happening in the PC home market. We are seeing people buying 20 meg hard drives just for home use - pretty soon games designers are going to start taking advantage of memory capacity that would have been thought of as totally outlandish just a couple of years ago.' Thier agrees with everyone else in the game business that CDI will be the storage medium for the mid to late 1990's but sees a medium term period when PC's will become a world standard - even in Japan.


688 Attack Sub (see page 58) decompresses its files when it installs them on a PC's hard disk. Future game releases may well make more use of hard disks, both for graphics storage and also as 'virtual memory' for other game data

We are on the verge of a revolution in computing. Within a year we will not ask how many K a computer has, not how many bits wide is it, not how fast is it clocked, but how many processors has it got? Games computer architecture will leap ahead of the business computer world in its use of silicon.
"The silicon chip industry consistently achieves a quadrupling of density every two years, but this has so far shown up mostly as bigger memory chips and faster, wider processors. In the business computer world with its millstone requirement of compatibility with the IBM PC, (dating from 1981), this is all that can be done.
"Games computers are not so restricted. Innovative computer architectures are welcomed by games programmers as a means to make their games faster and more realistic. The Amiga goes some way towards this, but flaws in its design such as poor sound, and its over-complex architecture, reduce its capabilities.
"The Konix Multi-System, however, contains not one but three processors. With both a graphics processor for fast and smooth graphics, and a sound processor for realistic and pleasant sound, the third processor, an 8086, is left with purely a management role controlling the other two processors. Because of this, the system comfortably outperforms all other 16 -bit games computers.
"The prototype system of this, our own Flare One, was based on a humble Z80 in place of the 8086, but could still outperform the Amiga! This system proved the power of multiple processor architecture.


The Konix Multi-System, flying the flag for multi-processor technology.
"You can, however, make further improvements through your choice of procesor design. Computer processors have traditionally been jacks of all trades. The evolution from the 6502/Z80 via the 8086/68000 era, to the current state-of-the-art of the 80386/68020 has produced massive pieces of silicon, with 'rich' instruction sets. These processors, however, will soon be as extinct as dinosaurs. The amazing speeds of RISC processors such as the ARM, the 1860, and the SPARC machines show the future.
"When we at Flare looked at how to design a better games computer, we soon realised that specialised RISC processors, designed specifically for graphics and. sound, would always be able to out-perform general purpose processors. This principle was adopted in the Flare One and allows us, amongst other things, to use extremely high processor speeds for sound reproduction, giving the Flare (and the hence the

Konix Multi-System, which uses the Flare technology) the ability to emulate several different, and powerful, sound synthesis techniques.
"And what of the future? We've got a lot of ideas. Clearly more processors are needed. Sound generation is a natural role for parallel processing. Graphics processors will allow real-time rendering, shading and 3D animation. The revolutions in storage media will bring games based on tens or hundreds of megabytes of data and code.
"In ten years time, 32 megabit RAM chips will be in production. The same will apply to all silicon. The Flare Ten system might contain 96 processors on this basis The games this system produces on your HDTV set will have images of the quality of a feature film. Home computers will run games with graphics such as those of feature films like Tron, which currently require the power of a Cray computer.


## PLAYING YOUR CARDS RIGHT

Smart cards offer the portability of floppies combined with the rapid accesstimes of RAM. Early cards were unreliable and could hold only around 64K of memory, but we're now talking about 2 mbyte cards within the next year. What's more, the latest models - like the one pictured here, manufactured by LSI and distributed in this country by Cardtek - are completely hermetically sealed, communicating their data via magnetic fields generated by circuitry within the card. Unlike floppies, they are - in normal use - virtually indestructible. Cards offer a promising form of game distribution for the console market - they've already been used by Sega - but the prices need to fall further before they become really practical. At the moment a one-off 512K card could cost you as much as $£ 300$ !

## An Advertisement

"Do an ad"' they said. "We wanna get
 COOl our games are" they said. So I sat and thought and thought. . . and thought. . . and nothing came. Ahhh, well I'm nOt really a copy writer and there are geezers getting paid thousands to come up with drivel just like this. Let's face it, it costs $\mathbf{Q}$ lot of dosh toproduceanad




Anyone who considers themself an arcade connoisseur must rate System 3 one of the hottest software houses around. Not content with their first hit, Twister, they went ahead and produced Last Ninja, International Karate, Bangkok Knights, and now...Vendetta.

Mark Cale's the man who makes System 3 tick - he's a self-confessed games addict and spends most of his time popping 10p coins into the machines at his local arcade. Ever since International Karate headed for the top of the charts in the US (one of the first UK games ever to do so) Mark's had quite a few 10 ps to spend on his favourite hobby.

Now he's putting his experience to work with Vendetta. The key to the game is its combination of two arcade. ideas: the arcade/adventure and the all-out action race scenario. You must drive your Ferrari F40 in a mad chase from one exotic location to another as you gather evidence against a gang of terrorists and attempt to rescue your girffriend.
'The idea behind Vendetta,' says Mark, 'is to give people two games in one. We've also put a lot of effort into the graphics, so the game not only plays well but looks great too.'

Vendetta will be reviewed in ACE as soon as we get a playable copy. Watch out for it soon on Spectrum, Amstrad, Commodore 64, ST, and Amiga...

## WHAT YOU HAVE 10 DO...

Fill in the correct answers to the three questions on the form below and complete the details on the right. Then pop the form in the post to ACE System 3 Compo, Priory Court, 30-32 Farringdon Lane, London, EC1R 3AU. Closing date for entries is July 3rd 1989 and the winner will be the first correct entry drawn from the hat.

## THE PRIZE

The winner will be collected from his home by Mark Cale and driven in his Ferrari to a mystery location where they will receive a VIP meal together with a representative of ACE magazine. The winner will also be awarded a goody bag containing System 3 souvenirs and software and be invited to contribute to ACE's next issue. So you not only get the grub, you get the goodies and the fame as well!


Meet Mark Cale, the driving force behind System 3 Software, and then experience some REAL driving force as you zoom off in his Ferrari for a VIP meal and some great prizes.


Mark Cale and two of the fruits of his success in gamesmanship. Soon you could join him in a spin to an undisclosed location and a VIP treat...

1 What was the name of System 3's
first game?

NAME
ADDRESS

AGE $\qquad$
$\qquad$
$\qquad$

2 Which System 3 game features a
city in Thailand?


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## 2500



Forgotten Worlds: US Gold's latest Capsom conversion features all manner of hostile exotioa as you grab your bazooka and throw yourself back into

Let Sleeping Gods Lie uses some novel anmation methods to generate the on-screen characters. ODE have already spilt the beans about their programming techniques on page 14 - find out what the game's like on page
40 . 40. violent action on page 36.


## 「HE

c curves
is unique feature to the $\operatorname{ACE}$ newing system charts the terest level that a game stimu tes over a period of time. The rve is accompanied by a omment to explain why it's the ape it is.

## RAPHICS

is rating considers al aspects the game's graphics and is trsionspecific, so the limitaus of each machine are taken o account. A goodtooking lectrum game will thereforee Jectrum game wil thereforee
pre higher than an averagere higher than an average oung Amiga one.
uDIO
e music and sound effects are
ted here Once agan it is verinspecific and a high rating is ssible on even Imited machines the Spectrum and PC.

FACTOR
st how much thought is
qured to get the most from
the game? Shootemups are lucky to score three, while Barance of Power is a nine all the way. Puzzle games like Xor and Bouiderdash will also score highly, but simple exploration games will not because they involve no deductive processes. Even platform games like Nebulus involve plenty of brain bending and therefore score well.

## FUN FACTOR

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

## ACE RATING

This is not just plucked out of the air - it directly correlates to the area under the Predicted Interest Curve. To get a really
high rating a game will not only have to be very addictive but stand the test of time as well. Just because a game does not get over 900 does not mean we are not recommending it - the following is a general guide to what the ratings mean.
$900+$ A classic game, rec ommended without reservation.

800-899 A superb game, but perhaps lacking the long term depth to last into the month and year categories. 700-799 Still highly rec ammended, but probably has a couple of aspects to the game play that take the edge off it. 600-699 The fair zone where it tends to be very good If you like that sort of thing' 500-599 This still has good things going for it, but the game clearly has some noticegable problems.

400-499 Problems with gameplay and programming make this an inferior game. 300-399 Not only is the
gameplay bad but the design was probably flawed in the first place.

200-299 Things are get ting really serious now

100-199 ZX81 games running on an Amiga

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

## ARCADE ACCURACY <br> This is a measure of the

competence of a conversion of a coinop. It does not reflect on the gameplay at all, but on how close the programmers have got to the original arcade game, given the limitations of the comgiven the limit
puter it's on.

## VERSION BOXES

This covers version-specific information on graphics, audio, loading problems etc. If there isn't a box for your machine but a version is planned, it will be covered
as an update in a later issue.

## THE TEAM

Steve Cooke and Pete Connor should be familiar to ACE readers - they were the original edi tors of this award-winning maga zine. Pete used to be editor of Amstrad Action and worked on Personal Computer Games before launching ACE. Steve is known to thousands through his many other previous identities, including Zzap!'s White Wizard, The Pilgrim, and Oid Baldy. Eugene Lacey is the man who put Britain's top-selling games magazine, C\&VG, on the map. Luckity for us, Eugene got fed Luckity for us, Eugene got fed
up with writing for 8 -year olds und decided the time had come and decided the time had come
to tackle the supreme challenge to tackle the supreme challenge
of ACE magazine. As one of of ACE magazine. As one of
Britain's most experienced Britain's most experienced games journalists, his word is LAW.
Ciaran Brennan should need no introduction. Formerly editor of Zzapl magazine, he's now
deputy editor of The One and an honorary ACE reviewer. Julian Rignell, formerly UK Coin Op champion, former editor of Zzap164, and the man with his name on more hiscore tables on Brighton Pier than anyone else. Tony Dillon manages to wield a joystick 14 hours a day in the pursuit of gamesplaying perfection despite an addiction to heavy metat. Tonly owis a C64 heavy metai. Iony ownis a C64, an Amiga, and a Spectrum and has been reviewing for The One, C\&VG, and Sinclair User. Now he's devoting his unparalleled expertise to enlightening ACE readers.
Mark Patterson has put in two and a half years of games slavery for Commodore User and CSVG and knows everything there is to know about RPGs

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


## Ash, an old gink' comes in useful.

all the babble and pseudy drivel that Exxos games come wrapped in, there's generally a well-crafted and intelligently constructed game. This one - their third release - is no exception. A testing and entertaining icon-driven arcade adventure lurks beneath the almost indecipherable manual, with its insistence on sixth form sci fi scene setting.

To clarify things a little, you play the part of Raven, a Tuner - which means you have special powers. You have been set a task by some unpleasant types called Protozorgs. Oh, and there's the obligatory stop off somewhere to rescue your abducted girffriend.

The task concerns retrieving five skulls concealed in various rooms which run off a circular area known as The Ring. Not all of the rooms contain skulls; sometimes they conceal something much more unpleasant, but it's down to you to work out which is which. Some rooms contain objects which might come in useful on your travels and many have some kind of puzzle that you'll have to solve by examination and logical thinking.

In the room known as De Profundis there is a pool of boiling slime which you can't get round; to make matters worse the stone you're standing on starts to sink; a hook hanging from the ceiling could be an escape route - but how
to reach it and which object to apply? And there's a time limit, so you can't spend all day solving it.

To help you in your quest you have a number of 'psi powers'. These include Solar Eyes, to be used when you enter the darkened room, sticky fingers which allow you to walk around walls and ceilings, a Zone Scan which triggers a horizontal bar that moves down the screen highlighting interesting things in a particular room, and EV, which stands for Extreme Violence.

The various powers, movement and action are all controlled via the mouse either by directing the cursor on the playing area or by clicking on the icons which run down the side.

## ST VERSION

This hardly stretches the ST, but nevertheless its construction and finish are very neat indeed. A good combination of problem solving and and finely detailed artwork give the impression of a quality game.
$\begin{array}{llll}\text { GRAPHICS } & 8 & \text { IQ FACTOR } & 8 \\ \text { AUDIO } & 7 & \text { FUN FACTOR } & 7\end{array}$ ACE RATING 804


The system is logical and efficient. When you click on something in the playing area, a kind of brain appears; clicking further on the pearly nodules reveals possible actions at that time.

Kult has enough atmosphere and puzzlement to absorb any hardened arcade adventurist, and it's also constructed imaginatively enough to attract the less committed. Its graphics are, like Purple Saturn Day's, colourful and finely detailed. The texturing of the stonework and the brain are excellent and the artwork has lots of typically Gallic polish. Sound too is good: sparingly used rather than lavish, it includes some solid effects and unintelligible alien speech, digitised for effect.

Whether the appeal of Kult will be limited to living up to its name will depend on how approachable people find it. Beneath the expansive otherworld mysticism of the packag. ing is a game of some quality.

- Mike Pattenden

| RELEASE BOX |  |  |
| :--- | :---: | :--- |
| ATARI ST | $£ 24.95 \mathrm{dk}$ | IMMINENT |
| AMIGA | $£ 24.95 \mathrm{dk}$ | IMMINENT |
| IBM PC | $£ 24.95 \mathrm{dk}$ | IMMINENT |
|  |  |  |



At the fountain - got your goblet handy?


Fill 'er up, Joe. and by the way, what's my score?

At a mere $\$ \mathbf{2 3 0}, 000$ it's a snip, isn't it? Still, check out the $\mathbf{0}-\mathbf{6 0}$ figures...


The Mighway Patrol have pulled someone over. Look out - it could be you next.

## PC VERSION

Playable in CGA, EGA and even VGA, The Duel is nearly as good as the Amiga version. It loses a few seconds in the lasting appeal department, but it's got to be an essential PC purchase.

GRAPHICS
8
IQ FACTOR 7 AUDIO 3 FUN FACTOR 8 ACE RATING 800

## Will ACCOLADE burn off the opposition?

THEDuel is the follow up to Test Drive, a game which aroused some of the most mixed opinions ever witnessed; "Yes, I know the scrolling's slow but look at the cars you get": "Well I think the scrolling's OK, it's the view from the car that spoils it..."

Test Drive allowed you to choose from a range of the world's top sports cars, including Porsches and Ferraris, then go out and prang them against a mountain, or burn off some other boy racer's high performance vehicle.

The failings of Test Drive became apparent through the lack of variety in the scenery, and a subsequent lack of speed - enough to provoke sarcastic comments about a "Reliant Robin" simulator. Still, it appealed to a few people..

Meanwhile, back at the Bat Cave, those clever little guys at Accolade where thinking to themselves "ahh, the scrolling's too slow and there's not enough variety in the scenery". So they set about their work and Io!, The Duel was created.

The first apparent change is the lack of cars - only two this time as opposed to five before. But there are now two modes of play; the traditional against the clock game, or head to head against another car. The scenery has been totally redesigned with fields, deserts, mountain passes, tunnels and much more.

Even the perspective view from the drivers seat has been lowered a little, which gives a better feeling when you're weaving through oncoming traffic. Speed is also an essential in any car game, and boy is it here - and the road scrolls far faster now.

Already on the Amiga people are trying to find ways around memory restrictions and


Accolade are more than a little proud of their new system, - 'expansion packs'. Each pack contains a disk and a manual, the first two packs are available now, one containing the scenery for a trans-California race, the other with five super cars. Each pack will retail at $£ 11.99$, and according to the head honcho at Accolade the next series of disks will contain some really hot stuff.

The sound has been improved too, with a racey theme tune to start with and some really meaty engine roars. All through there are loads of extra touches, such as the cop who tries flagging you down (you are speeding aren't you?) - when you keep going, check in the rear view mirror and you can watch him scrambling into his car. The funniest thing has to be the look of sheer panic as you blunder into the oncoming traffic at twice the speed of sound.

The Duel is not quite a classic piece of software, but it does come very close - climb aboard and experience some high-class, highspeed revs.

- Mark Patterson

| RELEASE BOX |  |  |
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| IBM PC | $£ 19.99 \mathrm{dk}$ | OUT NOW |
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|  |  |  |

## PREDICTED INTEREST CURVE



Like Spectrum Holobyte's Falcon - it's going to be scenery disk city for The Duel. All the latest supercars and new scenarios mean that interest should be truly long-term.

# DATASTORM 

## VISIONARY DESIGN TECHNOLOGY whip up a storm



THEYsay you can't beat the old 'uns, and once you've seen Datastorm, you'll have to agree. Datastorm is one of the the best shoot'em-ups live ever played. Based on a worn and torn idea, it falls somewhere between Stargate, Dropzone and Defender, in both gameplay and design.

Just to jog your memory, as if it needed it, you are on a rescue mission. For each level, there are eight pods rolling around on the surface of the planet. You have to fly out and bring them back to the base, visible by it's large radio antenna. That's the simple bit. The only problem is that you ain't the only one that wants to get the pods. An attacking alien force is also out to get them, and so you also have to wipe them out.

As you zip about the horizontally scrolling lunar landscape, you come across many different kinds of enemy. There are the regular troops, not completely dissimilar to ye olde Space Invaders. These hover about a bit, occasionally taking a pot shot or two in your direction. Every now and then one will swoop down and take a pod. These have to be shot - but be careful not to hit the pod. Other aliens include small spacecraft that fire rapidly, clusters that hang from the ceiling and small diamonds that, when shot, transform into three homing missiles.

Major problems appear in the form of large mother ships. These can be either (a) a fleet of very fast luminous ships that travel as one and shoot a lot (b) a large squid whose legs have to be blown off piece by piece or (c) a huge skull that takes quite a few hits, to say the least.

At first glance, Datastorm is a game that most people will find themselves saying 'seen it all before' - even so, they'll get hooked. That was the secret to all the classic games - they were incredibly addictive and addictiveness is a quality missing in so many games these days.

Datastorm is simple to play, easy to get hooked on, and a damn sight harder to let go of.

- Tony Dillon

PREDICTED INTEREST CURVE


Instant gameplay and attractiveness get the ball in motion - and then the bug bites.

## AMIGA VERSION

Superb! It looks great, with well designed graphics and an amazing game over screen - your ship lies in a heap on the floor, which isn't too brilliant but behind the engine lies a wall of heat, distorting the objects on the wall behind it. It all sounds excellent and it plays like a dream.

## GRAPHICS 8 IQ FACTOR 3 AUDIO 8 FUN FACTOR 9

ACE RATING 870

RELEASE BOX



2



## PENETRATE




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Spectrum, ST, Amiga, Commodore, Amstrad screen shots shown in that order.
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SCREENTEST


Got 'im! Even in battle, you can still spot the clever combination of filled vectors and sprites.

# SLEEPING GODS LIE 

## Should ENTERTAINMENT INTERNATIONAL be left asleep?

first person perspective worlds have been seen and done before, which means that Sleeping Gods Lie is a wee bit disappointing. Against that, it is one of the most realistic games of its kind around; by using a clever mixture of vectors and filled vectors where there have to be straight lines, and some clever sprite expansion and movement routines elsewhere, Electraware have come up with something that is, at the very least, an eyecatcher.

A crisis in the country of Tessera provides the scenario for the fancy graphics. Harvests are bad, terrible illness is sweeping the land. Only one thing can save the world - the sleeping god N'Gnir, who is rumoured to be slumber-


Touches of Weird Dreams here. Remember that you're only going to get anywhere in this game by co-operating with the in-game characters.

## ST VERSION

Extremely pretty graphics produced by some very clever programming means this is a joy to look at. Sadly the gameplay doesn't match the visuals - it's ultimately a disappointing program.

| GRAPHICS | 9 | IQ FACTOR 6 |  |
| :--- | ---: | ---: | ---: |
| AUDIO | 7 | FUN FACTOR | 5 |
| ACE RATING 691 |  |  |  |

ing somewhere out in the suburbs. You have to find him. this is not the easiest of jobs, given that you don't know where he is and that, due to the bad times, a lot of folk are against you.

You begin the game in your home. A painting hangs on one wall. On the floor lie a sack of pebbles and an earthenware bowl (better get those pebbles - they're what you'll do your fighting with). Of the two doors, the one to the north is open but the one leading south is locked. All you know is that somewhere to the north is a hermit who will give you your first clue to finding N'Gnir.

As already said, the graphics are pretty realistic. All doors, rooms, paths, or in fact anything that should be squared is composed of vectors. All other items are displayed as solid sprites that are expanded and twisted to suit their current 3D environment - even the painting on the wall is distorted when you look at it from different angles.

Unfortunately, the game is dull - sometimes unplayably so. Death comes quickly, and more often than not there isn't a lot you can do about it. Bandits run from every direction, and for some reason are able to hit and damage you long before you can ever see them; your pebbles aren't much good against this lot. It's not fair, is it?

There are also too many stretches in Sleeping Gods Lie where you aren't actually doing anything. Many times you are left questless, just moping around in Tessera waiting for something to happen or somebody to arrive. This is a real shame, since with a little more planning and a bias away form arcade toward RPG, Sleeping Gods Lie could have been a real corker. As it is, it falls uneasily between two stools.


I think he's trying to tell me something...


The attractiveness generates huge amounts of interest, but lack of gameplay soon shows.

## FORGOTTEN WORLDS

## US GOLD go multi-directional

ITmust have come as no surprise to anyone when US Gold announced their latest arcade signing a short while back. Forgotten Worlds had already made a name for itself in the arcades all over the globe, and quite rightly so. It had stunning graphics, a simultaneous two player option (and let's face it, simultaneous player games do alright for themselves in the arcades) and a unique control system. US Gold, thankfully, have not only managed to do the game justice, they've come up with a near perfect conversion.

The idea behind Forgotten Worlds (and isn't it always?) is to rid the universe from some hideous evil.... Wave after wave of attacking, swooping, diving aliens. They're insanely unfair odds. A fair maiden or two. Luverly scrolling backdrops and loads of damage. Wahay!

The most unusual thing about

Forgotten Worlds is the control system. On the original coin-op, as well as being able to move in eight directions, you could also fire in eight directions, completely independently of current direction of movement, a la lkari Warriors. As far as hardware was concerned, you were provided with a rotational joystick and a fire button. Now, no matter who US Gold got to do the conversion, there is no way they could have successfully converted that idea, short of supplying a special joystick.

There only seem to be two ways of converting it. The first, and most obvious, is to use two keys on the keyboard. However, this might have made the game a little too difficult. So, US Gold have opted to make the game completely joystick controlled. Now, tapping the fire button fires a strem of bullets (or whatever weapon you are currently using) but holding down the fire button


Those spiders look a bit nasty. Be careful you don't shoot their heads off, because that results in their legs running wild.


## SO, YOU THOUGHT CHESS WAS DULL?



ELECTRONIC ARTS ${ }^{\text {* }}$

It's not exactly fair odds is it?

# WICKED <br> <br> ACTIVISION'S fast breeder 

 <br> <br> ACTIVISION'S fast breeder}
$00=$ - I I can see the PMRC (the cen-O-nir sorship board in the USA, notorious for hating rock music) having a bit of a problem with this one. Talk about dabbling in the occult! Wicked is just soooo strange, it even has an ouija board as a high score table entry system!

