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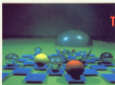
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MASTERS OF THE UNIVERSE

The Movie



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At last! The definitive buyer's guide to the world of home computing. The games AND the machines to play them on, updated monthly by the people who know for the people who matter. So just sit back, and let your printers do the talking. 

W elcome...

...to our biggest issue yet. We may only be four this month, but already some of the ACE staff feel as if they're in line for a telegram from the Queen. We thought we'd take a quick break to fill you in on what's going on...

First, there's the ACE Pink Pages. We've long felt there to be a real need for a proper consumer guide to the home micro industry... now there is. Whether you're after games or a new computer, these pages will point you in the right direction. This isn't just a one-off - the Pink Pages will be there every month, wherever you need them, and always bang up-to-date. What's more, from next month we'll be including peripherals as well.

Secondly, there's the ACE 1988 Diary. We thought it would be good to get something on the cover that lasted a little longer than your average free gift - we hope the 'lasting interest' on this one will take you through to Christmas 1988, which gets it a very respectable PIC curve, and an ACE Rating in the high nine hundreds.

Thirdly, even though this is our biggest and best issue yet, we're beavering away on a whole host of projects for the coming year. We're playing things close to our chests just now, but stand by for a series of innovations that will not only give you a bigger and better magazine, but also one in which you, the readers, can become more closely involved.

Finally, we want to thank YOU for the best Christmas present we've ever had - the enormous response we've had from readers has proved to us beyond doubt that there IS a market for intelligent, insightful, and entertaining coverage of home computing. Stick with us - we won't let you down.

● The ACE Team

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It's obvious - *Demarc* it seems to have become a software stage in the past three years. In the coming months we'll be seeing an increase in the number of titles culled from the TV screen, after what is generally termed a "poor start" in the field. Remember *Knight Rider*? *Superman*? It's a knockout!

Until recently, the field has been almost exclusively left to more versions of (young American) cartoons, such as *Thundercats*, *Gentlemen*, *Gobots* and *Foxed Runner*.

is concerned that the games should capture the atmosphere of the original - so much so that they've sent *Blockbusters* out to programming team 008 for a complete rewrite. *Demarc's* Mark Smecher claims that the rewrite is to update rather than improve the original code and questions contained, but he does admit that *Demarc* didn't take up an option to sell *Maxxon's* *Real Riders*, because "it was just so dreadful".

Demarc plans to release four or five titles a year on the TV Games label, the first of which will be *The*

ACE NEWS

TELLY TIE-INS

The ones we'd like to see

If you can make a game out of *Blockbusters*, then you must be able to make a game out of just about anything. Here are a few programmes we'd like to see become programmes.

Breakfast Time - you'll need Amiga graphics to really get the benefit of Frank Doughty's pulovers

The Epiqueur - Bishop Rambo runs amok with his deadly crozier

Wagon - can you out-talk Terry over a year of grunting stunts?

Play on Fish - filled as many turtles as you can in the time limit; but make sure you keep your wine glass topped up!

Blue Peter - 'and here's a game I saved earlier'

Coronation Street - Newton and Ridley are on strike, you, as Eric Smecher, race against the clock to find a bottle of milk stout.

Saint and Greasie - 'is game of two halves. But the lad does well, don't he Saint?'



A digital tie-in to the big screen programme being ported to the game.

Wagon Factor - with *Every Second Counts* appearing in the New Year.

Although the company is testing tie-ins quite progressively at the moment, Mark Smecher says that 'we'll look into any games that are popular at the time' and cited *Oliver Twist* and a new programme *Entic*. It lucky as show whose computer potential had increased him.

Finally enjoyed some success with a more serious of the children's cartoon games *Trap Door*, and plans to release a second *Trap Door* game to coincide with the new TV series next year.

'The humour in the show and the nature of the characters went well to the computer,' commented *Playpen* Helen Holland.



Many of these have additional links - *cinemas*, *colleges*, *boys* - and the TV origins an emphasized less in the home-computer.

The new batch is led by *Demarc*, which has taken over the former *Maxxon* range, including *Blockbusters*, *Countdown*, *Bull's Eye* and other quiz games.