Once, you were a soldier. One of the bravest warriors ever to tread the, erm, well, trodden earth. But you are no more. You are deceased. Now you are but a lost soul, drifting through the endless void

But what is this? The sun-god is summoning you. The Zodiac is in chaos! Evil has taken over the twelve signs. Thou must enter the constellations of Pisces, Sagittarius and rid them of the invading evil by spreading goodness and kindness and all those other girly things.

First thing you must do is choose which constellation to 'purify'. To win the game, you have to take the twelfth sign, Sagittarius. You are offered a choice of three signs, the three immediately following the last sign you won. Once done, you are presented with a map of the constellation of the current sign. Three of the stars are highlighted. These are the three you have to redeem. Click the pointer on one of them, and away you go.

Probably the best way to describe the game itself is as a fast paced breeding race. Both you (good) and a computer opponent (bad) have a number of PORTALS. Yours are red and his are blue. From these PORTALS come SPORES. It's from the SPORES that the GROWTH grows. You have to pick up the SPORES and drop them on existing GROWTH to create more GROWTH. You then have to shoot away his GROWTH to allow yours to grow with the final intention of growing over his PORTALS to rid the star of him and his presence. He has to do the same to you.

Once every day and night, a tarot card ail appear and drop a token. This can be either good or bad depending on the card, and can range from an extra life for you, or a spurt of growth for him. Hint. Examine the card before you collect anything.

A cute, happy, friendly, fluffy idea, yet original. Yes, at last an original idea! This isn't surprising, considering the game's from Binary Vision, authors of Zoids and The Fourth Protocol.

Both graphically and sonically, Wicked lives up to it's name. The graphics are nothing short of stunning in places. The intro sequence, where the sun sets behind the word WICKED, set out in stone letters, looks very similar to a scene from Stonehenge. Then there's the Eye of Infinity, where you choose which constellation to battle over. The eye is continually roving, red veins pulsing, and occasionally it cries a silent tear of blood. The game over effect is pretty amazing too, when blood runs down from the top of the screen. Great stuff.

A brilliant game. Original, addictive, but, most importantly, wierd. Check it out. - Tony Dillon


Told you it could all change. That's your blood running down the screen.

## ST VERSION

With graphics identical to the Amiga, and a playability level to match, what else can I say? Must buy.


ACE RATING 837

## AMIGA VERSION

Fab graphics and an atmospheric and fitting soundtrack by Richard Joseph (composer for most of Palace's releases) make the game an attractive prospect, and the playability only helps to strengthen that. A must buy.


ACE RATING 837

## RELEASE BOX

| ATARI ST | $£ 19.99 \mathrm{dk}$ | OUT NOW |
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## ST VERSION

Full screen parallax scrolling complements the hires sprites perfectly, and gives a very coin-op feel to the game. The sound effects aren't the best ever, but they are functional and they do fit the game. controls are a little fidgety, and you do find yourseff rotating when you don't want to. That aside, the action is fast and furious and the game addictive as hell.

## GRAPHICS 8 IQ FACTOR 7 AUDIO 6 FUN FACTOR 2 ACE RATING 885

and moving left or right rotates your man. This sort of control al so causes problems. For a start, autofire joy- sticks are out. Sec ondly, you have to be very careful when moving about as it's all too easy to rotate by accident when wiping out an approaching fleet.

At various points along the levels, shops will erupt from the floor. Fly into these, and an attractive young lady will try to sell you some weapons. The amount you can afford depends on the amount of aliens you have killed. It's a pretty simple form of financial transaction. The weapons you can buy range from higher powered lasers to a multiple that flies where you fly and fires where you fire. Aren't pets lovely?

That's about the size of it. When it comes doen to it, Forgotten Worlds doesn't actually offer anything new. But why should it? After all, it's great fun, and that counts for an awful lot.

Tony Dillon


## THINK AGAIN!



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ELECTRONIC ARTS*

# SUPER SCRAMBLE SIMULATOR 

## GREMLIN count the rev up the gameplay

> If your going to ride a bike
> in these conditions you have to learn how to handle it slowly over bumps, remember?


THISis a bit of a turn up for the books and no mistake. It's been a while since we saw anything this good from Gremlin, or should I say since we saw anything good from Gremlin. Let's face it - they've had a bit of a bad spell recently. Even titles like FOFT and Paranoia Complex that promised to be brilliant flopped on release. But now it seems that Gremlin have finally pulled their socks up and caught up with the rest of the software industry. Super Scramble Simulator is great.

Super Scramble Simulator (hereafter known as SSS) doesn't actually offer anything new to the land of computer gaming. It has no quest, no plot, no violence, no sex, no political message and it isn't even a license. So what are Gremlin playing at? Well, rather than layer it with hype, they've spent more time and effort just making the game fun and playable and less time telling everbody how great it's going to be. And it cerrtainly shows.

The idea is simple. Get on your scrambler and try to complete nine off-road tracks of increasing difficulty against the clock. That's it.


[^0]
## Sounds a bit dull, doesn't it?

But of course, it isn't. The main dish is fun, followed by a jumbo slice of playability with a generous side order of detail. While still classing itself as a simulator, it isn't a true sim, but lays more emphasis on machine's handling than on an exact representation of how it works: you know what I mean, keep revs ar an optimum when climbing a slope, go slowly over rocky or bumpy areas etc.

The game is viewed side on, as in Kikstart, but then there's more. Just below the main window there is an overhead view of the course you're racing on. As you go onto the harder tracks, obstacles no longer appear in the centre of the track. Series of obstacles have to be steered through, and there's no going around. Try to manoeuvre past an obstacle and you'll be put back with a time penalty.

Perhaps it's not not the most inspired game in the world. Probably it's not the most original either, but who needs either of those when you've got a title as fun-giving as SSS?. Go on, take it for a spin.

- Tony Dillon


Cave in that windscreen! Oh well, serves him right. Shouldn't drive a beetle.

## SPECTRUM VERSION

A monochrome colour system doesn't even begin to mar a very impressive looking game. A large, well animated and detailed sprite rides along a smoothly scrolling backdrop. The controls are tight and responsive and the feel of the game is just right. Check this one out.


PREDICTED INTEREST CURVE


Well thought-out controls and enough variations in objects make Super Scramble hard to put down. Just goes to show that old game formats never die.

# Be part of the action 

## And now for something completely different

The latest in the series of Atari Computer Shows has a whole new look designed to provide maximum visitor appeal. Whether your interests lie in Midi, CAD, DTP or games, here you'll find everything you are looking for.

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## Don't Miss It

If you enjoy using an Atari computer, you'll be thrilled by the Atari Computer Show.
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- Bring the voucher below and save 50 p off the admission price.


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Alexandra Palace is so easy to get to by car, rail, underground or bus. It has its own British Rail station, just nine minutes away from King's Cross, and there's a free bus service shuttling between station and show every 10 minutes.
If you're travelling by road, the show is only 15 minutes away from Junction 25 on the M25. Car parking is free.

DATABASE EXHIBITIONS

Bring this coupon to the Show to get 50p per person off the normal admission price of $£ 5$ (adults), $£ 3.50$ (children).

# Loors of THE RISING SUN 

## Shogun showdown from CINEMAWARE

THEYare certainly ringing the changes at Cinemaware, from comic strip hero Rocket Ranger to TV Sports Football, and now a delve into oriental history. The setting is the Gempei War in 12th century Japan, the task is to conquer the whole country, and the forces at your disposal are those of the Minamoto brothers.

You can take the role of Yoritomo or Yoshitsune - the difference between the two is that as Yoritomo the arcade sequences have to be played, as Yoshitsune they are optional. The brothers also have different political and fighting abilities. Yori is good at forming alliances, while Yoshi is much the better battle tactician and fighter.

At the start of the game you control two other generals of varying abilities. These three leaders, between them, have to conquer and defend all 19 castles in the land. Movement takes place on a large, scrolling map of Japan, featuring castles, towns, monasteries and other armies. Armies move slowly in real time, using connecting roads or sailing between ports.

Each army has ratings for size and strength, and the general is also rated for archery, sword, sieging and leadership abilities. These ratings affect the performance of his men in the various encounters.

There are a number of arcade sequences. Armies can be encountered and engaged in battle - the result of which depends more on numbers and strength than on any tactical decisions on the battle screen. After a victory you can pursue the routed troops on horseback - a scrolling sequence reminiscent of avoiding the trees in Return of the Jedi. Samurai appear at intervals and can be hacked down with a sword or trampled on. Do well enough and the opposing general can be killed too.

Sieging castles gives the opportunity for some Gauntlet-style action. You get an overhead view as you try to hack through the doors and men of the castle on the way to the keep. There is a time limit, however, and the more you get hit, the less time you have. The main difficulty is the mouse control - it's very diffcult to fight off a hoard of soldiers coming from all directions when turning can only be achieved sluggishly via the mouse. Why not joystick or keyboard control which would have been much less frustrating?

If your own castles are besieged while you're at them, then some toxophily results. A trusty bow and endless arrows are used to whittle down the opposing warriors as they clamber the castle walls. If you're not at the castle, the result is simply flashed across across the map screen.

Ninja attacks can be used to assassinate other characters, but if it fails (no arcade
sequence for this) seppuku is the only option. Ninjas may also attack you, in which case there is an action sequence where shurikens have to be deflected with a sword.

As the characters move around the map they can get men and rest at their own castles. Strength can also be built up at monasteries
and towns. Plenty of recuperating has to be done after sieges and battles in order to restore full strength. Of course you don't always have to fight - towns and castles may form alliances voluntarily, and characters may even be persuaded over to your side.

- Bob Wade


The map screen is where most of the tactical thinking goes on. Your forces and castles are identified by banners. Clicking on characters and settlements gives you information on their population and strength. Info on events occurring to your generals and towns appears at the bottom of the display.


During a siege you have to explore the castle to find the keep, and then kill the leader. The time available depends on the number of men and sieging skill you have, and is indicated by the rising and setting of the sun.

## GREAT GRAPHICS, SHAME ABOUT...

This is clearly an oriental Defender of the Crown with enhancements. Unfortunately it still suffers from all the old problems - endless disk accessing and swapping, and gameplay that could quite easily be reproduced on a Spectrum in one load. What it has got is superb presentation, atmosphere and stunning graphics - but you still get the feeling that it's more like a demonstration intended for CD-ROM, than a game.

Two questions need to be asked here. First, should games be pursuing this obsession with graphics and sound (of which this is not the only example in this issue), or should the quest be for more creative gameplay?

Second, WHY do so many so-called 16bit mega-games fall into this trap? We reckon the answer to both questions lies in the way software houses spend their money. The typical budget on games development used to go almost entirely to the programmer - after all, he did most of the work. In fact, in the good old, bad old days, he did

ALL the work: the Jeff Minters and Tony Crowthers of five years ago designed their games, their graphics, and their code singlehanded.

When 16 -bit machines arrived, the easiest way to show off their exalted status was through impressive (but often static) graphic images - Defender of the Crown is the best early example. This led to a situation where software houses were competing by spending more of their development budget on graphics - and as you can see in the piece on ODE (page 14) creating good graphical displays is still one of the chief priorities in writing so-called 'state-of-the-art' software.

Here at ACE we reckon all this will change. Programming skills are becoming easier to find, graphics artists are becoming more computer literate: in five years time, software houses will be spending as much on the gameplay designers as they will on the rest of the development team. If that situation existed now, Lords of the Rising Sun would have benefitted enormously.


On the field of battle you have only limited control over the soldiers. They can be directed to certain spots, but victory depends mostly on having the stronger force going in.


After a victorious battle you can pursue the fleeing enemy on horseback. Mind the trees, slash the samurai and hopefully you will get a crack at hacking up the opposing general. Unfortunately you've just fallen off.

## AMIGA VERSION

Twin disk drives or large memory required for full enjoyment, i.e. the minority in this country. The graphics are stunning - every scene changes with the seasons, and sequences like the horseback pursuit and castle defence are marvellous viewing. There isn't much music but what there is, along with effects, fits the action well.

| GRAPHICS | 9 | IQ FACTOR | 5 |
| :--- | :--- | ---: | :--- |
| AUDIO | 7 | FUN FACTOR | 5 |

## ACE RATING 703

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| ATARI ST | $£ 24.99 \mathrm{dk}$ | UNDER DEV |
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## PREDICTED INTEREST CURVE <br> 

Niggles over disk accessing and swapping, along with slow gameplay keep the marks down, but there is enough difficulty in the strategy and arcade sequences to keep it interesting.



## A Thrilling Motorbike Racing Simulation.



MicroProse Software, Unit 1, Hampton Road Industrial Estate, Tetbury, Glos. GL.8 8LD. Tel: (0666) 54326.


# MIKE READ'S POP QUIZ 

## ELITE ask the same old question

SOwho cares about clones? So what if Alien Death Blaster From Zarg looks just like any other blaster? It might still be a good game. At least it lies on a rock solid tried and tested idea. But this one? To say that Mike Read's Pop Quiz is similar to A Question of Sport can only be described as the understatement of the year.

Right from the start, when you pick your team members (presumably staff members at Elite) you can feel Mike oozing his 'charm' all over the place. The one thing you have to look out for when choosing your team is each person's specialist subject. After all, you don't want to end up with a team full of (supposed) classical music experts.

So, you've chosen your three ugly mugs and which of the five question blocks to load. Then you spot the familiar layout of A Question Of Sport.; three team members on either side, Mike in the middle, and a speech bubble above Mike's head containing an almost endless scrolling message.

The format is the same all the way through the game. The question is printed on screen,

and then you are shown four possible answers. You have five seconds to answer, but if you get it wrong or if you fail to answer in time, the question goes to the other team for a bonus point.

The interesting thing about Mike Read's Pop Quiz is that, not only does it look like A Question of ...., and have the same format of game, but that the rounds are the same too. You know, round one is the scoreboard thingy with all the photographs on it, then you have sport, the star/sporting personality, home or away/easy or hard, guess the year...the whole shooting match. Are Elite perhaps taking the mickey just a little bit?

Mike Read's Pop,Quiz is dull as a one player game, and even as two player doesn't contain much of a challenge. It's nearly, but not quite, accurate - after all, everybody knows that 'Nuthin But A Good Time' was by Poison, not the Quireboys.

- Tony Dillon


## AMIGA VERSION <br> AWell digitised pics and a couple of happy, boppy little tunes fail to add much to an essentially dull computer quiz game. And it's got Mike Read in it. <br> GRAPHICS 7 IQ FACTOR 8 AUDIO 40 FUN FACTOR 5 ACE RATING 527

## SPECTRUM VERSION

Hand-drawn pictures take the place of digitised ones, which when considering the Z 80 resolution is no bad thing. Still, it looks like Elite have come up with a universal title here, because it plays identically across all formats, including certain question discrepancies.

| GRAPHICS | 5 | IQ FACTOR | 6 |
| :--- | :--- | ---: | :--- |
| AUDIO | 4 | FUN FACTOR | 5 |

ACE RATING 506

| RELEASE BOX |  |  |
| :---: | :---: | :---: |
| ATARI ST | £19.990k | IMMINENT |
| AMIGA | £19.990k | OUT NOW |
| SPEC 128 | £7.99cs $\cdot$ £11.99 ${ }^{\text {k }}$ | OUT NOW |
| AMSTRAD | £9.99cs $\cdot$ £11.99dk | IMMINENT |
| C64/128 | £9.99cs - £11.99dk | IMMINENT |
| IBM PC | £24.990k | IMMINENT |

## POP QUIZ TEASERS

Why not try out a few of Mike's questions and see if you're up to the challenge? Answers in The Blitter End.

1. WHO WERE WASTED IN 79 AND MADE A BIG COMEBACK IN 1987 ?
(a) W.A.S.P.?
(b) Metallica?
(c) Def Leppard
(d) Quireboys?
2. WHO PROCLAIMED THAT 'SCHOOL'S OUT'?
(a) Black Sabbath?
(b) Alice Cooper?
(c) Dio
(d) Scorpions?

# BLOOD MONEY 

## PSYGNOSIS menace again...

FROM
the author of Menace, David Jones (nowt to do with the Magic Knight DJ), comes a sequel in the same vein. It takes you on an alien safari through four hostile worlds. You have to pay for the privilege of getting blown to pieces, but at least there are lots of hi-tech, no-nonsense, take-that-you-alien-git weapons to be bought along the way.

To begin with only the first two safaris can be afforded - the cash to pay for the other two has to be earned the hard way. Each safari is tackled using a different type of craft, but they are all controlled in exactly the same way.

Each level features a combination of horizontal and vertical scrolling that chugs gently along revealing the new terrors that lie in store. Meanwhile, you have to charge around the screen shooting everything, avoiding everything and collecting lots of shiny, lovely, huggable cash.

Where does all this pecuniary gorgeousness come from? From sending aliens to alien hell, that's where. Lots of the bad guys magically turn themselves into spinning coins of varying value when zapped. Collect the coins and then spend them again at the shops that appear en route.

The extra weapons are familiar enough in nature - bullets angle up and down, backwards firing, extra speed, longer range bullets and bombs. They are not easily afforded, particularly extra lives, so collecting as much money as


High initial excitement gives way to frustration because of the difficulty level. Continued practice pays off as you confront varied challenges. Like all shoot-em-ups it drops off badly once exhausted.
possible is important.
Perhaps the most important thing for shootem-up fans is the variety of aliens and their behaviour patterns. Ranging from static gun emplacements to nasty flying things that perform aerial acrobatics. Some of them take several hits to destroy - but the financial reward for them is commensurately higher.

The flak is heavy everywhere, but one of the worst obstacles does not even move until you shoot it. It's a barrier that pivots about its middle when shot. In several places these prove a real problem because you have to

## AMIGA VERSION

Graphics and sound are exceptionally good, as has come to be expected of Psygnosis. The backgrounds and scenery don't seem quite as nice as Menace, but then again it's much easier to see what's going on - a definite benefit.

## GRAPHICS 9 IQ FACTOR 1 AUDIO 8 FUN FACTOR 8

## ACE RATING 732

## RELEASE BOX

| ATARI ST | $£ 24.95 \mathrm{dk}$ | AUG 89 |
| :--- | :--- | :--- |
| AMIGA | $£ 24.95 \mathrm{dk}$ | OUT NOW |
| C64/128 | $£$ TBA | JULY 89 |
| IBM PC | $£$ TBA | SEPT 89 |
|  |  |  |

thread a way through them while trying not to get shot from elsewhere.

If it's a tough shootem-up you're after then this fits the bill. Even the simultaneous two-player option does not make things much easier it's hard graft all the way. It certainly is not stretching the bounds of computer entertainment - shoot-em-up gameplay never varies much. However, it's addictive and testing, guaranteed to give a lot of short term pleasure.

- Bob Wade


## Aaaghgh!

There are times in Blood Money when killing aliens just isn't enough - you'd much rather kill the programmer! Here's one of those sequences where even the most stout-hearted shoot-em-up fan begins to wonder whether text-only adventures aren't such a bad idea after all..


2. The gun emplacements get nasty...

4. And now you've got to get past that!

Gilbert is back at Drill and feeling very pleased with himself. Unfortunately, the rest of his fellow Drillians are not quite so happy. In fact they are green (and slimy) with envy.
Gilbert is invited back to Earth to do a new TV series, but to avoid more of his bragging the Drillians remove parts of the Millenium oustbin and spread them about the planet.
You are in control of Gilbert (most unusual) and to get him back to Earth within 24 hours you have to beat the Drillians at their fav
games and in turn,
they will give you clues they will give you citre
to find the missing parts on your

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# THE KRISTAL 

## A gem of a game from ADDICTIVE?

BASEDupon a stage production that never materialised, The Kristal follows the fate of space pirate Dancis Frake (groan), who is set the unenviable task of retrieving the legendary Kristal of Konos (for reasons that are only made Kristal clear upon actually playing the game). This mysterious gem previously held together the forces of harmony in the universe, but due to a complicated series of events now lies hidden in a secret chamber... erm... somewhere.

Captain Frake's treasure hunt takes place in the Kreema system where, armed with little more than his wits, 25 Skringles (the local monetary unit) and a large space-galleon, he sets out to explore the system's ten different planets. Journeys between the planets are made by means of a ' 17 th century' spaceship, enduring a brief hyperspace jaunt before reappearing in the vicinity of the target planet. The intervening space is then crossed using more conventional propulsion, whereupon a number of insect-like aliens must be dealt with (which, of course, means blasted) before planetfall can be made.

Dancis then explores on foot against a mixture of static and scrolling backdrops, and can move into and out of the screen to allow all the nooks and crannies to be inspected at close quarters. Any collectable items appear in a display at the bottom of the screen and can be added to Dancis' current store with the jab of a function key.

The worlds of Kreema are populated by a variety of beings, some friendly, some not. Dancis converses with the more talkative species using text input, in order to obtain information about his quest and the location of clues. Any hostiles encountered are swashed and buckled as necessary, in a swordfight to the death.

Without doubt, The Kristal is as impressive a visual treat as 16 -bit owners are likely to get this year; the superb backdrops by David Hardy and Michael Haigh are beautifully detailed and simply dripping with atmosphere.

But although the gameplay is very straightforward - much in the Sierra On-Line mode of adventuring - solutions to set problems vary between the glaringly obvious and remarkably obscure. And the process of obtaining information or items can be oddly convoluted, such as having to do the same action twice to get the desired effect. Even when armed with a hint sheet (reviewer's prerogative!) progress is surprisingly hard-won, and the save game option should get plenty of use before the jewel is retrieved.

Ultimately, however, the game's major flaw proves to be its limited parser, which can be infuriatingly unhelpful to those unfamiliar with adventuring methodology. For instance, characters are able to take offence at a host of swear words, but become amazingly dense when asked a pertinent question. Conversely,
hardened adventurers who can handle the stupid replies will probably curse the 'arcade' space flight and combat sequences which intrude upon the flow of the game, and seriously hamper progress in the later stages.

The Kristal doesn't quite match up to expectations due to the flawed gameplay, but still manages to captivate and entertain, simply on the strength of the graphics: the only way to see more is to keep playing! Recommended only for arcade adventurers with large amounts of patience and dogged determination.

- Steve Jarratt


Kristal ST - stunning backdrops are an obvious attraction, but some of the puzzles are pretty obvious too.

## AMIGA VERSION

Screens and screens of gorgeous backdrops are supplemented by a variety of nicely (but not fabulously) animated characters. Thankfully, the graphics only descend to an average status during the space travel section. As for sound, once Patrick Moore's sampled (and unintentionally humorous) intro sequence has disappeared, the game becomes unusually mute save for clanking weapons and groaning bodies during the sword fighting section.
$\begin{array}{llrl}\text { GRAPHICS } & 8 & \text { IQ FACTOR } & 6 \\ \text { AUDIO } & 2 & \text { FUN FACTOR } & 4\end{array}$
ACE RATING 704

| RELEASE BOX |  |  |  |
| :--- | :--- | :--- | :---: |
| ATARI ST | £29.95dk | IMMINENT |  |
| AMIGA | £29.95dk | OUT NOW |  |
| No other versions planned |  |  |  |
|  |  |  |  |



Great expectations soon begin to dwindle due to limited progress. Familiarity overcomes many hurdles, but once finished, The Kristal offers very little extended playability


Kristal ST - Dancis Frake embarks on a new encounter.

# H.A.T.E. 

## GREMLIN launch ground and air attack

COSTA Panayi's name may not be familiar to many people, but every Spectrum owner probably has one of his games in their collection. Under the banner of Vortex Software, hits such as Highway Encounter, Alien Encounter and Tornado Low Level made their mark on the $Z X$ scene.

Mr Panayi has returned to the diagonal scrolling used to such great effect in his previous releases and, incorporating a heavy dose of Zaxxon, H.A.T.E. - Hostile All Terrain Encounter - is the result.

The player takes alternate control of a lowlevel starfighter and ground-based assault vehicle which are guided across continually scrolling geometric landscapes. Both craft are constantly assailed by an array of alien vehicles, but are armed and the tank also sports a useful missile launcher.

The aim on each level is to collect plasma cells from pods by destroying their outer casing and making contact with the exposed unit. During the level, cells act as an 'extra life', being destroyed instead of the current craft on

## SPECTRUM VERSION

The monochrome play area scrolls smoothly and the craft are all nicely detailed, with animated aliens and realistic shadows throughout. The single load doesn't accommodate the ' + ' series sound chip though, and the spot effects only cater for nostalgia fans.


sustaining a hit. The number of cells transported to the next level determines the number of craft available. In this way, failure on a subsequent landscapes sees the mission restart from the last level with craft to spare.

There are 30 levels to conquer, split into three stages. Should the mission fail on a later stage, it restarts from the beginning of that stage

Hugely unoriginal in its concept and execution, H.A.T.E. still manages to provide a quality blast. However, the lives-per-level system means that games can last for ages, and it also facilitates a high repetition factor, with levels being constantly re-played.

## AMSTRAD VERSION

Hmm. Quick and colourful - with all the features of the Speccy, but with little use made of the Amstrad's higher spec. Gremlin and Vortex prove once again that they have 3D well sussed on these 8 bit machines but can they do it properly on Amiga and ST?

## GRAPHICS 6 IQ FACTOR 2 AUDIO 4 FUN FACTOR 7

ACE RATING 635

## TOM AND JERRY

\author{

- Magic Bytes, Amiga version reviewed, price TBA.
}

Children and adults the world over have marvelled and laughed at the antics of this cartoon couple over the years, and now, thanks to Magic Bytes, you can play the game.

Taking control of Jerry you've got to run around Tom's house collecting large pieces of cheese from various cubby holes and then exit to another room via a mousehole. Getting at some of the pieces of cheese - those on top of bookcases and so on can be a little tricky for such a small mouse, so bouncing on some of the furniture helps. Then, of course, there's Tom. If the prowling pussy manages to clip Jerry it sends him spinning to the floor where he has a second to quickly flee or get grabbed by Tom and have 30 seconds knocked off of
the time limit. To defend yourself you can pick up objects such as vases and bowling balls and drop 'em on Tom before he gets you.

Diving into a mousehole brings you into a sub-game where Jerry's running along a continually scrolling roadway, avoiding the bombs and collecting the cheeses.

To call Tom and Jerry completely unplayable would not be fair. Almost completely unplayable would, in our opinion, be closer to the truth. T\&J fans the world over will be very disappointed that the chance to produce a game based on the legendary cartoon series has, it would appear, been sadly missed.

- Andy Smith


Tom and Jerry - not much fun, not much game, not much cop.
 ACE RATING 179


## We review two PC Engine games using the five-player joystick interface

## WORLD COURT TENNIS

## A nice little racquet on the PC Engine

WORLDCourt Tennis is quite simply the best tennis simulation available for any machine. The graphics and sound might not be exactly awe-inspiring, but the gameplay is in a class of its own. And better still - up to four players can participate in either singles or doubles matches.

Where the game scores highly is in the feel of the playability - you can do everything you would normally do playing a real game of tennis, with drop shots, lobs, backspin, topspin, cross court, deep shots, volleys and smashe's. There are similar choices with service, which you can spin left or right, send deep, hit hard and fast, or even flummox your opponent with a drifter.

This all sounds a bit complicated, but WCT's controls are superb, and within a few goes playing all the shots becomes second nature.

On-screen presentation is also superb. At the start of a game, the players choose a character. Each one has his or her own. For example, one character has a very strong service but a weak backhand, while another has a strong forehand and service but is pretty slow around the court. There are many characters to choose from and no problem in finding one to suit you your style of play.

Practically the whole of the court is viewed
from the baseline, with the screen scrolling a little to keep the ball central. This sounds a little odd, but it works brilliantly, giving an almsost televised feel to the game.

The rules of tennis are strictly adhered to , with changes of ends, lets and net balls, and there's even a status screen which tells you the percentage of successful first services, the number of aces, and the amoundt of points scored.

Also included on the card is a funny sort of RPG tennis game where you go on a quest and play tennis with all the baddies you meet. There's loads of text - but unfortunately it's all in Japanese, which probably rules most of us out.

World Court Tennis is a stunning game. If you buy it you won't need to worry about rain stopping play at Wimbledon - you can play it yourself.

- Julian Rignall


GRAPHICS 8 IQ FACTOR 5 AUDIO 9 FUN FACTOR 9

ACE RATING 895


Eat your heart out Wimbledon - this game will take some beating


Drive, lob, smash, drop shots...WCT's got the lot.

## DUNGEON EXPLORER

## PC Engine out-Gauntlets Gauntlet

This is a superlative Gauntlet clone in which from one to five players embark on a quest to depose the evil king from his throne.

At the start of the game each player chooses a character - either fighter, bard, warlock, witch, elf, bishop, dwarf, or thief. Each has different strengths, weaknesses and capabilities. Once your merry band is assembled, the quest begins.

The game is played over a set map split into 14 different levels. Some levels are instantly accessible from the start, but it's advisable to head for the level one zone - higher levels are populated by creatures which make mincemeat of novices.

The idea is to hunt down and destroy the giant creature which resides on each level. Doing so gives each character extra strengtth and opens up new parts of the map. lt's vital that extra strength is accrued, as the going gets very tough indeed later on.

The key to Dungeon Explorer's brilliance is the way that the gameplay unfolds as you go further and further, with secret doors opening up and new screens becoming accessible. It's
not just a straightforward blast-m-up either there are sub-missions to complete and puzzles to solve. The gameplay is incredibly rewarding, and the fact that you're given a password so that you can continue at another time keeps you coming back for more.

Both graphics and sound are stunning, with small but beautifully detailed sprites, imaginative backdrops and some of the best tunes you'll hear this side of an Amiga.

- Julian Rignall


Even better than coin-op Gauntlet?

## GRAPHICS 9 IQ FACTOR 7 AUDIO 8 FUN FACTOR 8

 ACE RATING 890| RELEASE BOX |
| :---: |
| PC ENGINE $£ 39.99 \quad$ OUT NOW |
| No other versions planned |
|  |



You must havea five-player joystick interface

# GALAXY FORCE II 

## SEGA give us a big one...

SEGA'S Galaxy Force II is a massive is a massive hydraulic arcade machine which appeared towards the end of last year. It's one of the of the most impressive coin-ops yet to appear, and boasts state-of-theart 3D graphics controlled by no less than one 16 -bit and two 32 -bit processors.

We were, therefore, naturally skeptical about a Sega conversion. Had they bitten off far more than they could chew? The answer, astonishingly, appears to be no. It's an excet lent conversion that fully captures the spirit and atmosphere of the original machine.

The player takes control of an attack craft and flies a series of solo suicide missions Afterburner-style into four different enemy territories: three planet scenes (volcanic, arctic and jungle) and also heavily trafficked space.

At the start of a game, one of these levels is selected and the mission begins. First of all you battle with squadrons of enemy craft, which launch missiles at you. If you're attempting a planet run, the ground scrolls swiftly beneath you and you also have to watch out for natural hazards pertaining to that particular world - whirlwinds on the arctic planet and great plumes of fire in the volcano world, for example.

Contact with an enemy craft or natural hazard deplete's your ship's shield, shown at the bottom left of the screen If the shield is diminished entirely, the mission ends.

Fortunately the ship can give as good as it gets, and is capable of firing an endless stream of bullets and homing missiles, which lock onto to enemy targets that are in range.

If you manage to survive long enough, you reach the second part of the mission - the tunnel. Here you have to fly down a twisting and well-defined tunnel, avoiding missiles and walls (hitting them takes very large chunks of your shield), to reach the nerve centre, which you should take out with a volley of homing missiles to complete that level. Bonus points are awarded for the amount of enemy craft destroyed, your shields are topped up, and it's on to the next mission.

Sega have certainly managed to fit a gallon into a pint pot with this conversion. Galaxy Force ll has all the thrills and spills of the original machine, and although a few corners have been cut, just about all the game features of the coin-op have been included.

The graphics are occasionally jerky, but the sprites are colourful and the 3D effect is fast and convincing - the fiery planet scene is particularly good. Sound is also neat, with fair tunes and effects.

Four levels might not sound like very much -but Galaxy Force $\$ is a tough game and will keep even the nimblest fingered shoot 'em up fan happy for weeks.

- Julian Rignall

$\begin{array}{llll}\text { GRAPHICS } & 7 & \text { IQ FACTOR } & 1 \\ \text { AUDIO } & 7 & \text { FUN FACTOR }\end{array}$ AUDIO 7 FUN FACTOR 9

ACE RATING 815


Advanced Computer Entertainment 57

# 688 ATTACK SUB 

## ELECTRONIC ARTS bubbling under

\$1 BILLION
submarines are not toys, and life aboard the average puclear powered sub can be dull even in wartime: which provokes doubts as to the point of making simulations of them.

Unlike flight/combat sims, where the action comes fast and furious (in the good ones anyway), submarine sims are invariably about stealth, tactics and edge-of-the-seat anticipation. Just how do you escape a battleship that has an accurate handle on your position? And is armed with anti-submarine torpedoes? And can effortlessly move faster than you?

Not easily, but it can be done. Success brings feelings of relief and achievement that are hard to match in almost any other simulation, and that is where the excitement lies.

688 Attack Sub is based on a Los Angeles class sub - though the player can choose to captain a Soviet Alpha class sub if he so desires - with 10 missions included. Once you've decide which mission you're to undertake, and whether you want to play an American or Soviet captain, you're presented with the main screen: a view of everyday life 1,500 feet below the surface.

From this main screen, other sections of the sub are accessed (torpedo room, navigation, periscope and so on) and the game is played by switching from room to room to act upon information received.

The missions are varied (though the politics are a bit dodgy) and range in difficulty. Every aspect of the game has been. well thought out. Plenty of action and nerve-tingling excitement make this one of the best sub sims around.

Playing solo is great, but playing against another, remote, person via modem is even better, although even then it probably won't appeal to shootem-up fans.

- Andy Smith

$\square$
RELEASE BOX

| IBM PC | £29.99dk | IMMINENT |
| :--- | :--- | :--- |

No other versions planned

## PC VERSION

The VGA graphics are excellent, the EGA graphics are good and the CGA graphics are reasonable. Sound is nothing special but that doesn't detract from the fun. It's easy to get into, for a sim, and it's tense all the way. You can't blast ships out of the water every 20 seconds, but then again you can't in a real sub.

## $\begin{array}{lll}\text { GRAPHICS } 9 & \\ \text { IQ FACTOR } 7\end{array}$ AUDIO <br> 2 <br> FUN FACTOR 6 <br> ACE RATING 847

## SETTING THE PC STANDARD

Software houses writing for the PC have got a problem. Which graphics standard should they support? Everyone has CGA, but it doesn't exactly impress in the colours-on-screen department; EGA is a lot better, and is now the standard for the US market, but fewer UK games users have access to it; VGA is the tops, but who can afford the extra £500 for a VGA card and hi-res colour monitor? EA have covered all the options here - it would be nice if other software houses began to follow suit. The sooner we can drive the market to EGA and beyond, the better...


CQA Attack Sub for the masses.


VGA Attack Sub for the lucky few.

## THE MUNCHER

- Gremlin, C64 version reviewed, $£ 9.99 \mathrm{cs}, ~ £ 14.99 \mathrm{dk}$
'COME back Chuck, come back...' There can't be too many games based on characters from TV adverts, especially adverts for sweets, but here's one starring The Muncher - the monster from the Chewits ads who is 'eating everything in it's path'.

The action takes place in Japan where some scientists have stolen a clutch of your eggs. To get them back you'll have to fight your way through the streets, demolishing buildings, eating people and generally letting the world know you're upset until you find and take them to a nuclear waste dump, where they can hatch (giving you extra lives).

Obviously, the Japanese aren't too thrilled
at the idea of a huge people-chomping monster tramping around destroying all that fine architecture and gobbling their in-laws, so they've called in the army. Tanks, helicopters and parachutists will all fire at you - each hit reducing your limited amount of energy - unless you can grab 'em and gobble 'em up.

The Muncher just goes to show that you don't need a 100 -page manual and Full Frontal Animation to make a good game. It's fun to play, and will appeal especially to younger games players. The game style is old hat nowadays, but what it lacks for in originality it makes up for in enjoyment value and good presentation.



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# ABRAMS battle tank <br> <br> ELECTRONIC ARTS in Europe 

 <br> <br> ELECTRONIC ARTS in Europe}

WEST Germany is being invaded by the Soviet Union in this tank sim set sometime during the Third World War. Luckily for the free nations, the Americans have put you in command of an Abrams M1 battle tank, fighting in the front line to protect democracy, liberty and freedom of choice from them hideous commie, pinko lefties.

There are eight scenarios in the game which can be played either individually, or one after the other to make a campaign game. For each scenario there is an objective to achieve, although thankfully there's no time limit, before returning to base for a debriefing.

You control the tank from four stations: the driver's, the gunner's, the commander's and the cupola (head poking through the hole in the top). Ammunition is limited to three types of round which you have to select for loading depending on the target: heat seeking, armour piercing and so on. Once you exhaust your ammo supplies, or need repairs, you 'll have to return to base for a top-up.

Driving the tank is fairly easy. From the driver's seat you can switch control between the hull and turret at the touch of a button: so if you're driving along and want to swing the turret round to look behind you, simply hit the key


There are a number of display options in ABT. The 3D landscape is periodically overlaid with mug-shots of other game operatives and you can look through your viewing window or poke your head through the hatch for a quick recce of your surroundings.

## KINGS OF THE BEACH

## Electronic Arts, PC version reviewed, $£ 24.99 \mathrm{dk}$

Sinin Smith and Randy Stoklos may not be famous over here, but on the beaches of California they're heroes: but then, isn't everyone? These guys are the top two beach volleyball players, and have lent their names to this EA simulation of the game.

When playing on the beach, only two players per team compete: so in this game you control one while the computer looks after the other three (you can play with or against a friend if you so desire though). You can practise the three main moves of the game bump, set and spike - before playing single matches or competing in a tournament of 15 .

All in all, KOTB suffers from the same problems as most ball game sims: the perspective makes it very difficult to see where the ball is going to land (the shadow on the floor is a little help, but not much) and so get your player in position. The computer does help occasionally by placing your player in the right place if you get him vaguely near the right spot, then all you have to concentrate on is hitting the ball at the right moment.

Even with help you'll find it tough to play consistently, so it's probably best left to dedicated fans of the sport.

- Andy Smith

PC VERSION
Great in EGA, not so hot in CGA but stil playable. Fast, smooth and enioyable. Sound effects are surprise, surprise - not outstanding, but they are certainly adequate. Battle Tank is fun, but slightly lacking in variety.

GRAPHICS 8 IQ FACTOR 5 AUDIO 3 FUN FACTOR 7

ACE RATING 735

| RELEASE BOX |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| IBM PC | £24.99dk OUT NOW |  |  |  |  |
| No other versions planned |  |  |  |  |  |
|  |  |  |  |  |  |

PREDICTED INTEREST CURVE


The controls make it easy to pick up, and the various scenarios and skill levels keep you entertained for a while, but a bit more variety in the scenarios would have sustained the interest for longer.
and then swing the turret: but if you now switch control back to the hull, the turret will keep revolving until you retake control and stop it. Actually taking on the enemy isn't tough either, because you have a TADS system and thermal imaging and the like, but their sheer weight of numbers means you'll run home for repairs at least once in every scenario.

Abrams Battle Tank is well presented and put together. The switching between screens is slow, but the rest of the game is plenty fast enough. Unfortunately, it won't take very long to work through the scenarios, but the changeable skill levels will keep you playing. And, of course, you can exercise your imagination during play by reminding yourself that HM Government have recently placed a controversial order for the tank in question.

Andy Smith


КОТВ - for volleyball fans only.

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## MICROSTYLE roars into gear.

FINDING the right balance between realistic simulation and entertaining arcade action is a complex task often attempted, rarely accomplished. This ideal seems even more difficult to achieve when the aim is to simulate the adrenaline-generating effect of pushing a high-speed racing motorcycle to its limits around some of Europe's most famous circuits.

But it seems that Microstyle's got it just right.

RVF is a simulation of Honda's world-beating RVF 750 production racer, which carried Joey Dunlop to numerous world championship victories - and even the world crown itself. Microstyle's simulation takes the novice rider right through a racing career - from lowly Clubman (competing on imaginary tracks including Tetbury) all the way to the dizzy heights of international competition played out on legendary circuits including Silverstone and Hockenheim.


The pit crew's clipboard may not be the most visually stunning of objects, but it's worth taking a quick peek before heading off into the sunset. By the way, how do yo fancy your chances against that lap record?

Before you pull on your leathers though, check out the options menu which allows the length of race to be altered, the rider's name to be changed and other, cosmetic, tweaks such as changing the speedo from miles to kilometers per hour (very 1992!). A datalink option is also included allowing two RVF riders to compete head to head.

There's one otion though, that's more important than the rest combined - Practice. Remember that RVF is a simulation, so it's no good just leaping into the saddle and powering off down the straight. Take a littel time to acclimatise yourself to the bike's controls - and make sure to get a feel for each circuit before the race begins.

And so to the starting grid..
Right from the beginning, the correct speeds and disciplines have to be observed. As the line-up waits for the starting lights to turn from red to green, the engine has to be kept at a steady $8,000 \mathrm{rpm}$ - press fire when

Careful... those revs are a littel high, and the lights are due to change at any second.
the signal changes to take off, but if you've over-rewed all you'll succeed in doing is pulling a wheelie for the first straight while the opposi tion heads for the opening bend.

Staying with the opposition is horrendously difficult, but if you can manage it you'll be able to take their lead when leaning into corners. Otherwise it's a lonely life speeding around with nothing for company other than the compre hensive status display.

Even if you've no chance of catching the field, completing a lap without losing your mount is enough of a challenge to be getting on with. Those hours of solitary practice come into their own now as you have a fair idea of which gear to take each corner at (you didn't succumb to temptation by leaping straight in to the race, did you?).

Should the worst come to the worst, a fall does considerably more than damage your ego. The bike's fully working controls are fairly robust, but a tumble can damage either the


The first bend beckons, but don't try too hard to move up the pack just yet as you're likely to come a cropper. Just keep the tail-enders in sight and take them on the straights.


Aaargh! Told you so. This tumble will probably lose you vital seconds, but worse still your speedo looks a little worse for wear.


These boots weren't made for running, but that's just what they'll do. It looks as though your chances of making an impression are gone this time, but you should still try to finish the race.


Cor - wrap you legs around this then darling! Eagle-eyed punters may notice that the letters on the back of this dream machine spell VFR, not RVF. That's because this is Honda's road version of the famous racer, kitted out with headlights, side stand and other 'road' features - including a suppressor which keeps the top speed down to 170 mph and the limits the acceleration to hitting 120 mph in 11 seconds from a standing start. And what am I asking for this red, white and blue beauty? To you guv, a couple of monkeys short of ten grand - and cheap at half the price.

## ST VERSION

ST version must rank as one of the better ST action sims around, with great sound and some excellent graphics touches.

## GRAPHICS 9 IQ FACTOR 3 AUDIO 8 FUN FACTOR 9

## ACE RATING 915

speedo or (worse still) the rev counter, leaving the driver to change gear by the engine's 'note'. You may not have to worry about this for long though, as another fall will probably see off a couple of your gears!

If every cloud must have a silver lining, the one good thing to result from the crashes is the slickly animated sequence where the rider runs his bike for a few seconds before remounting. This too is 'playable' as a quick dose of joystick waggling is needed to get the rider back in the saddle - ignore this and the rider stops for a quick engine check before trying again.

And that's about it...except to say that four laps (or whatever length of race you've selected) seems to last both forever and for three picoseconds simultaneously - and when it's all over you've got to do it all again about a billion times before you qualify as a National driver (anyone who reaches International class before their retirement is obviously some kind of cross between Joey Dunlop and Paul Daniels).

Those of you interested in VFM need look no further than RVF, as the package is rounded off by a War And Peace sized manual courtesy of Superbike's editor Tony Middlehurst, which details the bike and all of the circuits... oh, and explains how to play the game as well.

Make no bones about it (apologies to Barry Sheene), RVF is a near-perfect blend of simulation and action - if you will, 'simulaction' which will appeal to enthusiasts and arcade speed freaks alike... and all without the hassle of wiping out numerous herds of cattle to kit yourself out.

- Ciaran Brennan

RELEASE BOX

| ATARI ST | $£ 24.95 \mathrm{dk}$ | UNDER DEV |
| :--- | :--- | ---: |
| AMIGA | $£ 29.99 \mathrm{dk}$ | JULY |
| IBM PC | $£$ TBA | OCT 89 |
|  |  |  |

## PREDICTED INTEREST CURVE <br> 

High initial excitement gets even higher when you begin to relish the details. Even in the long-term, the challenge of the world championship should keep you busy.

## 


et more sexy tips for you this month, including the second instalment of the great like Singleton's Guide To Middle Earth. Elsewhere, who could resist the lure of some spankg good advice on The Kristal? Or a super snippet on Hybris? Or help on overcoming the the hostly aliens of Pacland? Or even some tips for those PC Engineers? And our last (absolutely ur last) tip for Robocop on the C64.

## HYBRIS

Some neat cheats for Discovery's Amiga shootem-up.

Load up the game and wait until the high-scores screen comes up. Type COMMANDER and press the fire buton. Now, when you play the game, press F10 to make your ship invincible (you ship attachments should fire when cheat mode is active.Press F2-F6 when in cheat mode to get all the different attachments. You also have infinite smart bombs.

Press F9 to finish the level. Pressing F10 will turn on and turn off invincibility whenever you want.

If you don't want to be invincible but you want to modify the number of lives, etc., hold down the space bar when the game loads and you will enter the options screen.

## Andrew Phang, West Aus-

 tralia


Anybody having trouble with those little ghosty gobblers in Pacland should look no further for some sound and sneaky advice.