Demarc has created a new label, *TV Games*, for the titles and



Bull's Eye changes shape

Code Masters Plus

Not content with selling a lot of budget titles, *Code Masters* are now launching a range which - by their standards - amounts to full price. *Code Masters Plus* games will cost £4.99, with the extra three quid justified by the inclusion in the package of two cassettes. These will contain two versions of the game - 'expert' and 'ordinary'.

The idea, according to *Code Masters* Minister without Portfolio Bruce Everett, is that the expert game is unplayable until you've mastered the ordinary version. On loading the advanced tape, you'll be presented not just with a tougher game, but with additional scenarios.

The Plus range is due to be launched in early December with *Jet Bike*, by the Oliver twins, an *Armaged* and *Somerset* at £4.99.

Also reported shortly from *Code Masters* are *ST* and Amiga versions of *Grand Prix Simulator*. The price isn't yet established, but is likely to be £9.99.



Knightmare

Was coming up is the more version of *Knightmare*, the successful Amiga TV tie-in playing adventure programme. It should be out first on the Spectrum, Commodore and Amstrad, and for the Atari ST in January.

The job of converting *Knightmare* has some added difficulties, however. Arguably the TV show already uses computer graphics, but from two Spaceward Superiors computers, which are rather more powerful and suited to the job than your average Spectrum.

Programming team *Focus* has attempted to circumvent this by concentrating its efforts on the plot and storyline. Nick Cook of *Focus* explained, 'In essence, we've tried to capture the feel of the programme. It's presented as an interactive book, with pages turning for each change of location. There's quite a mixture of styles - you could play it now as an arcade test, or treat it as a puzzle-solving arcade adventure.'

In the game, you will play the adventurer, while the team of human advisors in the TV show has been replaced by 'good' and 'bad' voices, whom you can consult for advice at any stage. The 'good' voice will usually counsel caution; the 'bad' will urge you to take a more physically perilous course of action - and neither is right for when time.

The *Knightmare* TV series has now finished and it is not yet certain whether there will be a second series next year. However, estimated figures show that the TV show gained an audience of around 4 million per episode - one of the highest ever for an ITV children's hour programme - so the prospects of a second series must look tidy. Tell us whether *Knightmare* - *The Game Part 2*.



To actually see it too

ANDY CAPP

Everyone's favourite layout should be available on more by mid-December. And who else would it be from (but Microsoft)? Your aim is to survive a week in Andy's tough life; that means getting and staying drunk, scrounging money, cheating on your wife Flar, spending time in the betting shop and dodging the rent man. Development house Bitter Animation are keeping tight-lipped about how you actually play the game, but they will reveal that it contains a certain amount of 'cartoon-style' violence as well as multiple-choice menus.

Talking computer

Using computer technology to do jobs if you're blind, even if you can't touch-type, you can't see the screen to check if you've typed the right letters. So until now the blind have been stuck with cumbersome tactile typewriters. The Gemini 64 computer, however, is set to change all that. It speaks - and it's been described as the most significant breakthrough for the blind community since the invention of Braille.

The very compact box contains a braille keyboard and function keys, and has a built-in word processing package. As letters are typed in the speech circuitry repeats to the user what letter has been typed. Furthermore, the Gemini can be connected to an IBM-compatible PC to allow the blind to use the same screen-oriented programs as the sighted.

The machine, designed by a Czech exile and built in Australia, is marketed in the UK by Techno/Vision Systems. It should cost around £1400.

Super-tape kills CD?

Just when we were getting used to spinning a new 500 megabyte around inside our state-of-the-art CD-ROMs, the bellies come up with Digital Audio Tape - a little widget half the size of a normal music cassette that holds an awesome 1.2 gigabyte. Your little pocket calculator probably can't handle sums that big, but roughly speaking it's about 12000000 bytes, the equivalent in industry terms of just under 10 million CDs (with the RAM gone).

Since the search for a reliable read-write CD-ROM has been a difficult one, and the prices are around £200 for a drive and £100 plus for the blank discs, you can see why DAT, just introduced in Japan at around £200 plus £10 for blank tapes, is a slightly more attractive. True, these systems are for music use, but the technology carries over very easily into the computer arena.



Super-tapes, over tape, over price... these Digital's DAT cassettes are half the size of a standard music cassette, but hold 1.2 gigabyte (12000000 bytes) and an average of 10 million CD records.

Head in a spin

The system works by recording data onto tape using the same method as that employed by video recorders. Instead of laying the information down in a long line along the length of the tape, the data is recorded on a helical scan basis, laying tracks across the tape using a rapidly rotating recording head. The digital format not only eliminates noise, but also allows frequency and dynamic ranges over higher than compact disc.

Hitachi Packard currently has a co-development deal with Sony to produce a DAT unit and although the cost and up-costing around £2000, the deal is that volume sales in the music industry could have the seal of production and these lower costs could then benefit the computer market. Also, not for

get that a pros-plot if three-point is not out of character with Hewlett Packard, who are not renowned for their presence in the budget market. Get someone like Jack Travenel on the job and things could really start spinning. Typical a pop hit in me would be the storage of digitized pictures, as well as audio and data information - just what we were going to use CD for, but perhaps never will.

Pinacy

Of course there's a bug in the lettuce. At the time of

writing Sony have delayed the launch of their Digital Audio Tape unit in the face of mounting opposition from the music industry, who believe the system will be used for pirating music from compact discs. We don't recall the sort of problem stopping the introduction of music cassettes - would it be unfair to suggest that this is because DAT is a Japanese import and an area in which European firms lag far behind?

In the meantime, the struggle over DAT in the music business is going to setback any plans to transfer the technology onto computers. Sony, Aes, and Hitachi are all waiting for the go-ahead to release their DAT music systems over here (already on sale in Japan), but until the law does otherwise seems like likelihood of any real headway being made in either music or computing.

Infocom revolution

Infocom are dropping their prices to £19.95 for most titles and £29.95 for the 'top-end releases'. Previous price levels ranged between £24.95 and £29.95.

The company are also promoting some 'revolutionary releases' in the New Year, but titles remain limited for the time being. We're putting our money on graphics-based games, since the company is known to have been impressed by the Megatech graphics products and have recently introduced cutaway graphics (on-screen mapping) in their latest game Beyond Zax (reviewed by the Program in this issue).

What news however for Amstrad owners? Recent Infocom releases for the CPC range have been regularly delayed, and the entire question of Amstrad Infocom products is under review. Will the company continue to support the Amstrad machines? Probably not, admits Amstrad's Dave Hinton. Better start saving for something beefier, chaps...



Virgin marries Mastertronic

While Mastertronic seem steadily increasing their interests in the computer entertainment field, you all surely know Empire Building (they still do) and know that Mastertronic themselves were being wooed – and won – by Richard Branson's Virgin.

The sounds computer games/satellite TV publishing conglomerate paid millions for a 49% stake in the budget and arcade company. Virgin Nick Alexander explained the move in terms of Mastertronic's expertise in fields where Virgin is inexperienced – notably, budget software, arcade machines and the UK distribution of software.

The first fruits of the fusion for the UK software buyer are likely to be a budget version of Virgin's old Dan Dare game, don't be too surprised if other Virgin titles find their way on to Mastertronic's list.

Virgin's Way Forward

Virgin are rather more deeply involved in the consumer exploration of new technology than a look at Action Force or Planet might suggest. Richard Branson now has interests in satellite TV, electronic publishing, traditional publishing, computer games, CD-ROM and interactive video.

In fact, so interested is the company in these fields that they've just appointed a general manager for their interactive Video Division, William Bebbitt, the producer for the company's an educational game based on Sir Randal (former Transglobe Expedition, which traversed both Arctic and Antarctic regions).

This educational 'game' will be available initially only for the BBC master system – to take advantage of the equipment many schools have installed in



Don Dare has to get to go Mastertronic



Richard Branson is who may well use his computer-developer and writer platform

order to run the BBC's Domestic project (a later-day version of the Conestable book, with a plethora of maps and statistics, as well as 52,000 digitised pictures, on two laser-CD-ROMs).