## INFINITE LIVES

Start with a 2 player game, getting the first player as far as possible. Get the second player on the first journey back to push the second cactus from left to right, when a yellow circle will be released. Collect the circle and lose the second player's life. Let player one continue playing. Continue with player two pushing the second cactus from left to right and collecting the yetlow circle. Due to some strange quirk, player one will not die as long as player two continues to collect the yellow circle.

## HINTS

Level 1: Push the third fire hydrant you meet from right to left to get a helmet. This stops the baby ghosts from killing you. Push the third cactus you meet from right to left. This gives you temporary invisibility. It is denoted when Pac starts flashing from yellow to white.
Level 2: On the journey back push the first $\log$ in the forest from left to right. Balloons are released - collect these for 100 points each. Push the second small $\log$ in the forest on the journey back from left to right to advance to level 3 .
Level 3: When you are in the forest for the first time push the second $\log$ from right to left and you will advance a bit further.

- Jimmy, Uttoxeter


## REPTON MANIA

This freshly converted BBC puzzle game features Repton 1 and 2 on the Spectrum. To access any of the 12 levels of Repton 1, the passwords are as follows:

| SCREEN B | ASP |
| :--- | :--- |
| SCREEN C | CROCODILE |
| SCREEN D | EARTHWORM |
| SCREEN E | SEASNAKE |
| SCREEN F | ANEMONE |
| SCREEN G | BASILISK |
| SCREEN H | CEPHALOPOD |
| SCREENI | ANNELID |
| SCREEN J | LEVIATHAN |
| SCREEN K | OPHIDIAN |
| SCREENL | KING COBRA |

- Peter Hutchison, Halifax \& Geraint Cooksley, Clwyd



## MONEY:

T'N'T gives away up to £250 worth of vouchers each month. If you have any hints, cheats or maps for the LATEST games (Sega, Nintendo and PC Engine included), send them in. You could win a £20 vouch-
er - or even the top prize of $£ 150$ !

There are many ways to defeat Sauron and Im not going to suggest an instant recipe for success, more a collection of ideas that will help you on your way.

My own first hope of victory came in an unorthodox campaign. I ignored the advice given at the Council of Elrond and decided to escort Frodo to the rim of Mount Doom with armies of elves, men and dwarves, as well as Gandalf and the rest of the Fellowship, risking defeat at the gates of Mordor. The Fellowship headed east from Rivendell to a rendezvous with Thrandull's elves at the bridge over the River Andulin. From there, the army continued east into Mirkwood to a further rendezvous with the Men of Dale and the Dwarves of the Iron Hills at the place where the road forks south.

Having waited some time for all the contingents to arrive, the combined army marched south along the road through Mirkwood, keeping both a vanguard and a rearguard on the road and the Ring Bearer snugly in the middle. The march was slow and careful, the objectives being set day by day to keep the many contingents in good order. Occasional assaults by orcs were fought off with relative ease and as the army finally emerged from Mirkwood, its ranks were swelled yet again by Celeborn and the Elves of Lorien.

Finally, at the Gate of Morannon, after a furious battle, the army breached the defences of Mordor and streamed across the plains towards Mount Doom. Unassailed, the army reached the very foothills of Mount Doom, with Frodo still bearing up well after his long journey with such an onerous burden. Sensing victory at hand I decided, just for curiosity, to send Gandalf to Barad-dur to find out what was happening there. As soon as he left the army I had gathered at the foot of Mount Doom, the army was attacked again and again by hordes of orcs. It weathered the first massive assault. Weakened but still standing firm, it weathered the second assault. Then, on the third assault, came the massacre; all, including the Ring Bearer, perished in the battle and my hopes of victory were dashed at the very last moment! Had I been less rash and kept Gandalf with the army, I would have probably won a famous victory So much for curiosity!

Here then, instead of risky recipes are some happy hints.

Just in case all the 16 -bit Hobbits out there were feeling a bit left out, the following list provides the locations of important items to be discovered in Middle Earth.

OBJECT Golden Sceptre Dwarven Hammer Black Flask Mithrail Mail Red Arrow Silver Orb<br>Black Flask Gnarled Staff Elven Blade Coil of Rope Glowing Vial Elven Cloak Palantir Ancient Sword Mithril Mail Mithril Mail Blue Healing Potion

LOCATION West of Annuminas North of Erebor South of Mount Gram

In ruins East of Mount Gundabad Tuckbrough
East of Buckland Tom Bombadil's House Lorien


## ALIEN LEGION

The ultimate horizontal scrolling arcade game. You're confronted by hundreds of aliens, monsters and things from outer space. Your goal is to rescue your spaceship and fly away. Be aware warrior, this could be your last laugh.

## TARGHAN

Far from Edengarhn is the castle of the evil one. Far from your village, a lord keeps the secret, such a powerful lord that he cannot be human, a creature floating a world that dies and grows again.
Targhan is an adventure-action game with more than 120 landscapes and 40 different characters. The game is playable on either keyboard or joystick. The game offers digitised sound and outstanding graphics.
It will be released on Amiga, Atari and $P C(E G A, V G A$ and $C G A)$ by the end of May. The game will run on both colour and mono screens.

To enter our competition please send your warranty cards of either Tech, Alien Legion or Targhan together with proof of purchase and complete the following:

I like the games published by Gainstar because

Send your entries to: UNIT 1 (REAR OF 7), WELLINGTON ROAD, SANDHURST, SURREY GU17 8AW ₹ (0252) 877431-879718 • FAX: (0252) 877431
Closing date September 1, 1989



## POOL OF RADIANCE

## THE START OF A TWO PART INVESTIGATION OF THE OFFICIAL AD\&D LICENCE, FOR C64 AND (REAL SOON NOW) OTHER MACHINES

Choosing a Party
Don't bother with a thief as you only need one twice and a NPC will do.

A cleric able to reach a high level will be more useful and either evil or very good.

Take two fighters - one very evil, the other very good.

Do not have more than six in your party (you can make the game harder by having a smaller party).

If you're mixing classes then fighter/magic users will be more useful than other combinations

It's a totally sexist game, so there's no point in having a weaker female character.

## Surviving

Alter the order of your party so that the magic user is in the middee and your fighters are at the front. Also have an archer in the back row.

You will rarely suffer from lack of money so don't be a miser start the game by making your fighters as strong as possible. Bonded mail and a bastard or broad sword are good. Get short
bows as soon as possible.
Don't carry items if you can't find out what they do. On the other hand, if you're stuck don't be afraid to experiment.

Try not to move around in search mode unless you know that there a lot traps around. Use a speed setting of around 5 or 6 , otherwise you'll miss information.

There is no point going into pubs as they don't serve 6 X .

The restoration spells restore experience lost in battle (non $A D \& D$ players don't know that).

A magic user can only get to level 6 in this game.

The pyramid is an awkward sod - Journal entry 26 is helpful although there are a few wrong walls. skulls are transporters. Also, just after you defeat the wizard and before you start to search his room, save your position in case you get transported out before you are able to get all the goodies.

Missions don't always come in order of ease.

If you have trouble finishing a block, come back to it later.

You can lose treasure if you

leave it, even if you haven't actually found it yet. Get what you can, when you can.

Save magic items until you really need them.

Before you change anything in a room - search it.

## Encounters

If you don't know whether a character is friendly or not, give him/her the benefit of the doubt and speak 'meek'. If the NPC is friendly you don't want to scare it off, as you might lose valuable information.

Don't be a dunce if you meet someone apparently having a casual stroll through an evil place who wants to join you.

The madman is totally useless - talk to him a few times and then let him go.

## Combat

If given the chance, attack when at a distance and kill by bow and arrow.

A well-planned sleep or stinking cloud spell can subdue almost anything.

Don't do close up what you can do at a distance.

Cast an animate dead spell after you have killed a few bad guys and it is possible to have a small army fighting for you.

Kill any animated or charmed characters that are major characters before you finish combat mode, or you'll lose any trendy items they might be carrying.

When forced to fight more than one battle in a row, cast any cure spells before you end the battle.

[^1]
## SHORTS

Two helpful wee cheats for the AMIGA, from SR of Hampstead, London.

## OUTRUN

While playing type in RED BARCHETTA then press $S$ for the next stage, $\mathbf{T}$ for 10 seconds added to the clock, B to begin the stage again.

## ROADBLASTERS

While playing type in LAVILLASTRANGIATO then press 1-4 for different weapons, S for the next stage, F for the fuel complement.

And on the SPECTRUM, courtesy of Steve Haw of Warley in the West Midlands.

## PETER PACK-RAT

 When loaded, on the screen where it asks you if you want to scroll screen ( $\mathrm{Y} / \mathrm{N}$ ) type CREATURES. Now, when your game has ended, you can start on the level you were on before you died.
## XENON

Pause the game and press the keys T, I, N and Y . Now you will have invulnerability.

# THE KRISTAL 

FOR ALL THE DANCIS FRAKES OUT THERE HAVING TROUBLE FINDING THE KRISTAL OF KONOS, HERE'S A WHOLE BUNCH OF HINTS - USED TOGETHER THEY MAGICALLY TRANSFORM THEMSELVES INTO A COMPLETE SOLUTION. IF YOU DON'T WANT HELP BE CAREFUL - YOU HAVE BEEN WARNED!

- Find the beggar and give him Skringles, twice. Dancis automatically takes the pommel from his cup.
- Find Gloop (that's the small space-suited alien) and ask What do you do?' He should then divulge some information and proffer an invitation to the palace.
- Head for the palace and tell the guard 'I have an invitation'. On entering the palace, proceed to Nedrod's room and
minola. When travelling in space, it is best to decelerate as soon as aliens appear. Try to keep them as small as possible while shooting them and their bullets. As soon as the wave has been disposed of, accelerate towards the planet but be ready to slam the anchors on as soon as more creatures appear. Continue like this until planetfall.
- On Zapminola, find Aunt Polly and ask Who are you?'
- Find the White Pirate and give to the Minolan children's fund.
- Give Skringles to Malagar and go into the Kring's Head. - Buy Grelge and Fissionchips for extra strength.
- Go upstairs and listen to the radio.
- Board the ship and pick any destination.
- Follow the Blue Scorpion through the Magic Ring. After the Redheaded pirate and the

ask him four questions. He will then divulge the necessary information about Captain Frake's mission.
- Visit the Kring, listen, and then accept the Skringles offered.
- Meet the princess and say 'It's a secret'. Take the Ring of Belz which she gives.
- Collect the scroll from the arch to the right of the green door and take it to the transporter room.
- Buy some Froodle and Frandanas from Sereena in the market square town to increase strength. 5 Skringles should do it.
- Give charity to Boris the butler.
- Enter the green door, go through the centre arch and head left. Go into the spaceport and on board ship.
- Select the top icon for Zap-

Proffer the necessary Skringles and accept the Multipep.

- Collect the key from the left side of the town square. Eñter the Krings head, use the key to go upstairs, and collect the Heatpro Tabs from by the side of the bed. Return to the ship. - Select the icon for Glysta. On arrival, defeat the swordsman (for experience) and pick up the Psychisorber at the right.
- Return to the ship and select the icon for Feltina.
- Immediately take the Heatpro tabs as protection against the heat (what else?) and then find the Sword of the Spheres (this cannot be collected unless the Pommel is already in Frake's inventory).
- Practice some more sword fighting and then return to Zapminola.

Princess have passed, use the Ring of Belz (it won't work, unless the scroll has been collected).

- Ask Malvalla "Where am I?". Accept the Belt of the Celestial Sisters. Dancis returns to his ship automatically.
- Select the icon for Magno.
- To survive the Brain Cell, Frake needs a minimum of 100 strength points and 35 psychic points. On being released, Dancis must kill Redhead with a final swordfight.
- Confront Finn Shadok in psychic combat; he can be defeated if the Psychisorber has been collected and Frake out-shoots him.
- Once Shadok has been despatched, enter the door which opens and watch the finale. Harmony has now been restored to the universe.


## SEGA STUFF

## R-TYPE

Those cunning devils in Japan have built a special secret level into Sega R-Type, which is accessed from the fourth level. Half-way through the stage, head for the two pillars at the top of the screen (see picture), and try to position the R-9 near the left hand column.
When the red alien appears at the top, reverse into the pillar, just as another red alien approaches from the left. Timing is critical: the R-9 practically has to collide with both the pillar and the red alien at the same time.
Success sees the screen flash, and the special bonus stage is entered allowing extra weapon-

ry to be collected. If at first you don't succeed, keep trying - it does work.
If just getting to the fourth level proves too tricky, extra credits can be had by rotating the pad/joystick clockwise during the restart countdown. Up to 12 credits can be had, but this trick only works once per game. However, if you rotate the controls anti-clockwise, the R-Type sound check is entered. Here, the 17 sound tracks can be heard by pushing left and right on the pad, and pressing button 1. After number 17 , pushing button 2 and right on the pad brings up effects 18 to 95 , which are again activated by pressing button 1 . There, that should keep Sega owners quiet for a while...

- The ACE team \& Alan Frost, Sheffield


## PC ENGINE

It now looks like the PC Engine is here to stay, so here's a helping hand on two games:

## R-TYPE

Try entering the following mission code for maximum equipment, and a full complement of lives: JJL- 6589-MB

## CHAN AND CHAN

Halfway through the last level of world 1, a little bridge appears just as a group of birds fly overhead. Walk over the bridge, Then turn and kick as many bricks as possible. Fall down the hole which is made and Chan (or Chan, depending upon which character you are) bounces back up and off the top of the screen, to reappear in a secret warp zone, where levels 2,3 or 4 can be entered at will.

[^2]


# for thesmallstreen 



## AN INTRODUCTION TO THE WORLD OF SCREEN 7

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## UPDAT



## SPECTRUM

## CARRIER COMMAND

## RAINBIRD $£ 14.99 \mathrm{cs}, £ 15.99 \mathrm{dk}$, Atari ST version reviewed issue 9 . ACE rating 927 .

Microprose must be thanking their lucky stars they now have the publishing rights to excellent strategic software like Realtime's brilliant Carrier Command. It wipes the floor with anything the Tetbury based outfit have come up with themselves in the last two years.

And the marvellous thing about Carrier Command is that the game play is just as brilliant on the Speccy as it is on ST and Amiga.However, it is not all sweetness and light as it will only work in 128 K mode.

You are in command of an enormous futuristic air craft carrier - the SS Epsilon. The bad news is that the enemy have taken control of the Epsilon's sister ship . and are set on using it to take control of a strategically important set of 32 islands.

Using the immense weaponry of the Epsilon - including its jet fighters and land assault vehicles you must defeat the now renegade Omega carrier.

You view the action through a central window which shows you
all of the fighting in amazingly smooth vector graphics. Commands are implemented weapons selected and vehicles chose trough a system of icons that surround this central window.

Carrier Command is that rare thing - a game that successfully blends exciting arcade game play with a serious cerebral challenge.

- ACE RATING 923



## C64/128

## SPEEDBALL

IMAGEWORKS $£ 12.99 \mathrm{dk}$, £9.99cs.
ST version reviewed issue 14 ASE rating 834

Speedball first appeared around August ' 88 on Amiga and ST to a rapturous reception, and was acclaimed as being the definitive sports sim.

Set in the distant future the sport of Speedball is an all-out, hell-for-feather, anything-goes sort of game. The rules are that there are no rules. Somewhere up-field is your opponent's goal and you have to go for it.

Control of the players is as easy in this C64 versions as it was in the 16 -bit's. As with most team sport games of a similar format you control the person nearest the ball. Your overall team rating determines what the rest of the team do - a high rating and they'll get into good scoring and passing positions, a low skill rating and you might just find your striker wandering around at the back of the pitch.

One of the best 16 -bit downgrades we've seen with a high standard for graphics and sound work. Splendid conversion.

- ACE RATING 860


## AMIGA <br> RAMPACE <br> ACTIVISION £24.99 C64 version reviewed issue 5 ACE rating 567

I just love this game. The C64 version fell down on the graphics side, but the Amiga version puts it goes into a league of its own.

It's a King Kong type background. Your giant gorilla must smash the buildings, grab the helicopters, stomp on the police cars and generally cause as much mayhem as possible in down town New York.

The three player option makes the game a race against
the other monsters and also introduces elements of beat 'em up as you can slam your opponents in the chest and send them whizzing out of the picture.

This was never considered one of the really hot Sega licenses - but for my money it may well prove to be more of a classic than the Afterburner's and Galaxy Force's.

- ACE RATING 836




##  <br> Beloes you decide when to buy your new Commodore Amiga computer

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## UPDATE SPECIAL

# PC RACERS 

## Have they got it under the bonnet? Ciaran Brennan test drives three PC contenders.

Motor racing games have never lived up to their potential - even in this, the age of the all-singing all-dancing 16 -bit home computer. It's difficult to know why this is - but one thing's certain, no racing game has ever managed to generate half of the sense of speed or urgency that are accepted as the norm in, say, flight simulators.

If examples are needed, then how about OutRun? US Gold's Amiga and ST versions disappointed an expectant world, shedding the coin-op's awesome blend of stunning graphics and seat-swinging gameplay and replacing it with a red box sliding along a jerky and garish roadscape. So what hope is there for PC OutRun? Well, believe it or not, this is by far the best version yet - and is so far the only home computer version of an arcade racer to approach achieving the original's playability.

And strangely, this doesn't appear to be a fluke as both the other PC racers released this month, Mandarin's Lombard RAC Rally and Accolade's The Duel - Test Drive II, go way above what was expected. Is this brief burst of motorway madness a flash in the pan, or could these mean machines be the shape of things to come?

## Delivering the power?

Lombard RAC Rally was warmly received when it first took to the mud-filled roads of the ST and Amiga's 16 -bit forests, but even here the handling and car speed left a little to bee desired. But surely this rolling tumbling rollercoaster rally ride couldn't make it onto the PC? Don't you believe itt The CGA version's acres and acres of eye-tiring stippled magenta are a good cause for complaint, but EGA's 16 colours remedy this fault and contribute to a well above average conversion.

Not so surprising is Accolade's follow-up to its original 16 -bit belter Test Drive. Built on the other side of the Atlantic where PC's rule the roost, The Duel is another chance to take a couple of high-performance European sports cars on a law-breaking journey up the side of a mountain in a race against either the clock or another motor. The EGA version is understandably impressive, but the care and attention that's obviously been lavished on the fourcolour CGA make for an equally stunning show. The only let-down here is what meets the ears - especially the hilarious trim phone effect that sounds when the police give chase (brings a whole new meaning to the expression 'mobile phone').

## Sound - but no fury

But unfortunately that's the way with vast majority of MS-DOS software. The IBM's sound chip isn't known for its impressive orchestral capabilities - but it seems that engine noises are also a little out of its range. Both OutRun's and The Duef's Ferraris replace the customary

satisfying roar with a teeth-grinding series of beeps (which grate mercilessly in the lower gears) - while Lombard RAC's pathetic crash effect (cheep! cheep!) is nothing short of unforgivable.

Sound effects take the credit for most of the atmosphere generated in any game, but

Spectators turn out in force as you prepare to take your IBM where it's probably never been before. EGA users wait for the lights to change from red to green - but if you're one of the lucky many who has to make do with CGA, then you get to watch them change from magenta to magenta!


The Duel incorporates a 'strategic' element, where you have to stop off at regular intervals to fill 'er up - unfortunately it looks as though your Porsche-pushing buddy has got there before you.
more so when an impression of speed is needed. However it seems that until the fastemerging sound boards become as widespread as EGA graphics add-ons, PC owners are going to have to put up with their games sounding like glorified microwave ovens.

## Drive like hell

But heavens, let's not dwell on such sordid matters. PC owners should be rejoicing the release of three such classy products - now you have the luxury of choice that other computer owners take for granted. But that's not to say that any one of these programs should be picked up exclusively: OutRun panders to the arcade purist's need for speed, while the other two have aspirations towards being simulators with Lombard RAC offering long term competition against The Duel's wannabe appeal.

Probably the most telling point is that up until now PC road games (and, some would argue, MS-DOS games in general) have usually come with the proviso 'not bad for a PC' attached - this trio may however be the first of a new wave which can hold its head up beside the other 16 -bit wonders.

So isn't it time that you got behind the whee!?


Head for the hills in Lombard RAC Rally's souped-up Sierra. Every dial's a worker, but wouldn't pay too much attention to your co-driver as his clipboard map is notoriously dodgy.

## SUPERCARS TAKE THE CALIFORNIA CHALLENGE

Fed up taking the same cars out for a spin on the same old roads? Well worry no more, as The Duel allows affluent drivers the opportunity to change both their vehicle and setting with two add-on packages: The Supercars and California Challenge. The former replaces The Due's original high-speed pair with five equally mouth-watering motors an '88 Lotus Turbo Esprit, a Ferrari Testarossa, a Porsche 911 RUF, an 88 Lamborghini Countach 5000 S and an ' 89 Corvette ZR1. Impressive sounding maybe, but these five are actually the original line-up from The Duel's predecessor program - Test Drive. A little more original though is the California Challenge (also $£ 11.95$ ), which replaces the standard scenery with an accurate route which negotiates the West Coast between San Francisco and Mexico in seven fun-filled stages - see you in Acapulco!


Step outside for a moment to marvel at the shining exterior of your pride and joy - has the dancing horse ever looked this good?

## THE FACE-OFF

Performance<br>Acceleration<br>Handling<br>Reliability<br>Optional Extras

The Duel
$* * *$
$* * * *$
$* * * *$
$* * * *$
$* * * * *$

OutRun
****
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Lombard RAC

*     *         * 

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*     *         * 
*     *         *             * 


## PERFORMANCE

This category reflects how the car feels - does it generate a feeling of travelling at speed, or does it just feel like a Sunday outing in a Lada? Both The Duel's and Lombard RAC's sluggish control allowed OutRun to take the honours here - but only really by default.

## ACCELERATION

Just that. However, none of the cars tested managed to create any feeling of gathering speed - with The Duel easily left standing at the lights. HANDLING
Realism is the key here - and while The Duel performed beautifully, OutRun did manage to hold the corners a little too well and Lombard RAC's poor old Sierra suffered from incredible oversteer.

## RELIABILITY

Or, "how the shocks took the knocks". OutRun really doesn't count in this category, as even a complete tumble only loses a few seconds. The Duel behaves a little more respectably, but even then a fall of 100 ft still only results in a cracked windscreen. By far the worst in this respect though was Lombard RAC - a short high-pitched beep is hardly enough to suggest a head-on collision with a tree.

## EXTRAS

Once again OutRun doesn't really figure, weighing in with little more than the option to change the backing track. Lombard RAC performs a little better, with extras including a TV interview and full workshop. However, The Duefs extra scenery disks and add-on cars make it a clear winner remember though, like the real thing, these optional extras are a little wearing on the pocket.


# INSTANT ANIMOTION 



For many children, even us quite elderly ones, a favourite cartoon sequence has always been the magic paintpot. You know the one; Roadrunner gets a bit ahead of his pursuer, pulls a pot of paint and a single brush out of thin air and paints a false road out over the cliff edge... or a door in a brick wall, which opens... or a bomb with a lighted fuse which explodes... If only we could do that, even just for fun. Well maybe the time is fast approaching when we can!