Bebbitt describes the Transglobe program as a multiple role-playing adventure whose educational value lies in the need for the players to plan, negotiate and cope with meteorological and logistical factors. With 70 minutes playing time per video and up to 50,000 digitised pages, it sounds well worth a try.

But are we likely to see anything like it for home consumption on other machines? Bebbitt thinks so – but probably not for a couple of years. Even then, because the technology is in its infancy, both the hardware and the software are likely to be pretty expensive. The discs could well cost between £20 and £300, while you would also need a laser-disk player to interface to your main. But new technology has a habit of falling rapidly in price if enough people want to buy it, and it may not be too long before you'll be able to explore the frozen wastes from the comfort of your own armchair.

Snippets...

Star Wars

Demarc

Spectrum £9.95 vs £12.95 db
Amstrad £9.95 vs £12.95 db
C64 £9.95 vs £12.95 db
Atari ST £19.95

Take control of your X-wing fighter in this expansion of a four-year old coin-up. Beat the Empire's fighters before you penetrate the defenses of the Deathstar. You'll still need the Force with you if you want to hit the elusive exhaust duct. Should be in the shops as you read this.

Demarc Striker

Electronic Arts

C64 £9.95 £14.95 db



This one or two player arcade action game offers the player 99 challenging levels of mazes, monsters, magic and messages. Move it to level 100 and you'll find Captain the Demon ready for battle. Should be available in time for Christmas.

Centropolis

Strategic Software

C64 £9.95 vs £12.95 db

Combining parallel scrolling shoot 'em up with challenging platform adventures – plus monsters and evil eyes. This one or two player number should be on the streets for the start of the new year.

Cosmic Conewy

Greenline

C64 £9.95 vs £14.95 db

This follow up to the highly successful 'at' trackrunner game features multi-directional scrolling and the chance for the player to buy some useful bonus which could get him out of a tight spot. Should be in the shops as you read this.

Resurrection

Neuon

Spectrum price undecided
So Janglebug's latest is definitely not another Fantasy. Resurrection is a strategy, tentatively scrolling shoot 'em up in which the player has to save the world from a magic mining corporation determined to destroy all of the Earth's natural resources. The environmentally sound game should be available in time for Christmas.

Tails

Microquest

Spectrum £7.95 vs £12.95 db
Amstrad £9.95 vs £12.95 db
C64 £9.95 vs £12.95 db
Atari ST £19.95 db
Atari ST £19.95 db

The abstract shape manipulation game, played in real time, should be headed our way at the start of the new year.

Platoon

Spectrum £7.95 vs £14.95 db
Amstrad £9.95 vs £14.95 db
C64 £9.95 vs £12.95 db

The licensed conversion of Steven Stone's bookkeeping film of American Army life during the Vietnam War should be hitting the streets, docks, ST or whatever in the new year.

Flashlight

Neuon

Spectrum price undecided
Pete Cooker's follow-up to Microton 1 is a horizontally-scrolling shoot 'em up viewed in three dimensions. The game allows the player to move his craft from the foreground to the background of the screen. Set on the moon, Flashlight should be out in time for Christmas.

T-Runner

Neuon

C64 price undecided
Set on a theme training platform in space, this arcade adventure gives the player a Matrix Matrix-like view of the game area. After 300 years of lying idle, the central computer has gone haywire – and it's up to you to sort it out. Should be ready for Christmas.

Reaction Slog

Imagin

Spectrum £7.95 vs £14.95 db
Amstrad £9.95 vs £14.95 db
C64 £9.95 vs £12.95 db

Hit from the arcade, Reaction Slog puts the player in control of the muscle-bound, long haired, world-weary hero of the arcade machine. Look out for it leaping into the software shelves at Christmas.



MEN ONLY?

Why the girls aren't joining in the fun



Anita Sinclair (interviewed in *Stranger Than Paradise*)

The nation opened its arms to men on Nov. 11th November when it was revealed that *Delity* — in the *Stranger Than Paradise* spin-off format and *Delity* — was writing a computer game. Coming soon to an Amstrad on the way could be *Delity's* *Four Romance*, a little and *Been Job* game — almost girls.