As desktop computers get more powerful AND less expensive, d +y animation has become simpler, easier, and quicker to produce. True "Desk Top Video" is still in the realms of the rich kids and semi-professionals but those of us with straightforward off-the-shelf micros can still make short but interesting animated sequences or at least get a bit of motion into our static paintings.

## SHOW SOME ANIMOTION

There are a whole range of ways that movement can be put into your pictures using anything


## GRAPHICS



12 zfrom a simple paint program to a sophisticated ray-tracing and delta animation system, but few of them could be described as instant!
Computer paint programs for the more advanced machines - ST, Amiga, PC, Archimedes - have always let us pick up multi-coloured brushes, replacing the pointer with an object or sprite that can be moved about the screen with a mouse. This object can be pasted down once or many times to any part of the screen as if it were Roadrunner's multi-coloured paintbrush. In effect, a block of static screen memory is copied from the bitmap and transformed into a chunk of memory that can be easily moved across the screen 'above' the bitmap, then merged back into it again.
If Stencil or Exclude Colour is available, the object can be made to appear from behind parts of the picture so that the sun rises from behind the trees or eye-lids move over eyes. In this case the sprite is moving 'below' part of the bitmap and 'above' the rest. Some programs can cycle the colours in the palette while the brush is drawing to give pseudo-animation. This process is used in many games to give the impression of movement; even sophisticated road-race games like Hang-On use colour cycling to make the road seem to move. The palette switching and order of colours can take a bit of working out but the results are fairly immediate.

## SPRITES IN MOTION

Proper animation programs are available for most advanced computers, though the Amiga has by far the best selection. The simplest form of true animation also uses sprites, but rather than use just the mouse for random movement, each object is given a precise path to follow. In this way, many objects can be moved at different speeds along a variety of pathways, above and below the bitmap, and can even be scaled to give the impression of travel into and out of the picture. Aegis Animator, available for both the Commodore Amiga and Atari ST, Deluxe Video and Fantavision for the Amiga and Advanced Art Studio for the ST, all use this method to great effect.
Above a certain number of objects, memory can become limited for sprite animation and the processor becomes overworked so the movement can appear to flicker and jerk. A blitter chip (fitted as standard to the Amiga, and some Ataris) can help to some extent by taking over the load of sprite movement control from the main processor, but the size of objects and the length of animations is quite limited on a standard


# DELUXE PA PKT: <br>  

First, the dancers are one anim-brush picked up from a well known source of animation frames, Edweard Muybridge. In 19th century America, Muybridge made the forerunner of moving pictures as a result of experiments to reveal the nature of animal and human locomotion. His photographs were scanned in and the backgrounds removed.

Since it was first released in November 1985, Deluxe Paint has remained the premier graphics tool for the Amiga range of computers. It has also become the best 'maintained' and upgraded piece of software available for the Amiga, starting out excellent and progressing from there. The new version, Deluxe Paint 3 (DP3), has been greatly improved in a number of areas, but what makes this release really special is the addition of animation. What makes it a pain is that it only works on 1 meg Amigas.

The main program features - in their PC guise - were reviewed in detail in ACE 12, so only the new and improved features will be described here.

As a near perfect compromise between onscreen icons and menus Deluxe Paint has remained unchanged since the original version. The menus have got longer and shuffled about, but the icons have maintained a continuity that helps old users upgrade with ease. DP3 has one small change; freehand draw has a diagonal division to allow filled as well as line drawn forms.
'Brush' or 'Painting' modes in DP have always been comprehensive, but now there are two new ones, Tint and Extra Halfbrite. Brushing a 'tint' onto the painting, mixes the tint colour with any shade that the brush passes over. Extra Halfbrite (EHB - US spelling) is an Amiga mode where each of the 32 low resolution colours has an equivalent that is half as bright; not really a true 64 colour mode as the extra 32 are not definable separately but on screen that is the effect. Painting in EHB mode the left mouse button puts shadows onto the picture and the right button, highlights.

If the palette is set up suitably, EHB fill mode provides smooth graduations that automatically include the EHB equivalents at the dark end of the fill, improving the smoothness of the colour transition. Other new fill types are Tint, Brush - distorting the current custom brush to fit the filled area, and wrap - similar to brush fill but compressing the edges to give the illusion that the brush is 'wrapped' around the shape. In effect this last fill type is simple texture mapping.

Text entry was always a weak point in


Beach Dance as a whole: the dancers, the grass, clouds and their shadows and the Flying Fish all move. This can only be represented here by a few still shots, which is a pity. As with all computer animations, the errors and pixelations that are so obvious on a still, disappear as soon as the action starts. The sequence is just 23 frames long.


Each blade of grass is an 'AnimBrush', the fundamental tool of AnimPainting in DP3, composed of 12 frames. With each repeat, it cycles through the frames.

Deluxe Paint, mainly because it was difficult to use fonts on a different disk. A new font requester has cured this problem and provides a preview. This is especially useful when using Colourfonts, another new addition. You still need to know the full font directory name though.

Many other smaller changes have been made including a number of coding 'speedups' that make most operations faster and smoother. This is particularly obvious in perspective mode, so much so that Dan Silva, the author of DP3, recommends using pespective rather than the Brush menu for rotations.

The really big addition is animation. Many other paint programs provide a means of animating the screen (see elsewhere on this page). DP3 does it with a complete and intuitive integration that makes adding movement


The Flying Fish is also a brush. Leaping out of the sea, it is MOVEd - on both $x$ and $y$ axes - as well as rotated. The splash is added freehand.
to a picture an obvious development in the "...why didn't I think of that before..." category. Animation is made really easy by treating each object or brush as a separate mini-animation that can be painted on - or 'animpainted' to use the new jargon - in virtually the same way as an ordinary brush. Almost every tool, painting mode or brush transformation works. This approach is unique. The actual process is detailed by the illustration on this page.

What finally makes DP3 totally mindblowing is its ability to produce an animation within an animation within an animation within an ...... It is possible in fact to produce a detailed, multilevel sequence, pick up the whole animated screen and spin it screaming into the blackness of the void like Han Solo or Superman's super foes.

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\begin{aligned}
& \text { RENDER } \\
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A Render Bender still picture, simply constructed from standard geometric shapes.
In the "Raw Computing Power x Journalistic Abuse tables" Acorn's Archimedes has now way overtaken the early example set by the Amiga, especially with its latest price rises. Nevertheless the software that is now begining to appear may cause some pundits to eat their words. RENDER BENDER from Clares is a blinding demonstration of the potential power of

RISC computing.
Most graphics enthusiasts will have realised by now that in spite of the realistic images that ray tracing can generate, the rendering times usually involved are of the same order as continental drift. That is all set to change for Render Bender renders FAST - not in 'real time' or instantly you understand, that is only possible on a setup like AT\&T's Pixel Machine, (more news of this beast soon) - but at least you can see the image
building up quickly down the screen, even in high resolution.

Render Bender (RB) operates in the same basic way that most 3D animation sytems use; a complete model of the desired 'world' is set up in memory, then the model is rendered in detail on screen. The model is called the 'scene' and- it includes all of the desired parameters including the colour, shape, size, surface texture, opaque density (opaqueness), and refractive index of each object plus its starting posi-


-3machirte.

## PRGE FLIPPING

An alternative animation method for large complex animations is page-flipping. As the name suggests this is in effect the same method as drawing the frames of an animation on successive pages at the corner of a notebook and flipping quickly through them. Each frame is a complete or partial screen bitmap, not a sprite. Animation is achieved by changing each frame/ screen successively by a small amount, and saving them separately. Once all of the frames are loaded back into memory, any reasonably powerful computer can switch them backwards and forwards onto the screen at a very fast rate, in some cases faster than a speeding bullet. Well, more than 60 frames per second anyway. Most standard half meg. machines only have room for about 10 full size frames but that can be enough for a really spectacular sequence if the frames are designed to loop together.

Even longer sequences can be constructed by packing the frames using Delta compression techniques. Unless a very large object is being animated, the difference between one frame and the next (the number of pixels in the bitmap that have changed colour) is usually small. Delta compression involves storing only the first frame of a sequence in total, plus those parts of the bitmap that have changed in successive frames. The result? Much larger animations taking up much less disk space!

Pageflipping and delta compression seem to have become very popular recently, especially in ST paint software, probably because the ST blitter is taking so long to materialise. Cyber Paint from Antic, Eidersoft's Quantum Paint, and Atari's own Hyperpaint all use similar compression techniques to produce simple pageflipping, though CyberPaint is by far the most powerful, a Paint/Animation system in the same mold as Deluxe Paint III.

On the Amiga, paint systems have tended, until recently, not to include animation, probably because there are so many excellent stand-alone animation programs. Deluxe Paint III has changed all this, integrating animation into the normal painting process in a seamless intuitive way. (see side box 'Animation Deluxe')

The most advanced 3D modelling and ray-tracing animation systems all offer pageflipping and delta compression to produce smooth motion control. On the Atari ST, the Cyber Studio series (see ACE 4) from Antic is by far the most well developed and fully featured animation system. The full range of software offered by Cyber Studio will be dis-



10Studio will be discussed in an ACE graphics feature in the near future. On the Amiga the range is much wider, including: Videoscape 3D, Sculpt Animate 3D, Forms in Flightll, Caligari, and the Hash Animator series. Most of these have already been described or reviewed on these pages so, for a change, Render Bender, a new ray-tracing animation system for the Acorn Archimedes is featured in a side box as an example of the most advanced form of animation available on a home micro. The speed and quality of the rendering is astonishing, but the modelling system is about as user friendly as a tax form.

## POETRY IN MOTION

There will be cries of "fix" and "bias" but after trying out almost every piece of paint and animation software available in this country for a home micro, Deluxe Paint 3 stands head and shoulders above the rest for instant action as well as user friendliness, versatility, range of features and just pure fun. On the Atari ST the nearest equivalent seems to be Cyber Paint (though it has not yet been given the full test treatment; see a future issue of ACE for that). It is not as instant or as intuitive as the new Deluxe flagship but it is powerful. Render Bender is in a class all alone. Instant it is not, but the speed of its rendering makes it seem instant compared to even the fastest Amiga ray-tracer. If the modeller was more friendly it would be brilliant. Never? theless, for one-brush, one-paintpot, instant animation there is no doubt that Deluxe Paint III is the best in the world, bar none. RoadRunner would be RoadPoser without it!


One frame from an animation: the balls appear from the blue 'box' and roll down the purple slope...

...while the small point 'lightsource' on the corner of the blue box casts shadows of the moving balls on the floorboards behind them.
position and motion characteristics within the animation sequence.

To set up the 'scene', RB uses a script file, in other words a text file which contains all of the parameters. According to Clares this method has several advantages but these seem to be totally out-weighed by the big disadvantage - it is very user un-friendly. Their primary reason is the short development time and hence cost. At $£ 80$ the package is reasonably cheap, but many of the people who might want
to use it will be put off by the difficulty. It needs an interactive, wire frame or solid modelling interface. In time Clares are bound to offer one. It will be worth waiting for because the quality of the rendering is excellent and should be made available to as many people as possible.

The interface problems notwithstanding, the images produced are quite sophisticated. Six primitive solids are provided plus three and four sided polygons. With a bit of imagination most objects could be constructed from these, though an interactive modeller would make using the polygons much more versatile especially if Phong shading were used to smooth faceted surfaces. This would undoubtedly add to the rendering time.

Three light-source types are provided, rays, points and spotlights allowing very sensitive and subtle lighting effects. By combining lighting effects with the various surface reflection and transparent/refraction properties it is possible to set up very realistic pictures like the illustration, Rolling above. The finishing touch of realism is added by the wide range of floor patterns available including wooden floorboards! At last we can get away from the cliched chequerboard.


## ALTERNATIVE IMAGE

Although the animations that the average home micro can produce are not up to the standards required for broadcasting, some companies are using Amiga and Archimedes computers to produce test animations, quick demos (known in the trade as 'animatics') and low-cost corporate videos. Alternative Image, based in Leicester, have used Amigas to produce a number of professional quality animations including this robot for Bass. The Amiga 2000 they use is expanded to quite a high standard (and expense), but the software and techniques used are all available to any Amiga user. Practising with a standard micro and relatively cheap software, home animation could be the first step towards a professional career.

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## JON BATES DELVES FURTHER INTO THE WORLD OF COMPUTER MUSIC



The second most popular musical use for your home computer after sequencing, which we took a glance at in last month's ACE - is its ability to create, and to help you create, sounds: a capacity known as VOICING.

If you read our monster overview in Issue 20 , you will recall that there are two ways in which you can encourage the computer to make sounds: either program it internally, or get it to program an external synth via MIDI. The big advantage that voicing software provides is the ability to see all the peripherals (those bits that go to make up the sound) on screen. This may be in the form of sets of numbers, but more sophisticated programs will translate these numbers into easy-to-follow graphs. The real gems are programs that will let you manipulate a graph on screen, and also offer up an endless series of random voices to give ideas to get started.

## INTERNAL CHIP PROGRAMMING

Most computers are still sadly lacking in the audio department, the bottom of the heap being the 48 K Spectrum with its single-channel 'beep' command. The most common chip in use is the Texas Instruments AY 8912 or a cloned derivative. This is used by the 128 K Spectrum, Amstrad CPC, nearly ail PC models, MSX (Yamaha added a tone module to theirs), the ST, and the BBC. This is a three-channel sound chip that suffers with a basic problem in
that the tone created is a square wave, which is fairly harsh, and not too adaptable, but surprisingly many games have coaxed stunning sounds out of it, and it's still to be heard wittering away in a multitude of one-armed bandits.

The Commodore 64 has the SID chip with four channels of sound and vastly improved sound filtering. At the time, this was seen as a very large step for mankind, but it does pale by today's standards. However, with smart software, it can be made to play sound samples.

Computer designers have only recently started to take sound seriously and incorporate quite sophisticated chips, using the latest ideas in sound synthesis. The three most impressive are the Archimedes, SAM, and Amiga. About SAM I know very little, except that it has a sixchannel stereo chip. The Archimedes has an eight-channel stereo chip, and the Amiga a four-channel stereo chip. Because these are very complex chips, they still await the development of software to turn them into synthesizers proper. However, since all of the machines have high-speed internal workings and large memories, it makes them very useful for sampling. The sounds produced by both the Amiga and the Archimedes, so far, have only been

## MUSIC

samples. As yet we await the bespoke voicing software that will take full advantage of their respective sonic capabilities. There is another option: that of purchasing a dedicated bolt-on tone generator. There are a few about, and ACE is currently trawling for a few more. The results and comparisons will be reported on in a not-too-distant issue.

Meanwhile, the ST is the best bet for internal chip music. In the heyday of the home 8 -bit computer there was a fair amount of voicing software about, which is still found in the cheapo buckets of some software stalls. But if you have an ST, there are several pieces ofn PDS software with which to program the soundchip: try The Sound Generator from Goodman PDL which will give you a graph display of the sound, offers quite a lot of programming facilities, and is fairly typical of its type. It's a lot easier than programming in BASIC.

## VOICING FOR A SYNTHESIZER

Voicing software comes into its own when used with a synthesizer proper. One advantage that the older analogue synths had was knobs: lots of them. Shiny, coloured, well-marked faders, switches that you physically moved, and a sound path that was easy to follow. The first commercial synths were a selection of modules that you had to actually plug together in whatever configuration that took your fancy.

Sound always started from the left and traced a path through the various filters, processors and envelopes, to emerge on the right-hand end, as it were. Alter the sound? Just move any of the faders and hear what happens. This was absolutely the ideal bodger's way to start off: "Sod the manual, let's twiddle a few things and maybe come up with something." It didn't take long to find out the basic function of the various sections; it was just endless experimentation - if something didn't make sense, a quick glance over the panel usually revealed the problem, and even if it didn't, you could always try moving a few things about.

However, since we are now well into the digital age things are very different. One switch is not wired up to a particular function, say vol-
ume: instead, it is wired up to a CPU, and consequently can be made to perform myriads of functions. The lack of 'hands-on' is inadequately compensated by an LCD. Instead of a shape that is visually perceptible you have strings of numbers. To further confuse you, these numbers will almost certainly have different maximum settings; an attack level of 99 may well be flat out on the main envelope, but not necessarily on the auxiliary low frequency generator. If this applies within just one synth, think of the fun when you swap to another with a different set of arithmetic rules. Not only a different set of maths, but more than likely a whole new way of creating the sound in the first place.

Enter the voicing program. By talking to the synth via the Systems Exclusive part of the MIDI code, it should display all the parameters of the sound on screen, and offer you the facilities to change, and store the changes, at will and with ease. Unless you have the sort of brain that can cope with three dimensional maths, and can boast a pretty good memory, you will find this a major boon if you own pretty well any MIDlequipped synth.

To program your synth you will need software specially written for it. There is no 'master programmer' because there are several methods of creating sound and it would be fairly impossible to encompass these fully on one program. It follows that the more popular the synth, the greater the likelihood of finding a choice of software for it. So the chances of programming a DX7 from an ST are not simply excellent: you are spoilt for choice. If you wish to program a Korg synth from, say, a CPC then you would be very much down on your luck.

Synth programmers exist for most home computers. It will depend on the make of your computer, interface and synth as to the availabitliy of bespoke software, but you could try these companies for software other than PC, Amiga or ST: for the Spectrum, the Spectrum Music Group on 05242 62258, and for the Commodore, CPC, and BBC, try EMR on 0702 335747. As yet the SAM and Archie have not spawned voicing programs at all.


Public domain software to give you a head start in internal chip programming for the Atari ST: this is The Sound Generator from Goodman PDL. Sounds can be constructed from a number of different basic waves: levels are adjusted with slide controls.


Starting at the low-budget end is the Public Domain software. Although I have only seen some for the ST, most catalogues feature a voice programmer for the CZ, usually coupled with a similar program for the Yamaha DX100. These are in fact random voice generators coupled with a library syslem. Any voice programming still needs to be done from the synth itself, so not too much comfort here. Still, at the cost they're not too bad, and come with a fairly detailed set of instructions which you print out. You do get quite a tot of free voices, too, which would otherwise cost quite a bit.

## CZ ANDROID <br> Hybrid Arts 014449126

Perhaps the best voice programmer for the CZ series comes from Hybrid Arts and is called the CZ Android. I've had this one for some time and have found it very easy to use; indeed, it wasn't until discovering this program that I realised the

cZ Android: the graph in the centre of the screen shows the sound's shape.
enormous potential of the CZ series. These synths are very complex in operation, and so you won't get much joy out of the tiny editing LCD on the front panel of the instrument. The pitch, filtering, and sound envelope constructions are all complex in themselves, but there's a wild card, too: altering any part of the envelope has the effect of altering the shape of the envelope totally and generally screwing the whole affair up.

Android uses two basic screens: the library page and the editing page. The library has the internal memory in the centre with two alternate banks either side. Voices can be transferred either singly or en masse to the edit workspace. From the edit workspace you flip to the edit page, where the first things you see are rows of numbers running across the screen and divided into the various voicing parameters. Eight double sets of figures in each section relate to the the envelope stages and the rate and level. You can alter these by clicking on them and depressing either mouse button.

In the corner of each section is a tiny mailtype envelope icon; click on this and it reveals a graph display, alterable either by figures, or by tugging the oblong-shaped parts of the graph to reshape the sound. You don't have to use all the envelope - in fact, very few sounds need thatand you can specify where the envelope will sustain and end, again by clicking on the appropriate part of the screen. Alterations are instantly updated and sent to the synth. Apart from having all the sound peripherals on screen, including the initial waveforms used for this 'phase distortion'

# wo of the most popular low-budget musical items have been the Casio CZ101 nd the Roland D110, a synth and a tone module respectively. Because of their opularity, there is a good supply of programming software for both, especially e slightly older Casio. 

IE CASIO C2101 \& THE ROLAND DI10
method of sound creation - vibrato, octave setting, detune, and key follow - you have dropdown menu options. These include the 'Android' feature, which is the program's word for randomize. You can also thicken up a sound by opting for 'distort', undo all your editing, initialize, compare with the original, and store your workings. You can format the disk as well (hoorayl) without exiting to the workbench.

All these features are very useful, and provide an easy jumping-off point. It goes without saying that voices can be named, not that this'll do you a lot of good, 'cos the CZ won't display the name. Having used this program for some time I can thoroughly recommend it. It stands the dear old Casio on its head.

## SOUNDBITS 3D PROGRAMMER

SoundBits Software 0217332063

SoundBits Software have come up with a smart piece of software that not only covers the D110 but will also do for its smaller cousin, the MT32, and the keyboard versions D10 and D20. On loading up, you get the main options screen. Set it to default to your instrument, and then work your way through the program.

The first thing to do is to save the overall setup. In case of blunders later on, you can always return to this. Diving into the configuration screen, you get all the information you need. To change actual voices, you click on the name of the current voice displayed in the 'timbre' box (Roland call the voices timbres', just to be different). An overlay then pops up, listing all the voices in that tone group. To change tone group, return to the screen and hit the tone group, and the other timbre group pops up. Any voice you want, you highlight by clicking on it. This is sufficient to transfer to the configuration screen. After fine-tuning the set-up to your requirements, select the next part to work on and repeat the process. For easy reference, a list of all the current parts with their details is kept on screen. All configurations can be named and stored.

Across the top of all the screens are the main facilities: data transfer, either in part or overall, the other edit screens, tone and rhythm. Tone editing is similar to the 'Android'. It makes a very good and thorough job of displaying the sound, creating features which are pretty complex; and if you screw up, the last edit you made can be undone as well. Throughout the program, peripherals are altered by clicking on them, rapidly changing the chosen value. On any of the screens, the sound of the current voice can be played by clicking on the right hand mouse button. The position of the mouse will determine the pitch and velocity: left and right for pitch, up and down for velocity.

The rhythm edit screen is fairly self-evident as well. Since any drum can be assigned to any output, at any volume and degree of pan, all these are displayed, with an active piano keyboard to assign the drums to. I would have liked to be able to have a giobal assign feature here, so that if you wanted all the srums to come through one output, say the stereo mix, you could do it with one click instead of having to go through each and every drum. My only other gripe about
the program was that there didn't seem to be a way of printing out a voice listing, which makes it a little difficult to remember what's where. Otherwise, $3 D$ is a very successful program and one that any serious D110 user should start saving for now.

## ABOUT THE ROLAND D110...

Roland's D110 is a very sophisticated piece of hardware, belonging to a family known as multi-timbral tone modules. A tone module is merely the guts of a synthesizer, without a keyboard to play it from or pitch and modulation wheels to alter the sound in real time, and relying instead on a mother keyboard or another synth to provide these. It is multi-timbral because it can play more than one sound at once.