It is just a coincidence that recently men game for girls. *Flower* — *Hearts* (see *Play*) (see *Hearts*) is coming out right now? And does all the female activity mean that women are becoming more involved in the playing and the production of computer games?

Certainly, there's a lot of female participation in the adventure game world. *Magnific* *Booth*, with *The* *Flower* *Game* of *Flowers* and *How* *John*, have still in prominence in the past couple of years; and the brains behind *Female* is 25-year-old Anita Sinclair. She explains that women comprise about 25% of the *Magnific* *Booth* audience, and further suggests that women make better adventures than men. As for herself, she admits to having written a couple of arcade games, but will not reveal their names.

Does she feel that her sex has hampered her career in the games biz? Not a bit — in fact, she had more doors opened for her because it's a woman, she says. Anita has a pretty low opinion of *Flower* *Hearts*, calling it 'one of the worst games ever written', largely

because she sees it as a cynical and patronising marketing device to exploit women consumers. Not that Mr. Sinclair sees herself as a feminist, 'I cannot stand in female feminism of any sort', she says.

Anita Sinclair doesn't have much time for arcade games; neither does AOL adventure columnist Phil Winesapine. She thinks women prefer adventures because they 'demand thought' and they're something you can stop and start with.

One of the few women making a living from developing arcade games is Helen Barnes, who runs development house *Deaf* (responsible for such recent games as *Mean* *Street* and *Yogi* *Deal*). Even she, though, doesn't really pop up for playing arcade games. 'I prefer the design more than anything else.' Although there are plenty of women programmers around, most of them tend to work in the field of business software.

For the time being, at least, the boys are running the game.

Games for girls

The only recent instance of girls' games aimed specifically at girls that we can remember is the DOS range called — with stunning simplicity — *Games For Girls*. This series of arcade adventures was targeted at 7-11 girls. *Angie* *Adventure* (of course) led the female a particular lead in the final jungle.

The series was not a success. It was ridiculed in the computer press, and had little or no impact with girls — perhaps because the high street stores declined to stock the game. And if the high street stores won't stock them how can little girls buy them?

Teen writers of DOS believe that the situation hasn't changed from four years ago: very few girls play computer games, or are interested in doing so.

Telecomsoft comp — the winners

That massive software price — every Telecomsoft release for your machine for a year — has at last been won. We reckon that entries can't be well over £100, an indication of just how exciting the prices were. So, without further ado, here are the four winners.

- Amiga winner P. BILES of *Temple*
- ST winner GARY WINTERBALL of *Clonewar*
- PC winner KEVIN STEWART of *Comedy*
- CD-ROM winner PAUL CRAWFORD of *Disasterland*

All four of them can look forward to a host of software over the next 12 months.



'Orrible murders

CBI, now called themselves up a nice little publicity-generating controversy with their *Jack the Ripper* game (written by their executive ladies of St. Bink's). The cop's pretty simple: get yourself a gory game, go strong to the British Board of Film Classification and ask them to certify it, then make a lot of noise because they say it should be for the over-16s.

CBI, are no change to the fact: they seek previous releases *Orrible* and *Paradise* along to the film censor as well, and duly get their certificates (and publicity). Their new game breaks new ground — or plunders new depths, depending

on your point of view — in the graphic depiction of scenes of revolting violence, the screenshot that came through with their press release showed a disorientated naked woman, with mutilated breasts, spilling blood all over the place.

There's no doubt, of course, that the game shouldn't be seen by under 16s. But placing a sticker on the package



saying as much is more than likely to have quite the opposite effect. And producing it on the CD and Spectrum means that there are an

equal lot of under 16s around who must play it — if they wanted to, but, of course, once they see the certificate rating under 16 is going to try to buy the game, are they? And, of course, no prosecutor is going to sue CBI or anyone under 16.

The authors of the program — those ladies of St. Bink's — disclaim all responsibility for the graphics.