Like most modules of its type, you can have eight sounds responding to eight separate MIDI channels, so it is well suited to being run from a sequencer. The configuration of the voices is probably the first thing that you will need to set up. There is a basic choice of 128 voices, and not only the MIDI channels but also the fine tuning: pitch, how far it will bend when nudged by a pitch wheel, the range it will play within, and its volume. Further complications set in when you look at the back of the module. There are six separate outputs, plus a stereo pair and a mono output, which doubles up on one of the latter pair. These, too, can be assigned for each sound; if you choose the stereo, the pan from left to right can be fixed as well. The damn thing comes with a monstrous drum and percussion section as well, aft assignable to a MIDI channel and individual audio outputs. Finally, the reverb setting for the whole configuration can be set, with a wide variety of modes and strengths. This is all ulcer-inducing stuff when setting up from the front panel, with its multi-function buttons and wrist-watch sized LCD. This sort of thing really cries out for on-screen editing, so that you can see at a glance what woices you are setting where.


3D Programmer: into the patch edit...

...then selecting the instrument voices...


## WHAT TO LOOK FOR IN A VOICING PROGRAM

It should be pretty obvious how it operates. Try to avoid programs that give merely numerical lists: graphic display is the order of the day.

Any alteration you make to the sound should be updated on the display. Preferably you should be able to drag the display around.
All the main sound parameters must be on one screen: it's no fun flipping between two or three screens to fix up a sound.

It should be able to store not just individual sounds, but banks of sound as well: the whole sound memory of the synth. Look for the magic word 'librarian'. It goes without saying that it should also be able to transfer either single volces or whole banks, and it should be easy to create and re-order the sound banks. If it is a program for a tone-module, then the playing configurations should be easily alterable.

The sound you are creating should be playable from the qwerty keys.

[^3]
# THE AMAZING AMIGA 

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## MPS 1500C COLOUR PRINTER

a. technical characteristics

PRINTING TECHNIQUE ............Impact dot matrix ( 9 -needle print head).
DRAFT MODE $\qquad$
$\qquad$ - matrix: 9 vertical dots $\mathrm{x}(5+4$ ) horizontal dots; - print speed: $120 \mathrm{char} /$ s, at 10 char in
tabulation speed $\qquad$ 2 charls
PRINTING DIRECTION $\qquad$ bi-directional, with optimised head movement
PRINT PITHES $\qquad$ 10 charlin to 24 charfin programmable from line, and in SET-UP mode
LINE FEED. $\qquad$ $-1 / 6$ in $(4.23 \mathrm{~mm}), 18(3.17 \mathrm{~mm})$ and $7 / 72 \mathrm{in}(2.4 \mathrm{~mm}) ;-\mathrm{n} / 216$ in and $\mathrm{n} / 2 \mathrm{in}$.
Character set $\qquad$ ASCII characters and special characters.
MAX. PRINT LINE LENGTH




ACE sorts out the RPG-old from the RPG-ross, discovers that there may NEVER be a Bards Tale IV, and that even Level 9 and Magnetic Scrolls are getting animated about new adventure ideas...

eeks of playing time, great atmosphere, strategic challenge, and a powerful storyline are just some of the attractions of a good RPG. Poor graphics, slow pace, indigestible documentation, nit-picking rules, and a turgid plot, however, are the only reward for the wally who picks up a turkey....and probably pays at least $£ 20$ for it. In this, the second of our RPG series, we continue our exploration of the genre, look at some of the best offerings on the way, and catch up on the latest developments, so you can be sure of ending up with a handful of gold dust and not a fistful of feathers.

We also ask - and answer - some questions
that RPG fans may find a trifle disturbing...like whether this current boom in RPG software is going to last, or whether it's just a flash in the proverbial pan...

There are traditionally three leading RPGinfluenced game-genres, each of which has


OK, so we didn't manage to get you Might and Magic II this month. We understand that although the Apple Il version is available, the PC version is not yet ready and pre-production versions are still languishing the in the good old US of A .

What we HAVE got you, however, should more than make up for it, though. News of
 Level 9's new system, confirmed rumours of Magnetic Scrolls' animated products, and a definitive look at what's going on in RPG today...and what will be happening tomorrow.

And next month, who knows? You might just get a peek of M\&M2 after all!

Animated action meets RPG character attributes and adventurestyle location descriptions in Activision's Prophecy on the PC.

## OLD FAVOURITES

We checked out some older RPG's last month and - as you may recall - most of them didn't really make the grade. So what to look out for if you're getting started in the RPG jungle? That's easy - if you haven't already sampled the delights of the Ulitima and Bards Tale series, then you've really missed out. If you can't afford both of them, the ideal choice depends on your preferred playing style.

Bards Tale games are essentially searching and fighting games with a bit of puzzle solving for good measure. You get a simple graphic representation of your location and your enemies during exploration and combat. The latter consists of basic attack commands for each party character, with lots of spells to master, treasure to find, and weapons to wield. These games are simple, repetitive in action, but
great fun and highly addictive nevertheless. You can dip into a SAVED game whenever you feel like a spot of hostility.

Ultima games, on the other hand, are more challenging in terms of exploration and puzzling. You interact to a greater extent with other characters and spend much of your time trying to work out your objectives. Combat is more complex (you get to position each character individually on a special combat display) and exploration involves a good deal of object manipulation and discovery.

An Ulitima game, therefore, is not something you just pick up every now and then for a spell of monster bashing, since you risk losing the thread through intermittent playing. On the other hand, Ultima games get you deeply involved and tempt you to stick at until you've cracked it or died in the attempt. This requires
lots of time (probably around 80-150 hours), but it's a rewarding process.

The other main difference between Ultima and the Bards Tale lies in the variation between the different versions of each game. Bards Tale 1 is still a great game, and scenarios II and III have built upon it without greatly altering the nature of the gameplay. Ultima I, on the other hand, is an ancient turkey that no-one in their right mind would shell out for these days. Ultima $V$, however, is a mega-game that no selfrespecting RPGer should be without. There's a checklist for the different machines on the opposite page.

## FANCY STUFF

If you're really hard to please and want something more exotic than the UK companies currently offer, you might want to try investigating

## THE LEADING EDGE

While most companies seem to fall into the traditional BT/Ultima gamestyles, Infocom seem to be experimenting more than most. some of their efforts have fallen rather flat, but we should all be impressed by the energy with which this company - once considered the ultimate purveyors of computer fantasy - are putting into their RPG games. With dedication like this, it surely can't be long before they come up with a winner...

We've already looked at Infocom's Journey in last month's issue. Another example of the company's willingness to experiment is Qyuarterstaff - a graphics RPG for the dedicated with lots of dosh. Although it currently runs only on the Mac, it shows several features that we can be sure will soon be implemented on other 68000 systems, including the ST and the Amiga.

As you can see from the screenshots, Quarterstaff is something different altogether. First, it features full on-screen mapping, in two different modes, depending on your location. These can give tremendous detail and are combined with a method of mouse pointing that enables you to move quickly from location to location.

Second, Quarterstaff - unlike most other computer RPG's - does not simply ask you for a single command. Instead, you input individual commands for each character in your party (the size of which varies as you travel around). What's more, each character has their own text window, competely separate from the others (although information of general interest is printed in all windows). This compartmentalisation slows down the game somewhat but also means that you really get a feel of playing the game from different viewpoints. And, of course, if you're playing with friends, who control the other characters, it's invaluable. You can even hide your window from the others if you wish.

Finally, Quarterstaff is typical of most recent Infocom RPG-influenced titles in that it attempts to combine the narrative element of text adventures with the graphical interac tion of some RPGs. In Quarterstaff you can issue commands to characters either via menus of verbs, prepositions, and objects or
directly at the text cursor using traditional text adventure commands (EXAMINE, GET, and so on). In either case the program responds with location descriptions and other narrative text, sometimes at considerable length.


Drop down menus provide commands, object manipulation facilities, and even allow you to define macro commands to speed up gameplay.

There's a growing feeling among software houses that narrative, as opposed to graphical action alone, lies at the heart of the ultimate computer RPG. If that's the case, Infocom are likely to be the first to get there...


Theon-screen mapping changes mode in certain parts of the game, giving you detailed pictures of your current and sur rounding locations.

|  <br> - Titun? get bronae key <br> TITUS put the BRONZE EEY into his inventory <br> A sumple key worn trom much use <br> e Titus? Bouth <br> TITUS enters the PABSAOEWAY DOWh <br> e Titus? East <br> SPLATI TITUE hits a wall! <br> e Tibus? Bouth <br> TITUS uniocks the south door with the BRONZE KEY He opens te south door. Titus enters the QUANDARY <br> Titus finds BRUnO and a burning LAROE LANTERN. To the north is an opened wood door leoding to the passogeway down To the sa portal. To the east is a portal To the west is a portal is an open space, five pacss trom one end to the other. IU cancular, formed with living roots Water ar ipe troen the Icelling A treezn blows gently from the south <br> ? Bouth <br> oniters the REC Room <br> ands the CHIEF TORTURER, the DRUID GUARD, a burning IT, an IRON CAGE, on IRON MAIDEn, a par of MARACLES, a WOODEN CHEST, a RACK and a pair of THUMB SCREW3. To the is the quandary. To the south is a locked vood door is a roughly oval room, twenty feet at its longest, and nigh ide. The air is dry and warm, unlike the other chambers in rel. Light from the fire pit in the ceritre of the room glanots ny insitrumente of torture. <br> Druid cull deplores the uso of torture. Druids are renowned ir gentle demeanor and ethical teachinge, and are ctten d as judges in the affairs of common people. under no Circurnatance would a Druid personally draw blood or allow the drawing of blood for other than rnedicinal purposes. For that reason, TITUs is surprised and shocked to see evidence of torture and tloodshed whth the very halts of a Drusd templet <br> The south wail Es a single slat of ranct martie knoat door hanging in a frame carved into the martle is hinged and locked with ir on. A smail, barred window is set high in the door |  |
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There's a lot going on on this screen. The map displays appear on the left, frequently overlaid by graphic windows showing characters, locations, or other game elements. The text windows on the right accept text entry and deliver program responses for each character. All windows can be resized and moved around the screen.

Here's a complete, up-to-date list of the availability of Bards Tale and Ultima titles. Conversions are coming out all the time but don't expect there to be too much activity in the near future - Origin are hard at work on Ultima VI and Interplay... well, read the Wot? No BTIV? box for further details.

## BARDS TALE FORMATS

|  | Spectrum Amiga |  | CPC | ST | C64 | PC |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
|  |  |  |  |  |  |  |
| BT1 | 8.99 cs | 24.99 dk | 8.99 cs | 24.99 dk | 9.99 cs | 24.99 dk |
|  | 14.99 dk |  | 14.99 dk |  | 14.99 dk |  |
| BT2 | NA | 24.99 dk | NA | NA | 16.99 dk | 24.99 dk |
| BT3 | NA | NA | NA | NA | 16.99 dk | NA |

Other 16-bit versions of BT2 and BT3 may appear in the future, but don't expect any within the next three months.

## ULTIMA FORMATS

|  | C64 | Amiga | PC | ST | Atari 8-bit |
| :--- | :--- | :--- | :--- | :--- | :--- |
| UII |  |  |  |  |  |
| UII | See note | See note | NA | NA | NA |
| UIII | 19.95 dk | 24.95 dk | 24.95 dk | 24.95 dk | 19.95dk |
| UIV | 19.95 dk | 24.95 dk | 24.95 dk | 24.95 dk | 19.95dk |
| UV | 24.95 dk | $24.95 \mathrm{dk}^{*}$ | 24.95 dk | $24.95 \mathrm{dk}^{*}$ | NA |

Tilles marked with an asterisk (*) will be available within the next three months. Note that Origin are releasing a special Ultima Trilogy pack, which will feature UI-III in one package for C64 and Amiga at a special price (to be announced).
a specialist RPG supplier. Although things are changing fast, many RPGs still make their first appearance in the States and by using a specialist importer you may get a glimpse of games not yet available in this country.

To start with, you could do worse than try Computer Adventure World of Bank Buildings, 1A Charing Cross, Birkenhead, L41 6EJ, tele-
phone 0516661132 . They're particularly helpful becasue they publish a dedicated RPG catalogue that includes details of each product, including storyline, difficulty level, playing time, and special features. This can be a great help, especially when you're parting with large amounts of cash! CAW aren't always cheap, but they can get most things Stateside, many of
which would be difficult to obtain elsewhere.
Typical examples of games currently avaiable from CAW include Masterplay's Star Saga 1 (a multi-player SFRPG), the Phantasie series, and numerous war-game scearios for those with a taste for history. We'll be checking out many of these products in the next few issues.

## THE REAL THING

While you're about it, why not face some REAL RPG challenges? Your micro can still be a help to you, particularly if you and your friends tackle the widely-available Dungeons and Dragons scenarios.

Ever since SSI landed the Advanced Dungeons \& Dragons computer rights, a steady flow of releases has ensued. While arcade/strategy computer games, such as Heroes of the Lance and Pool of Radiance, are easily appreciated by newcomers to the adventures scene - they don't need any role-playing background to enjoy - the Dungeon Master's Assistant Volume One: Encounters is not of the same breed. Its purpose is to act as a tool to help in the creation of real role playing: the kind where you need a group of people. This grassroots role playing has been growing steadily over the past few years, but it's difficult to say just how popular this sort of semi-serious computer program will be.

## DOING THE JOB

In roleplaying, there is always a moderator, a human referee who gives decisions on actions taken. Refs (in AD\&D they're called Dungeon Masters, or DMs) must have all the relevant facts before them about the place and time where the adventure takes place.

In simple terms this means having maps of the area to be explored by the party, lists of the creatures to be encountered there, and the objectives and tasks which the party must try their best to succeed at. The DM looks after the "playing area", if you like. He is the god who controls the world, and everything that happens in it.

The players' job is simply to live out the

## WOT? NO BTIV?

It now seems fairly certain that there will never be a Bards Tale IV, although we CAN reveal that your existing BT characters will still be able to fight again. What's going on?

The Bards Tale series is now quite old and, unlike the Ultima games, has not evolved to such a great extent between BT1 and BT3. Interplay (who produce the BT games) have already launched out into other areas, exploring skill based RPG's, where each character has to master a number of different talents (e.g. Wasteland) and animated graphic adventures in the Sierra-On-Line style (Neuromancer is the first example). Quite naturally, the company seem keener to explore pastures new rather than flog an old horse to death, however good a horse it is.

Good news, however, is that Interplay are just about to launch a game featuring a new RPG engine, adapted from the Champions game system, which allows the player to choose the level of combat resolution, determine spell strength, and select tactics of ranged combat.

The game's called Dragon Wars and should be available at least for C64 and PC formats sometime this autumn. On a pilgrimage to the mystical land of Dilmun, your party discovers that a megalomaniac monarch has outlawed magic and started waging war on everyone in sight. Tossed into a dungeon on arrival, you find that magic is likely to be your only salvation.

Finally, for those of you who are REALLY upset about the lack of BTIV, take heart. Dragon Wars supports characters from Bards Tale I to III, so your best friends live on...

End of an era. Although Bards Tale 1 has recently surfaced on 8-bit machines, and Bards Tale III only appeared recently for the C64, the famous series now looks as if it's coming to an end...



After you saved the city of Phlan and located the Pool of Radiance， a trip to Tilverton should have been easy，but it wasn＇t ．．
Ambushed，captured and knocked unconscious you awake to discover five azure blue symbols imprinted under the skin of your right arm． Their mystical power ensnares your will and as they glow you obey their every command．No magic dispels the bonds，no cleric＇s prayers remove them．
Your only hope is to search the Forgotten Realms for the creators of this mystery and regain control of your destiny．Only then can you be free of the Curse of the Azure Bonds．



ADVANCED DUNGEONS \＆DRAGONS，AD \＆D，FORGOTTEN REALMS and the TSR logo are trademarks owned by TSR，Inc．，Lake Geneva， WI，USA and used under license from Strategic Simulations，Inc．，Sunnyvale，CA，USA．（C） 1989 TSR，Inc．
lives of some characters within this area, trying to succeed in their quests and improve their characters' abilities.

Seen from this angle it's easy to see whose job is more difficult. The DM must handle everything that is not a player, and arbitrate on what happens after the players have made their decisions. To make matters worse, although many ready-made scenarios are available for role-playing games, DMs like to invent their own. Are you starting to get the idea that DMs are very busy people? It is this area, of inventing and developing scenarios and worlds, that the DMA is designed to help with. You can find out more about it in the CLOSER ENCOUN TERS box.

## THE FUTURE

One year ago, here at ACE we predicted that RPG was going to be the biggest thing since sliced orc. Were we right? Is the future full of dim and dusty tunnels, crowded with parties all seeking the proverbial pot of Bairog bounty?

The answer, it seems is probably not. Although almost all companies are busy announcing 'RPG systems', none of them are really what we'd call role-playing software. The reason for this can be summed up in three words: Sierra-On-Line.

Sierra's animated graphic adventures have made the company one of the richest in the States. Out of every four games sold, one the company claim - is a Sierra title. Whether this is true or not, it is obvious that Sierra's enormous success is spurring on other companies to follow suit. Check out the boxes elsewhere in this article on Magnetic Scrolls and Level 9 to get an idea of what we mean.

Meanwhile, even hard-core RPG companies like Interplay are producing Sierra-type programs - Neuromancer was the first and we can expect more to come. In the context of games like these, RPG means simply that the characters in the game have personal attributes that may change during play. The original RPG vision of parties of adventurers, complex puzzling, good textual descriptions, and vast scenarios is therefore unlikely to materialise. What's happening instead is that

## CLOSER ENCOUNTERS

Real life (as opposed to computer-based) roleplay is based on the 'encounter' - the set of rules and conditions that apply when your party come face to face with a monster. This is especially true of the Advanced Dungeons and Dragons scenario which is at least $70 \%$ encounter-driven. Note that the monster need not be a slavering apparition with a bad body odour problem: a monster is any creature that is not a player, so sometimes the term NPC, for Non-Player-Character, is used instead. The other 30\% (in AD\&D) lies in exploration, most often of a dungeon. Sometimes players explore a new land, or indeed another planet: this sort of play requires a DM of a high standard to work well.

As a basis for planning these encounters, US Gold's DMA contains a huge list of 1300 monsters. These are drawn from the pages of Monster Manuals $1 \& 2$, both published by TSR for AD\&D. The database contains entries for all the vital statistics of the monsters, including how tough they are, how much treasure they tend to have on them, and many other characteristics.

The task of changing monsters using the DMA to suit different campaign areas (the 'Forgotten Realms' dragon is a much tougher cookie than the 'Greyhawk' variety, for instance) rates the designation 'dead easy'. Inventing new monsters, such as the Hellfurnace Crystalmist, is similarly no heartache.

So, you've got your monsters, and can create any specials you may want to spring on a jaded party of adventurers. What about the set piece encounters? Some (1000 actually) have been preset, and can be used as is. Mind you, players will get suspicious when they only encounter ogres in groups of 50 ..

## CRUX

An adjunct to the encounter database is the encounter table. This represents the main usage of the program: it examines entries in the monster database, and produces readymade engagements. What makes them special is the level of detail available for customising engagements. Say you wanted to create a situation where the evil villains had abducted some hostages.

You could, within a minute or so, create the statistics of the monsters, the hostages and the treasure gained. There is also a "See Below" field for extra description. When I think of the hours spent in poring through the AD\&D books, just looking up the dice rolls for hit points, never mind those for damage by weapon, magic resistance - and then I'd have to write it all down!

Admittedly the DMA's usefulness tends to be dependent on your printer type. If you have a respectable A4 machine with NLQ, then OK. Perhaps you're an unfortunate with a small thermal printer. Scanning frantically through a "scroll" of printout might look authentic, but it certainly isn't my idea of fun.

The bottom line of using any computer program is ease of use, and I was surprised to find how simple the DMA was to master. It always displays a default for you to either except or edit, and the manual is very good for taking you through the tricky bits a step at a time.

When I consider all the factors, I must admit that the DMA is mighty impressive. OK, on the C64 the drive was slow. However if you are a Dungeon Master with the time, money, inclination and will to do scenarios by hand, using the DMA will seem like a dream come true.

## PROPHECY

## Activision

Prophecy is one of those rare games that are easy to explain, beautiful to look at (in VGA, at any rate) and great fun to play.

Your fellow citizens have all been chopped to bits by homicidal invaders and you set out to avenge them.

Prophecy on VGA - tremendous graphics (see pp. 4 and 95) combined with great gameplay.


Each screen shows a picturesque location across which you move your character using keys or joystick. Frequent messages flash up on screen with relevant information about locations or objects.

Superb animation, great storyline, lots of enjoyable combat with others, simple but useful spells and character attributes,

and lots to explore make this an animated RPG-influenced adventure that beats the pants off most of the opposition - and that includes many of the Sierra titles. Keep an eye open for updates.


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other game genres are stealing RPG concepts. If you're a purist, you'll be disappointed, but most of us can only rejoice at the prospect.

Typical examples of this movement are Activision's Prophecy (reviewed below): '...an action-oriented role-playing game' and ZakMcKracken from Lucasfilms/US Gold (reviewed in a previous issue) which brings the 'party' concept to animated Sierra-style adventuring by giving you control over more than one character.

Traditional RPGs must share some of the responsibility. They've made life very difficult for new players by bombarding them with endless rules, poor documentation, and sloppy graphics. Devotees may remain loyal, but the rest of us need rather more persuasion. This confrontation with commercial reality may be the one encounter traditional RPG can't win. It will, however, have brought to entertainment software a depth of gameplay that will one day be accepted as the rule and not the exception.

This is the last in the RPG-uide series or articles. But from next month onwards we'll be carrying regular reviews of RPG-influenced software both from the UK, Europe, and abroad. First onto the page should be Electronic Arts' Hound of Shadow - a graphical RPG with a 'supernatural horror' theme set in the 1920's. Watch out for it.

## NATIVE TALENT

While Infocom beaver away at RPG-influenced games, what are our very own Level 9 and Mag Scrolls up to?

Level 9 have been working for some time now on their 'new system'. In a conversation with ACE's Steve Cooke several months ago, Pete Austin of Level 9 revealed that - at the time he favoured the single character approach rather than the facility for building parties.

Infocom have already tried this with Beyond Zork and there are several other RPG's on the market (e.g. Legend of Blacksilver, reviewed last month) which only give you one character. This seems a terrible pity. One of the great enjoy-
ments of games like Bards Tale and Wizardry is the identification you build up with a group of very different characters.

It's therefore rather depressing that the latest reports from Level 9 , whose system is being kept under wraps but is due for release in July, indicate that the games will be single character ones. Graphics will also play a large part in them.

Meanwhile Anita Sinclair of Magnetic Scrolls is keeping equally tightlipped about their new system. Rumour has, however, that animated graphics play a large part in the game design and this, combined with other snippets of information, leads us to suspect some kind of

Sierra-On-Line-type product. The same could even be true of Level 9, particular since the rumour is that they are 'just about' to sign up with an American software house.

There is of course a reason for all this. As you can read elsewhere, Sierra are currently hugely popular in the States with their animated adventures. If you've never played them, then you should know that they feature pretty graphic backgrounds against which animated characters move and interact. There is a limited parser and movement, as well as most commands, are joystick controlled.

Stand by for more news of the news systems next month.

## WIZARDRY

## Sir-Tech

Wizardry is something of a legend amongst US RPGers. It's been around a long time and is now on Scenario 5. As with other games of this genre, you don't have to have played any of the previous scenarios to catch up with the latest.

Wizardry 5 - The Heart of the Maelstrom, to give it its full title, is a very large maze-map-ping-and-murder RPG which throws you down into the usual underground dungeon maze in search of fame and fortune.

The game comes with an excellent 86 page booklet that sets the scene for your attempt to rescue the Gatekeeper of Llylgamyn, without whose spiritual aid doom is nigh and everyone will break out in spots...you know the sort of thing.
have to say. But for those with a taste for underground mapping and text combat routines, Wizardry is probably Number One on the list.

First, the game is very large. Sorn whose minions inhabit the Maze beneath the Temple of the Brotherhood. These minions are of the rather uninteresting pixellated variety, much as in earlier versions of the Bards Tale. The maze itself is a strangely archaic collection of wire-frame graphics that would have looked somewhat out of date in a 1983 version of 3 M Monster Maze.

As you can imagine, then, the presentation of Wizardry leaves not a little to be desired in these days of Dungeonmaster et al. What's more, it's price - at a tad over $£ 45.00$ - is about as scary as something out of the fabled Maze itself.

All this would be enough to make most players look elsewhere, and understandably so, I

Wizardry - you can't see much of your opponents when you're in combat mode. Perhaps that's just as well...



Unlike recent versions of other RPGs, which have expanded in terms of colour and graphics, Wizardry has expanded in terms of size and plot development. Although there isn't much text, there are numerous features and mini-puzzles to be stumbled over

| CHARACTERS 70 | Few combat options and text reports |
| :--- | :--- |
| Six in your party, with traditional | only. Crüde static pictures of enemy. |
| character development. | MAGIC $\quad \mathbf{8 0}$ |
| SET-UP$\quad \mathbf{6 0}$ | Lots of spells, with a tew unusual |

in the dark, and most of them set you some kind of puzzle or new objective.

Wizardry allows you up to six members in your party. You'll need every one. It may not look that hot on screen, but you're certainly hot if you can finish it.

Few combat options and text reports only. Crüde static pictures of enemy.

80
oots of spells, with a few unusuaf

ENCOUNTERS 55
itle interaction with NPCs but numerous encounters with puzzles sub-quests, and obstacles.

The adventure section's a bit shorter than usual this month, due to the space taken up by the last part of our RPG-ulde. But never fear - there's a fresh wind blowing through the computer adventure market and with Steve Cooke and Pete Connor back as editors of ACE, we've got some very adventurous ideas for the future. Starting next month, we'll be presenting a completely new section for everyone interested in adventuring. It'll be simple, direct, very opinionated, and full of information. Most important of all, it will cover a broader range of software than ever before.

That's because, as you know, the adventure scene is changing dramatically. With Infocom text and graphics adventures at one end of the scale and games like Activision's Prophecy (see page 99) at the other, there's a desperate need to pull it all together and give everyone a complete, rellable gulde to what's avallable. That means regular reviews of new products, which will Include a whole new way of assessing fantasy and exploration games.

In whatever world you happen to be next month, make sure you stop off at the trading post and grab a copy of ACE. After all, if they've got the guns, make sure YOU'VE got the numbers!

## MAKING MUGS

The man who brought you SHADES has developed a MUG engine that enables him to develop multi-user games in double-quick time.

Neil Newell, known to some as Hazeii the Coder after his role-name in the Micronet online game, has developed a system called Mugick. It's a special development language and run-time engine that enables other authors to turn their ideas into multi-user on-line games.

Neil obviously thinks his system has got what it takes because he's set up a new com-

## INSIDE DEALING \#1

In the adventures King's Quest III, Space Quest I, and The Black Cauldron, press CTRL-D, then ENTER twice, then TYPE tp. Having done this you will be asked ROOM NUMBER:_. Type your room choice and you will be instantly transported to it!

Thanks to Laurence Sher, South Africa.
pany to promote it - Third Millenium Systems and is busy attacking the French market with MUG ideas galore. First off the line will be Trash, written by Matthew Ward, otherwise known as (they're all split personalities, apparently) Ambushbug the Wizard. The company are 'currently researching potential licensees in the UK, Europe, and the USA.'

Trash seems a particularly suitable title to aim at the French market. Our Gallic neighbours are already demonstrating an unhealthy appetite for all things trashy by logging onto the national Minitel system and sending very French messages to each other. ACE readers may remember from our SHADES diaries that people in the UK actually got 'married' in the game and conducted bizarre textual on-screen orgies in the 'Bridal Suite'. In France they've gone several steps further than that, but we'll leave the sordid details to your imagination.

## HIT.....OR MYTH?

Magnetic Scrolls haven't been entirely inactive since they launched Fish!. Despite problems caused by the Telecomsoft sale to Microprose (see page 9), they've managed to find time to finish their 'mini-adventure' Myth for the Official Secrets adventure mail-order club.

The good news is that Myth is pretty good fare despite the fact that it is barely half the size of a normal Mag Scrolls game. Even better - it's absolutely free. So what's the bad news?

Wel, there is a catch. Myth is only going to be availabe to people who join the Official Secrets adventure club. It's not for us to tell you how to spend your money, but the package is actually pretty attractive. Although you have to whack out an astonishing $£ 19.95$, you do get some pretty hefty returns: including a bi-monthly magazine, some VERY cheap games and, of course, a free copy of Myth.

Back to the game...You play Poseidon, God of the Sea. Stripped of your godly powers by Zeus you have to earn your right to eternal life and all other divine benefits by completing a test. Zeus has commanded you to steal Hades' Helmet which is secured in the depths of his subterranean Palace. To achieve this you will need to pay the Ferryman, cheat Death, and defeat the nine-headed Hydra guarding the gates to the Underworld.

The graphics are excellent, though not as good as those in, say, Guild of Thieves. And although the game will probably yield up most of its secrets after a couple of hours' playing it could serve as a good introduction to adventuring for those who are wondering whether the text-tappers life is the one for them.

Meanwhile, Official Secrets have also released a 24page guide to playing Dungeonmaster. These guides are often a waste of money, saying things like 'Watch out for the nuclear missiles, they're radioactive' and so on, but we've perused the Dungeonmaster specimen and have to admit it's pretty good value for only £1.50. Oh yes, there's that catch again. Yup, you have to be a member to buy a copy.


Myth: If this has you panting for a copy, then phone Official Secrets on 0279726541 for membership details.

Before you send off your hard earned lolly, better make sure Myth is available for your machine: it's coming out for Amiga, Atari ST, Macintosh (mono pics only), PC EGA, C64 disk, and Amstrad PCW. PC CGA/Hercules and Spectrum +3 disk versions are also available but are text only.

## ABCHIIPNLAGOS <br>  <br> Atari ST screen shots

Imagine a game without violence,
yet as chilling as abandoned places where people have died and never returned. Imagine a 3 D world, yet the only forces are those that come from classification. It is the experience the ground. of the metaphysical. Imagine the danger of a tormented
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Midistudio is a 20 track Midi Music Studio. This Midj software package is a realistically priced introduction to Midi music processing and includes the following features.
20 tracks each assignable one of 16 midi channels, each track can be transposed up or down 2 octaves he main screen features full tape deck controls with individual volume sliders for each track, note editing facilities including editing of pitch, octave, duration and velocity, plus full midi controller editing(pitch bend, mod wheel etc.). Full control over phrases is offered through Quantizing. transposing, and phrase arrangement software pages. The arrangement facilities allow moving and copying phrases on any of the 20 tracks. The package is easy to use and is a strong competitor with Pro 24.

## " will give Steinberg's Pro 24 a run for it's money ST WORLD March 89



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The Image Scanner is a peripheral for the ST which can provide high quality graphics digitising for a tenth of the cost of other digitisers. This simple unit plugs into the cartridge port of the ST and accepts scanned information via optical cables which fix easily to the head of any printer. Scanned images can be saved in raw data, Degas and Neochrome formats. The Software supports scanning resolutions of $75,150,216,300,360$ and 1000 dots per inch horizontally. An example disk is available which contains a slide show of images scanned with this product. The cost of this disk is $£ 3.99, £ 2.00$ of which is redeemable on purchase of a scanner.
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nation. Pictures of objects move smoothly nation. Pictures of objects move smoothly
accross the screen and the pupil should spell the name of the object while Oscar checks for mistakes. Spell also incorporates selectable dificulty levels and a Hirscore table. Extra data disks $£ 6.99$

Add with Oscar is a fully mouse controlled educational game with full colour screens and sound for teaching addition, subtraction, multiplication and division to children. This program has selectable difficulty levels and a Hi-Score table.

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OK - shoot us down in flames. We've had to reduce the size of the Pink Pages section this month due to administrative difficulties involved in the transfer of ownership of the magazine. Shoot us down - but trust us to get the section back in the best of health for next month, with a host of essential trivia for the seriously dedicated gamester.

## THE LINE-UP

108
ACE software guide - Arcades and Adventures We pinpoint the sexiest shootem-ups and locate the locations you just have to visit.

The die is cast - but in which position? Plus the solution to last month's brain squeezer

123
Game design continued John Riglar on the creative bit.

124
The ACE Crossword and yet more ACE Odd Facts

126
WIN...US Gold goodies

## N/GEL ${ }^{\text {From }}$ RIGEL




All of the following games are ACE RATED: that means they're all red hot masterpieces of computer entertainment. Some of the games have been around a long time: these games are simply marked with the ACE CLASSIC flash, and rest assured, they're all superb pieces of software and are well deserving of the title.


Including coin-op conversions. Games with a high fun factor and plenty of addictiveness feature here.

## ARKANOID <br> Imagine - Spectrum

 $£ 7.95 \mathrm{cs}$ - C64 $£ 8.95 \mathrm{cs}$ £12.95dk © Amstrad £8.95cs $£ 14.95 \mathrm{dk}$ Atari XL/XE $£ 8.95 \mathrm{cs}$ Atari ST $£ 14.95 \mathrm{dk}$ - MSX £8.95cs © |BM PC $£ 19.95 \mathrm{dk}$Arkanoid the coin-op, in its turn the best version of the classic Breakout. Simple in concept: the player controls a bat at the base of the screen, whizzing it left and right. The object is to keep a small ball in play, bouncing it off the bat to destroy formations of bricks in the top half of the screen. Eliminate all the bricks and move on to the next of 33 screens. Clever extra features contribute to the addictiveness. As a faithful coin-op conversion, Arkanoid comes out top, but for a different slant on the same theme, try ASL's Impact, which also builds up the difficulty levels more gradually. $\star$ ACE CLASSIC

## BIO

CHALLENGE
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A graphically superb horizontally scrolling shoot-em-up but without the shooting, in which you duck and jump
around a planet's surface. See the full review on Page 46. * ACE RATED 919

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A great arcade bouncees up, and very addictive tue You guide a ball as it bounces from one plattor to another, high above to vertically scrolling landscape. Land on marked squares and you can stay aloft longer ar gain a mystery bonus. fi in a gap or hit one of the game's many nasties, however, and you'll lose life. Bonus bouncing sections at the end of ext level help vary the pace, and those tough gaps really keep you coming back for more. $\star$ ACE CLASSIC

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of this two-player coin-op conversion. You and a friend play bubble-blowing dinosaurs, travelling through 100 maze-andplatform screens, fighting off the 'bullies' by encapsulating them in your bubbles to turn them into juicy fruit. More firepower and various bonuses await as you reach the more difficult later screens. Enormously good fun, if a litte on the cutesy side. Can also be played as one player against the computer.

* ACE RATED 958

BUGGY BOY
Elite - C64 £9.95cs £14.95dk • Amstrad £8.99cs $£ 14.95 \mathrm{dk}$
A non-stop action driving game that will keep even the most ardent Out Run fans busy for a long while. Colect the time bonuses in the attempt to complete the five gruelling courses. nstantly playable and
highly addictive, Buggy Boy should be on any racing fan's shopping list $\star$ ACE RATED 906

## CONQUEROR

Superior $\bullet$ Archimedes
£24.95dk (Amiga and ST versions under
development)
Drive around in your very own tank! Blast the enemy in close combat and plan your strategy for the campaign. This is a tricky game to get to grips with, but if you persevere you'll find you soon become mesmerised by the thing. If you ain't got a 1 Mb Archie though - forget it $\star$ ACE RATED 931

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Hewson - Spectrum £7.99cs $£ 12.99$ dk © C64 $£ 9.99 \mathrm{cs} £ 14.99 \mathrm{dk} \bullet$ Amstrad $£ 9.99 \mathrm{cs} £ 14.99 \mathrm{dk}$ - Atari ST $£ 19.99 \mathrm{dk} \bullet$ Amiga £19.99dk

Graphically wonderful
roadway blast-em-up by John Phillips, which will twist your joystick insideout. It'll even have you -driving on the ceiling. Though it's tough to get to grips with at first, the addiction level's so great you'll keep coming back for more.

* ACE RATED 904


## EXOLON

Hewson - Spectrum £7.95cs - C64 £8.95cs £12.95dk © Amstrad £8.95cs £14.95dk

Graphically superb horizontally scrolling shootem-up in which you run, duck and jump your way along a planet's surface blasting away at alien defences. A gun and a missile launcher are used to blast the foes, but if things are still too tough then you can grab an exoskeleton for extra protection and fire power. $\star$ ACE CLASSIC

## GRAND MONSTER <br> \section*{SLAM}

Rainbow Arts - Amiga Price TBA

Set in the mythical world of Ghold, where the warring creatures take their rivalries to the field of play in a competition to kick small furry Beloms from one end of the pitch to another. See the full review on Page 42.

* ACE RATED 900


## OIDS

Mirrorsoft © Atari ST £19.99dk

A magnificent Thrustish blast. The Oids are relying on you to save them, but the Biocretes aren't going to let them go without throwing missiles, rockets and a number of other weapons at you. Included with the program is an edit facility that allows you to design your own
planetoids - great stuff! $\star$ ACE RATED 969

## PITSTOP 2

Epyx/US Gold - Available only on Epyx Epics compilation - C64 $£ 9.95 \mathrm{cs} £ 14.95 \mathrm{dk} \bullet$ IBM PC £29.95dk (in compilation with Winter Games and Summer Games 2)
Thrilling racing game where the screen is split into two and you can race the computer or a friend. Lots of different Grand Prix circuits, tyre blow-outs and of course the all-important pitstops guarantee to give you hand cramp and your brain a real racing treat.

* ACE CLASSIC


## POWERDROME

Electronic Arts • Alari ST $£ 24.95 \mathrm{dk}$

This superb arcade-style futuristic driving simulation will have you enthralled for months to come. It may not be terribly easy to get
straight into but it's well worth perservering with. You'll be playing this for months.

* ACE RATED 925


## PURPLE

 SATURN DAYExxos • Atari ST $£ 24.95 \mathrm{dk}$ - Amiga $£ 24.95$

A terrific mix of games that delivers punch both audio and visual. The consistently good gameplay ensures you'll enjoy playing each sub-* game time and again. It's a little tricky to get the hang off, but master it and you'll be pleased you persevered.

* ACE RATED 912


## SPIDERTRONIC

Ere International - Atari ST $£ 19.95 \mathrm{dk}$

Guide your spider-like character around the game area, collecting coloured panels in the correct order. The built-in
construction set means you'll be knocking out your own levels till the cows come home.

* ACE RATED 903


## SUMMER

 GAMESEpyx/US Gold - C64 $£ 9.95$ cs $£ 14.95 \mathrm{dk} \bullet$ IBM PC £29.95dk

Epyx sporting simulations are of high quality but none have quite captured the playability and style of the original Summer Games and its immediate successor, Summer Games 2. One to six players can take part in high jump, gymnastics, springboard diving, clay pigeon shooting, swimming, pole vault and others - with lovely large graphics and smooth animation throughout. Control of your athlete can be complex so practice is recommended.
$\star$ ACE CLASSIC

## SUPER

SPRINT
Electric Dreams - C64
$£ 9.99 \mathrm{cs} £ 14.99 \mathrm{dk}$

Amstrad $£ 9.99 \mathrm{cs}$ Spectrum £9.99cs - Atari ST £19.99dk

One of the better coin-op conversions currently available. With up to three players all competing at once, the action is fast and furious and it will take a finely-tuned car to complete some of the more tortuous circuits that appear later in the game.

* ACE RATED 907


## THRUST

Firebird - Spectrum $£ 1.99 \mathrm{cs} \bullet$ C64 £1.99cs $\bullet$ Amstrad £1.99cs

Terrifyingly sensitive controls and a large helping of reallife physics make this budget title an absolute must. Flying down through the caverns of an enemy-held planet, you have to pick up fuel and destroy hostile gun turrets without crashing into the tunnel walls. Tough enough as it is, but then you've got to make the return journey with a heavy load slung under
your craft. Very mean, very addictive.

* ACE CLASSIC


## THUNDERCATS

Elite - C64 £9.95cs
£14.95dk - Spectrum £7.95cs • Amstrad $£ 8.95 \mathrm{cs} £ 14.95 \mathrm{dk}$

The game based on the hit TV series/comic/ plastic toy. It's a side-on view scroller that just oozes gameplay. Each of the game's 14 levels is a straight line dash from start to finish with a multitude of obstacles to avoid along the way. Graphically impressive and compulsively playable too.

* ACE RATED 931


## URIDIUM

Hewson - Spectrum £8.95cs - C64 £9.95cs $£ 12.95 \mathrm{dk}$ • BBC $£ 9.95 \mathrm{cs}$ $£ 14.95 \mathrm{dk}$

The piece de resistance of scrolling shootem-ups: blast the dreadnought and attacking ships while dodging around any large structures. Great metallic-
looking dreadnoughts and the smoothest scrolling you'll ever see put this head and shoulders above the opposition. A game not to be missed, especially now that C64 versions come packaged with the excellent
Paradroid.
ACE CLASSIC

## ZARCH / VIRUS

Superior Software Archimedes $£ 19.95 \mathrm{dk} \bullet$ Firebird ( 16 and 8 -bit versions) Amiga £19.95dk - Atari ST £19.95dk Some 8 -bit versions under development

STILL ACE'S highest rated game to date. A solid three dimensional shoot-em-up with such graphic perfection and timelessly addictive gameplay that it became an instant classic. Now the 16 -bit versions have arrived and they're just as good as the 32 -bit versions. All that remains to be seen now is whether we'll be $A C E$ rating the 8 bit versions.

* ACE RATED 981


## ADVENTURES

Adventures have come a long way since The Hobbit. State-of-the-art graphics and powerful parsers enable you to communicate with other characters, and fully explore the world of your choosing. Add role-playing elements and you can see why this section of the software biz is the fastest growing area of computer entertainment.

## THE BARD'S

## TALE III

Electronic Arts e C64 £14.95dk

The latest Bard's Tale game offers a number of refinements over its predecessors (all of which are still well worth taking a good look at). First, the graphics are better animated. Second, there are ranged combat routines which take
careful account of the distance between you and your opponents. Finally, the game's large and represents excellent value for money. * ACE RATED 920

## BEYOND ZORK

Infocom/Activision e C64 $£ 19.99 \mathrm{dk} \bullet$ PC $£ 24.99 \mathrm{dk}$ - Amiga $£ 24.99 \mathrm{dk} \bullet$ Atari ST $£ 24.99 \mathrm{dk}$

Infocom's attempt to

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## 16 BIT SOFTWARE

muscle in on the roleplaying market is a great success. Locate the fabulous Coconut of Quendor in a game that combines the wit and ingenuity of one of the world's most original software companies with state-of-the-art parsing and gameplay.

* ACE RATED 902


## CORRUPTION

Rainbird • Atari ST $£ 24.95 \mathrm{dk} \bullet$ Amiga $£ 24.95 \mathrm{dk} \bullet$ PC $£ 24.95 \mathrm{dk}$ - Spectrum £15.95dk $\bullet$ C64 £17.95dk •Amstrad 6128 £19.95dk

This tale of insider dealings, infidelity and crooked business deals is unlikely to appeal to adventurers who prefer to wander through vast dungeon networks seeking treasure. But for those who are fed up with traditional adventuring, it's like a breath of fresh air. Superb graphics, great atmosphere and a nailbiting plot makes this a terrific game that grips.
$\star$ ACE RATED 920

## FISH

Magnetic Scrolls • PC £24.99dk Amiga $£ 24.99 \mathrm{dk}$

More gameplay than Corruption, better game design than Jinxter, and not as quirky as The Pawn. This is definitely MS's best release since Guild Of Thieves.
$\star$ ACE RATED

## GUILD OF THIEVES

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One of Britain's newer adventure software houses - Magnetic Scrolls managed to produce a traditional treasure hunt with superb graphics and some very tricky puzzles. Powerful parser helps to create a convincing game world with humour and imagination.

## * ACE CLASSIC INGRID'S BACK

Level 9 - Atari ST £19.95dk

A great follow-up to Gnome Ranger. Level 9 have really got to grips with the use of characters in their games and how to program them very effectively. * ACE RATED 920

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Level 9 have put together three of their classic releases, Colossal Adventure, Dungeon Adventuré and Adventure Quest in one bundle. The games have been updated with graphics and larger vocabularies and are as close to the original spirit of adventuring as you're likely to find. $\star$ ACE CLASSIC

## LURKING

 HORRORInfocom/Mediagenic • C64 £19.99dk • ST £24.99 I Amiga $£ 24.99 \bullet$ PC $£ 24.99$

Infocom's tribute to H.P. Lovecraft and the horrorfantasy genre sends you into a cold sweat as you discover something very nasty lurking beneath your college laboratory. Superb text-only game that defies you to play it after dark.. $\star$ ACE CLASSIC

## POOL OF RADIANCE

US GOLD /SSI

- C64 £14.99dk

SSI were very brave to attempt tocapture the complex concept of the AD\&D system on a computer, but they managed superbly. An RPG-influenced game that will appeal to not only AD\&D fans but to anyone looking for an enthralling game that will keep them playing for months. * ACE RATED 921

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 MAGIKMandarin © Spectrum $£ 14.95 \mathrm{cs} £ 14.95 \mathrm{dk}$ C64 £14.95cs $£ 14.95 \mathrm{dk}$ - Amstrad $£ 14.95$ cs £14.95dk • Atari ST £19.99dk • Amiga £19.99dk • PC £19.99dk

This compilation of the Level 9 games, Lords Of Time, Red Moon and The Price Of Magik have been re-vamped with better parsing, bigger vocabularies and pictures added. Superb value if you don't already own them. * ACE RATED 919

## ULTIMA V

OriginSystems/Microprose - C64 £24.95dk • PC £29.95 - ST/Amiga to be announced

Astonishing level of detail in thie role-playing inlfuenced epic. Travel round Britannia trashing the opposition and learning the magical, tactical, and geaogrphical secrets that will enable you to defeat the forces of evil far underground. Superb
romp, great lasting interest, and tough challenges galore. * ACE RATED 928

WASTELAND Electronic Arts - C64 £14.95dk

Charge around irradiated USA whopping mutant bunnies and biker scum in this role-playing epic. The atmosphere may not be as good as the Bard's Tale series of games, but the extra dimension of strategy leaves the cut, slash and spell scenario of the BT series way behind.