Their input, they say, was confined to the text. Not that St. Bink's Private Language is taking accusations of bad taste lying down; she defends the game as being an attempt to 'recreate the atmosphere of the trial and the portraying the struggle between good and evil' — as opposed to the 'hard anatomy' of the *Orrible* games. The St. Bink's starts on the left with late comic courtesy of its clamped front; she then tells that the murders were the work of a diabolical serial engaged in ritual sacrifices.

At AOL we haven't yet been able to pass definitive judgement on the game — neither copy we had received at the time of writing went to be lost — but *The* *Play* will speak in our verdict.

That 16 Certificate

According to James Thomas, Director of the British Board of Film Classification, the video licensing law does cover computer games, provided, he says, are designed to exhibit or disseminate any game containing scenes of mutilation or gross violence involving human beings or animals. 16's age group remains the law.

The 16 certificate, says Mr. Thomas, means that any shopkeepers selling the game to under-16s will be liable to prosecution and could be fined up to £25,000 — if found guilty. To the best of our knowledge, however, no computer game has yet been the subject of such legal action. It is the job of the Police to enforce the act, but it, as seems likely, been withouty taking standards officers into the responsibility of any well-run, well-regulated industry — and perhaps the best Computer Game being prosecuted.



Helen Barnes of Deaf — there's only women work programming



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Comes in 2 games.
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Comes in 2 games.
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WOOLWORTHS is Christmas



FASTEN YOUR SEAT BELT...



Vampire's Empire

Magicalite

It's time to take the Ace of Spades level again, with a Made in Germany platform spin for C64, Spectrum, Amstrad, TT and Atari. If the glossy atmosphere of these screens are anything to go by, the game's graphics should match its Discosaurus theme very nicely. Vampire's Empire due out in January, so start sharpening your stakes right now!

ACE: See how things happen now! Don't be afraid, just be able.



ACE: By now it's like Discosaurus, and it's enough to get you out.

...and prepare for take-off! These little babies are queuing up on the runway right now, and should be reaching for the skies from a shop near you in the next couple of months. Check out next month's ACE for the definitive reviews...



(17) The computer issues a command. (Don't blame me!)

Paranoia

Magixsys

Get more fun from paranoic adventures, courtesy of the equally paranoic Amosoft. This time the settings are oppressive future world towns which you must secretly plan, your energies. Deserving the title's risky proposition, so mind the mental computer doesn't catch you if The games that cut for all, most intense some time in January.



(17) The AIAM will punish you for entering wrong and you really can't like the variable plan.

Out Run

US Gold

The incredibly long-awaited CD-i-to-conversion hits the streets on CD-i Spectrum. Amosoft and US Gold team, and it still not clear how the home music version will measure up to the original's very high standards. The second thing we've seen is a finished product so far as a CD-i version with a very nice feel for speed and

gradient along with some impressive rock-side features - plus some questions and the like - but still no-compromise. The production version will have a tape of the original arcade music, so playing these two won't take out eyes on the spectrum, but will mechanical version like be retained by the high speed music? First and last...



(18) Getting a head start is a fairly common sight on Stage Three.

Grand Prix 500cc

London

Get more racing action on the way! The title has been chosen. You could be the world's Grand Prix hero on your hot-air bike, starting to outdo computer opponents or a fellow human being on your ST or PC.



(19) Starting off at the start.

Apollo 18 - Mission to the Moon

Emulation Arts

Most computer game parodies may lead to some pretty colorful re-imaginings - bombing boys - again, for crying out loud - but the Amosoft title proves that it can also produce some commendable ones too. The NASA Apollo programme might have ended back in the early sixties, but that first mission could be lifting off on your CD-i and soon too. From moonwalk to spacewalk, the moonshots in your hands.



(20) In spirit of lunar surface activity.

ocean

NEWS

LOOTING, GAMBLING AND SMUGGLING



REPORTS filtering through from Hong Kong suggest that the night of TAI-PAN is threatened as a pretender to his title is now becoming stronger every day after a spate of pirate attacks on innocent merchant ships and an uneasy run of good fortune in the gambling dens. Although rumours now suggest that his own empire may well be in jeopardy as mutiny strikes throughout his fleet.

COLOUR VANISHES



THE evil Zerk strikes again to leave our world void of all its glorious colour.