* ACE RATED 921


## ZORK ZERO

Infocom Versions due out about now. Watch this space for price info. Highly enjoyable with a variety of challenges that make for instant addiction. A bit more character interaction would have made this a real humdinger, but even so it remains one of the best games of the year $\star$ ACE RATED

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Myth was rated at $90 \%$ by Keith Campbell of Commodore User. He said "Don't be put off by it being a mini-adventure.... text undreamed of in those bygone days."

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# ACE PRIZE PUZZLE 16 Set by Archie Medes <br> <br> THE DIE IS CAST 

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Jamie had acquired a number of ordinary dice and was arranging them in the form of long multiplication sums. For example, he had arranged them as shown - the multiplication of 356 by 461 . Note that not only has he been able to represent the final product with the dice, but also the three sub-totals as well.


Jamie was able to find quite a few other examples that could be similarly displayed by using dice. One of these is shown below:


Here we have the multiplication of two three-digit numbers and, as you can see, one die - a one spot - has already been placed in the bottom line. The positions of the other dice have been indicated, but note the three dice denoted in dotted lines at the left-hand end of the three sub-totals. This is to indicate that there may be dice at these positions, this depending of course on,the values of the numbers being multiplied.

Can you complete the rest of the sum?

## ACE PRIZE PUZZLE ENTRY FORM

The answer is
NAME.
$\qquad$

ADDRESS. $\qquad$

## COMPUTER OWNED

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# SOLUTION TO ACE PUZZLE 14 

Answer: $A=702, C=490, E=985$. Once these numbers are known the other values can be fitted easily in to the grid.

## SOLUTION

The three unknown values $\mathrm{A}, \mathrm{C}$, and E ech have six-digit squares, as denoted by positions 3,8 and 4 in the grid. Therefore A, C, and E must all be in the range 317 to 999. This may indicate that it would be necessary to test each of the 683 times 683 times 683 permutations of these values - a total of over 318 million possibilities! Fortunately this is not the case.

Due to the fact that in the grid there is a certain amount of interaction between any two of the three values a great many of these tests can be eliminated. In the listing we consider first all possible values for $A$ and its square. The range for $A$ can be further narrowed to between 332 to 999 inclusive, as we know that the second digit of its square cannot be zero (as this digit is also the first digit of E squared).

Once we have a possible value for $A$ and $A$ squared we can determine the first digit of $E$ squared (this being the same as the first digit of $A$ squared), and hence the range for the value of $E$. This is done at lines 120 to 140 allowing the FOR/NEXT loop for the value of $E$ to be set. In a similar way, once we have a possible value for $E$ squared (clue 4 in the grid) we know the first digit of C squared, and hence can compute the range for $C$.

Once a possible set of values has been found the missing numbers in the grid are computed and converted to string form (lines 190 to 200). Finally, lines 220 to 260 check each pair of matching digits from the grid and reject those which are dissimilar. Any values which pass all of these tests are printed out (corresponding to each of the clues given in the question) at lines 270 to 300

## THE LISTING

100 FOR $A=332$ TO 999:A $\$=S T R \$(A)$
110 ZS=STR\$(A*A)
$120 \mathrm{Z}=\mathrm{VAL}(\mathrm{MID}(\mathrm{Z} \$, 2,1))$ : IF $Z=0$ THEN 330
$130 \mathrm{~V} 1=\mathrm{Z}^{*} 100000$ : V2 $=\mathrm{V} 1+99999$
140 FOR E=INT (SQR (V1) + 1) TO INT (SQR (V2) )
150 ES=STR\$(E) : Y\$=STR\$ (E*E)
160 IF MIDS $(Z \$, 4,1)<>\operatorname{MIDS}(E \$, 2,1)$ THEN 320
$170 \mathrm{Z}=\mathrm{VAL}(\mathrm{MID} \$(\mathrm{Y}, 5,1))$ : IF $\mathrm{Z}=0$ THEN 320
$180 \mathrm{Vl}=\mathrm{Z}^{*} 100000: \mathrm{V} 2=\mathrm{V} 1+99999$
190 FOR C=INT (SQR (V1)+1) TO INT (SQR(V2) ) : CS=STR\$(C) 200 X\$=STR\$ $\left(C^{*} C\right): W \$=S T R \$\left(A^{*} C\right): V \$=S T R \$(A+C-E)$
210 IF LEN(V\$) <>3 THEN 310
220 IF MIDS(Z\$, 6,1$)<>$ MID $\$(W \$, 2,1)$ THEN 310
230 IF MIDS(V\$, 2,1 ) <>MID\$(Y\$, 3, 1) THEN 310
240 IF MIDS(C\$, 2, 1) <>MID\$(W\$, 4, 1) THEN 310
250 IF MID\$(X\$, 3,1$)<>\operatorname{MID\$ (AS,2,1)}$ THEN 310
260 IF MID\$(X\$, 5, 1)<>MID\$(W\$, 6, 1) THEN 310
270 PRINT"1) ";ES:PRINT"2) ";WS
280 PRINT"3) ";Z\$:PRINT"4) "; ${ }^{2}$ (\$
290 PRINT ${ }^{*} 5$ ) ";VS:PRINT"6) ";C\$
300 PRINT"7) ";AS:PRINT"8) ";XS
310 NEXT C
320 NEXT E
330 NEXT A

- The prize winner for this competition will be announced in the next issue of ACE.


# GAME DESIGN II <br> BY JON RIGLAR 


#### Abstract

Game Design - what does it involve? How do you do it? What are the pitfalls? We answer some common questions in Part II of Jon Riglar's introduction to the ancient art.


Totally original games designs are a very rare commodity these days. You may be sitting at home right now with an idea whirring away in the old grey matter - an idea which your mum, your best mate, your gran and even the dog all agree is 'the biz', and yet is totally unsaleable because it looks like a carbon copy of the latest release from Hamster Software. But don't despair even if your software does lack originality you may still get it accepted for publication by a software house if you present it in an attractive, clear, and concise manner. Here are some tips to help you do just that.

## The Background

You must give this a good deal of thought. Some of the storylines you find on inlay cards and even on forty page 'novellas' are so predictable that you could probably recite their plots in your sleep. Invariably shoot 'em ups have two main components killing aliens and coilecting mystical objects to enhance your fire power. If your game is one of these, avoid starting your storyline with the legendary 'The year is 2977....' blurb. Instead, keep it really short and make sure it contains information that is use-
ful to the playing of the game. After all, people know what they are supposed to do in a shoot 'em up and you really ought to leave the business of science fiction writing to Michael Moorcock and Douglas Adams. Get on to the instructions as quickly as you can. Punters are more interested in that than in your purple prose.

## Designs in Perspective

$3 D$ or not 3D is a question to consider right at the beginning. Of course your options are not this limited - but they are not infinitely wide either. Some games adopt the sideways scrolling technique used recently to good effect in Ocean's Robocop. Other perspective techniques include the isometric 3D technique made famous by Ulitimate Play the Game in games like Knightlore and copied by literally thousands of others. So called real 3D - lits a moot point I know) involves the use of glasses, has never worked effectively (with the one possible exception of Nintendo's Rad Racer) and is strongly advised against - even if you had the resources to make it a practical consideration.

Best keep things simple. There's the overhead view which has worked nicely in games like Pacman, Gauntlet and all their clones, though you need to be confident of your four-way scrolling routines. Platform games can be attempted but unless you can do better than Super Mario Bros II on Nintendo then why bother? The same can be said of beat 'em ups really Archer McClain's $\mathbb{K}+$ is the stan-
dard. Get close to it or have something really quirky as a gimmick, otherwise opt for a less competitive area - if you can find one. Motor racing may still have gaps that need filling - but be prepared for smart arse writers who will say 'l've seen it all before in blah, blah, blah', whichever game-type you plump for.

Anyway don't be put off by the smart arses - everyone had to start somewhere - even Mark Cale, and look at him now.

## Storyboards

These are a sequence of drawings that the player might expect to see on screen in the finished game. They add a touch of professionalism and may help you swing the deal. Usually consisting of detailed maps of each level in the game or detailed sketches of sampled screens showing aliens, monsters, and characters.

You don't have to be a brilliant artist - butdo make sure they are understandable and sell the storyline effectively. Try them out on your friends before you show them to the pros. Bear in mind that at some stage your chosen publisher is going to hand your design over to a programmer so your storyboard must be as comprehensive as possible. Also, use this check list before sending off your story board. It should contain typical screen drawings; sketches of characters in the game; guide drawings for other screens such as high score tables and title screens; and a full explanation of the scoring system and how the
game is won or lost.

## Producing the Action

The good news is that you don't necessarily have to code the game your self - although it would improve your chances of publication if you could knock up some demo screens - even static graphics using an art pack-
age. The software house may prefer to use their own development teams and in-house programmers. However, to assist the programmers give clear guidelines in your proposal about what the player will need to achieve when the game is being played. Be warned also that nowadays more and more software houses prefer either to buy in completed games or else to cover all aspects of production, including design, in-house. There is more free-lance work for computer programmers, musicians, and graphic artists than there is for game designers.

Most games involve some basic goal - such as collecting a certain number of objects. Don't be too coy about these details. Publishers worth their salt know what makes the buyers tick. Be honest with the company, don't worry about revealing your influences but DO make sure you give the impression that you consider the game commercially viable and that if they don't publish it you won't be too put out.

A word of warning - there are enormous legal, contractual, and financial pitfalls that the unsuspected games designer could fall into. We went in to some of these last month - but if you missed them here are the key DO NOTS once again: do not send out your design out on spec; do not sign anything without taking financial and legal advice; do not make any verbal agreements; and do not speak with your mouth full.

## IT'S THOSE LSTS AGAIN

Ten Things That Kept Us Going While We Produced This Issue

1. Breakfast at 3.00am in Smithfield.
2. Breakfast at 7.00am in Smithfield.
3. Thinking about Breakfast at 8.00 am.
4. Breakfast at 8.01 am in Smithfield.
5. Exploring East London.
6. Breakfast at 8.30am in Bethnal Green.
7. Throwing up breakfast at 8.35 am .
8. Love, honour, duty.
9. The Spanish Sandwich Girl.
10. The Money

Pete Connor's Top Nine Cigarette Brands Of His Time

1. Capstan Full Strength
2. Gauloises (Non-filter)
3. Woodbines
4. Senior Service
5. Coronas
6. Ducados
7. No 6
8. Lucky Strike (soft pack)
9. Peter Stuyvesant (The International Passport to Smoking Pleasure)

ACE's Top Ten Royals

1. Ex-King Zog of Albania
2. The Duke of Yorkie-Bar
3. Duchess Fergiana
4. King Boudoin of Belgium
5. The Sultan of Brunei.
6. The Queen
7. KIng Farouk of Egypt
8. The Danish Monarch
9. Tarzan King of the Jungle
10. Duke Ellington
11. The Monarch of the Glen

# THE ACE PRIZE CROSSWORD 16 

Set by Mips
The ACE crossword is cryptic. The answer may be an anagram, or formed from the end of one word and the beginning of another, or simply hinted at in the clue. Most, but not quite all, of the answers are computer related.


- Send your entries to Prize Crossword 16, ACE, 30-32 Farringdon Lane, London EC1 Closing date July 3rd '89


## ACROSS

5. Uncontrollable excitement of a computer game (8)
6. Bit of a boy (4)
7. Length of time in the pool (5
8. Teach one a lesson (7) 10. Software house becoming Tom's realm (9) 11. I get ridiculous sounding name from Actual Screenshots $(1,8)$ 14. Speedo I redesigned in part (7) 15. Georgia is attached to French friend's computer (5) 17. Intend to change name (4) 18. Next Rose developed a computer game (8)

## DOWN

1. Small amount of data to get one's teeth into, say (4)
2. An attacker's game (6)
3. PC in coma, perhaps, due to a software house (6)
4. Gas those poor prisoners in a game (5)
5. Figure there needs to be a rewrite (6)
6. Addictive game ex-pal Mel plays (8)
7. Nude is to be dressed in a bra and panties (5)
8. Italian capitalist (5)
9. Continue to be a stupid person (4)

Yes! More of them - and they're nearly all brand spanking new and really odd facts.

- Eugene Lacey once ran a team of hot games reviewers called The G Force - one of the members was Chris Anderson
- Ciaran Brennan once worked on a fishing boat in the North Atlantic
- ACE adsalespersonoid Gary Williams ran the Christian Union at school. If they could only hear him now..
- ACE designer Vicky Higgs is going to live in Belgium (where the sprouts come from)
- Steve Cooke once slept in the same bed as explorer Captain Oates (not while the Captain was in it) - Pete Connor has scored 0,3 and 6 so far in this


## cricket season

- Steve Cooke's girlfriend's mother was once England's fastest sprinter
- Pete Connor's eldest sister was once a finalist on University Challenge. Bamber Gascoigne bought her a brandy and babycham afterwards
- Terry Pratt, ACE's publisher, once lived in a house he named 'The TP'.


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## PREMIER MAIL ORDER




# GOOD OLD US GOLD COMPO 

Good old US Gold. Not content with launching some of the hottest games around over the last few months, they've now decided to reward ACE readers for their loyalty with a vast batch of freebies... Well, AL゙MOST freebies. Just to prove you're made of the right stuff, you'll have to invest in a stamp for your entry. And, just to make things even trickler, you'll have to get the answers to the questions right too.

It's a tough life, isn't it? So go on, chicken out. After all, only the first thirty correct answers pulled out of the hat after the closing date will get the goodies - T shirts, posters, and copies of their latest games are ALL up for grabs.

Entering the Good Old USGold Compo is as simple as ABC. All you have to do is grab a postcard and write down the letters that you think are the correct option answers to our three questions. Send off the card (remembering, please, to include your name, address, and computer details) without delay to Good Old USG Compo, ACE, Priory Court, $30-32$ Farringdon Lane, London, ECIR 3AU. Entries must reach us by no later than July 3.
(1) The highly successful coin-op game Forgotten Worlds is about to be launched by whichcompany?
(a) Good Old USG (b) Jalecovision, or (c) Sinclare
(2) The blockbusting computer game version of the latest Indiana Jones movie is to be published by which company?
(a) The East India Trading Company (b) Good Old USG, or (c) Trank Organisation
(3) Which of the following companies released the top-selling OutRun conversion that outsold all the other games in 1988?
(a) NorbertSoft (b) Peter Potterton's Software SuperCircus or (c) Good Old USG.

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## The BLITTER END

## GORGEOUS, POUTING, ETC...

When people visit ACE we shoot them. No messing. And when a single week brought not one, not just two, but three of the UK's top soft ware house spokespersons beating at out door, we thought we'd show you the results.


Marissa Pauwels is that rare creature in the software industry - a Belgian. Nevertheless, Marissa once shook hands with Charlton Heston and is now big in Entertainment International (not that there's any connection). Singing is a subject close to her heart; she once went on a tour of China. Now there must be a game in here somewhere..
 Edgeley. She's a dangerous spy in the pay of DOMARK, the most serious threat to the future of civilisation as we know it since The Blitter End was invented. She'll probably try to give you photographs probably of two men posing as water-skiers. Don't take them; it's just a publicity stunt for DOMARK's latest game..."


Who could this be clinging to a pillar in what was, until a couple of weeks ago, the ACE office? Why, it's none other than g.p.etc. (see headline on this page) Amanda Bárry, aka The Voice of Activision. Amanda once met Shakin' Stevens, which is OK, but doesn't seem that impressive.

Once with Telecomsoft, now with Microprose - but Julia Coombes still thinks Jason Donovan is prettier than Kylie Minogue. But does rugby-loving Julia think that 16 -bit software is just a mite on the expensive side? 'Not', she maintains,' when you consider the superlative quality of Microprose software.'


## GAME FOR A BATH

Yes, you can rely on those daffy Domarks to fill up a bit of space on The Blitter End when you need them it's just that they're so photogenic. This amusing, but not too pretentious, little sequence shows them trying to water-ski, which is apparently something to do with James Bond and a computer game. Note the Bond-like grimaces of determination as the Twins - that's Mark Strachan and Dominic Wheatley, you dolts - start off in tandem, and the stoical insouciance with which they meet their watery end. M would have been proud of them; but Q could surely have found the boys some rather more technologically advanced means of transport?



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Addictive gameniay, marvellous graphics combined with originality and a great sense of humour! C+VG, March 1989

'R'TYPE
They came from a Dimensional plane clear across the galaxy, wreaking havoc and chaos from star system to star system. With an evil that smothers all resistance with fear and terror, the horrid creatures of the Bydo Empire are now knocking on, Earth's front door.
Is by far the best blast available on the Sega, so it goes without seying that no shoot em up fan should be withoutill. C+VG, March 1989


## CYBORG HUNTER

The year, 2242 you are Paladin, the toughest bounty hunter in the galaxy. Monstrous Cybags are threatening to take control of the Universe under the direction of their evil leader, Vipron. Your mission is to gain access to Vipron's chambers and destray him. Sound easy enough? It isn't!

Horizontally scrolling arcade adventure, action packed! C+VG, March 1989

$Y^{\prime \prime} S$
You are Aron Christian, a swordsman washed ashore by the might and fury of a hurricane. You were found hall dead by a kind and humble fisherman and he restored you to health. The fishing village sat at the edge of the great plain. Rising in the distance was a small mountain range with an ominous tower at its peak. 'That is the Tower of the Doomed;' the fisherman told you as they made the sign of the evil eye. 'It is the place where the troubles of our land began:' As you watched the tower, you knew that your destiny waited there.
The whole thing looks incredible - the best Ive seen on the Sega. Ys offers depth and playability and will keep you engrossed for weeks. Its a must C+VG, March 1989

## THE ACE ADVENTURE CONFERENCE

Just room this month for messages from Sarah Garner and Phil Armstrong... The address is now ACE Adventure Conference, Priory Court, 30-32 Farringdon Lane, London, EC1R 3AU. Jump to it! Remember that the best letter each month (and that doesn't necessarily mean the most literate one) gets a mystery prize for their machine

## 'THERE'S NOTHING WRONG...

... with simple verb/noun input. I'd hazard a guess that most game players aren't typists and accordingly keep their commands brief...Input is nowhere near as important as the content of the text: If the spelling is sloppy (I once found myself near 'a small steam flowing'), the grammar bad, the descriptions poor, then the atmosphere suffers. We're dealing with a world of fantasy here, and it should maintain its own inherent logic, including Geography. I.E. When you go South you ought to end up in the same place that you came North from, unless the text clearly states that the road, passage, tunnel, or whatever
bends, or forks...'

## 'THE LEVEL 9 ADVENTURES...

...I originally played were crammed into 32 K and yet they contained all of the elements necessary to satisfy the adventurer: good plots, strong story lines, vivid prose, detailed descriptions, lots of locations, a reasonably friendly and witty parser, tricky puzzles, an attractive package and even sometimes - graphics. My only gripe was the lack of a trumpet fanfare on completeion of a game (the equivalent of this has only appeared in three adventures that I know of, namely Beyond Zork, Trinity, and Leisure Suit Larry). How come with 520 K to play with the only real improvement is in the quality of the graphics?

Hmmm...the sad truth is that extra RAM is a bit of a distraction for us adventurers. It's easy to fill 520 K with superlative full-colour pics. It takes about two days. It isn't easy to fill it with solid C object code driving a state-of-the-art character handler. That takes about two years.
'MOST OF THE PACKAGING IS TOTALLY IRREL. EVANT...
...in the case of Infocom titles, to the actual game. Recently I purchased Spellbreaker for £29.99 and when I opened it there was a badge and a booklet which didn't tell me anything about the game at all.

Level 9 are nearly as bad, with Jewels of Darkness and Silicon Dreams you receive large novellas which don't really set the scene for the game at all. In my opinion, the Kings Quest (Sierra-On-Line) titles are the best. Their packaging only contains the disks, a small booklet, and loading instructions. After reading the booklet, the rest is up to your own imagination.

All in all, I think that all games' packaging should be like the Kings Quest series that way the price of the other games could fall too. Do others agree?

## Well, do they? And while

 we're about it - Sarah gets this month's software prize for the best conference conttribution. Will it be you next month?HIT-LISTING
Here's a neat little listing for Amiga owners who want to get ahead in Bards Tale II. The program creates a character who is 'very rich and very indestructible,' says programmer Chris Fitch of Walthamstow. Type in the listing and save it to disk for later use. When you want to change a character, simply replace the characters CHARACTERS NAME GOES HERE with the name of your own character - but make sure you don't delete the tpw. or the .c. Then run the program and follow the on-screen prompts.

REM I WANNA BE GOD!
REM Chris Fitch
PRINT "Please insert the BT2 Character disk into df0:
PRINT "then press a key"
key:
$k \$=I N K E Y \$: I F k={ }^{\prime \prime}$ THEN key
OPEN ' $r$ ', \#1, 'tpw.CHARACTERS NAME GOES HERE. $c^{\prime}, 1$
FIELD \#1,1,AS nS
DATA
$5,6,7,8,9,20,22,24,26,53,54,57,58,59,60,61$ ,62,63,64,65
$a \$=C G R \$(255)$
loop:
READ $n$
LSET $n \$=a \$$
PUT \#1,n
FOR $k=1$ TO 8000:NEXT $k$
IF $n<>65$ THEN loop
PRINT 'Your character is one mean mother now!'

INSIDE DEALING \#3
In Wishbringer, a stone in the head is better than a hole in the head.

Thanks to lan Gay, Newcastle

## MIGHT AND MAGIC II

Activision STILL haven't brought us M\&MII as promised for this month, but just to get you excited we'll tell you that it has over 250 animated monsters, 96 spells, more than 250 weapons, two new character classes, hirelings, and 15 secondary skills for your characters.

The inclusion of skills is further evidence that this dimerision of RPG-influenced games is now becoming an essential prerequisite of new releases. Skills can add to strategic and tactical interest, and can also contribute something to the feeling that your characters have an existence all of their own. Watch out for a full review next month.

## INSIDE DEALING \#2

In Leisure Suit Larry 2, wear your wig as the lifeboat hits the water, then use sunscreen. While on board ship, keep away from the captain or he will put you in the brig. Move to the center of the pool and dive in to get the bikini.
Thanks to Ray Bott, Hillingdon.

## CATACOMB CARTOGRAPAY

Thanks to The Tommyknocker and Madball of Australia for this mini map of Level 2 of the Catacombs in Bards Tale III. This should encourage you when you need it most...and next month we'll give the beginners Level 1, plus Unterbrae 1 and 2. The 'B' marks the stairs...


CATACOMBS 2


[^0]:    Preparing to jump over no less than FIVE hula-hoops

[^1]:    - Andrew Leroux, Romford

[^2]:    - Brian Dick, Dorset

[^3]:    Any 'randomize' feature is a bonus; you can use it as a basis for computer-aided inspiration when trying to create new sounds.

[^4]:    Post Code *5.25"/ $/ 3.5 \% / 73.0 / /{ }^{\text {TTAPE }}$
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