Our only hope now is for the magical powers of Wiz and his fantastic feline friend, Catalina to perform their wondrous deeds - indeed, Zerk has already been quoted as stating "the finest release this year".

I USED TO BE A FLY IN THE OINTMENT



THE story by intelligent men.

A new experience, just released by Denton Designs, takes "growing-up" to further dimensions. Have you ever wondered how you got here, which track you took where you're

going? Well Eco is the game for you. The graphics and animation are a sensation and the game-play is just out of this world - a game for life!

CHRISTMAS SPECIAL

4

NEW RELEASES NOW FOR THE ATARI



MAVERICK SKIES OUT

TOP Gun has gone through the roof! "Flying has never been so easy - the hard part is winning!" says Top Gun. On his latest assignment he just couldn't be stopped - flying supersonic and producing aerial manoeuvres that would fuel a turbo-charged horse fly he later quipped - "It's simple, just enter the danger zone!"

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You're cool, the engine's hot, the girl's gorgeous,
a tank full of gas and an open road.... the rest is up to you...!

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The ultimate dependence is when sports equipment is designed to serve and reflect. From the wheel to the pedals and the gear of the clutch, as you press your own foot on the levers and levers, it glides, giving ultimate speed and control. Experience the satisfaction and excitement of driving a high performance sports car in the training zone that offers more excitement and more to be treated to unbelievable speed. Don't let the coin-op claim as its steady remembrance. Use the computer simulation drives the reality of action sports.

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FROM COIN-OP
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The machine becomes a home computer reality on December 1984!



U.S. Game Lab, 1100 173 Industrial Way, Redwood, Emeryville 94 740, Tel: 811 350-3388

SEGA

It Piss up

I am a loyal reader of your sister magazine, *Amiga Action*, and on a recent trip to the local newsagent I spotted a glossy new mag called *ACE* with a special on said 3-D games (my favourite).

Flopping through the letters section I read the first letter, and thought Ah, so that's where *Comms* strayed off to, nothing to do with the Foreign Legion after all.

I have a suggestion: my bedroom wall is plastered with artwork and posters from various computer magazines that I read freely and I know that a lot of my friends will do too.

Why don't you publish a photocopier-up-up of the *ACE* production team? We've never seen them, or are you too ashamed of your handwriting?

What does *Comms* have to look like?

**Bonnie Lacey
Great Ormeau**

The *ACE* production team are a very interesting bunch. They work for the quiet satisfaction of doing a good job, rather than fame and publicity. As for *Comms* (and our subscriptions supreme) ship: a mixture of new beauty (unfortunately, she too is a final type and does not wait for photo to be printed).

It Commodore 128

Since you were unable to help in 2088 in the search for software for the new Commodore 128 and 128D (see *November Letters*), as one of the first C128D (the ultimate version) owners and an *ICPLUS* member, I thought I might enlighten you both.

Commodore, there is very little specifically for the C128. I know of enhanced versions of *File List* (of *Microtron*) - disk only at \$3.95, and *Pokey Homer Show* (CPL) - cassette at £3.95 (maybe disk as well) and it is of course, the only 8-bit machine running the full range of *Visions Interactive Fiction* - mostly in C64 mode but the plus *Vis* (and *Forever* (logging, *Friday* and *Dimension*)) can only run in 128 mode and only on 80-column mode.

There is a far larger selection of more serious software (word processors, databases, compilers, programming languages, etc.) available in 128-mode versions, such as *Supermpd* and *Superbase* (which can be used together on a 128, *Vis* and *Forever*) and *Claris* *Final* all of which can regularly be found advertised by both publishers

and Commodore specialist-retailers.

In addition, only CPM software whose publisher can be persuaded to supply it on 5.25" disk in Commodore 128 or 128D, *Flag*, *Deluxe* or *Open* *MEM* format can be read by the 128 and run on the C128 - I understand that at least one *ICPLUS* member has been able to obtain *Locomotive Basic* as used on the *Amstrats* in this way for about £50, and it should be possible to obtain other programs also.

IBM jobs are mutually exclusive. Commodore Master System for the Commodore 128/84 (Computer Basics), an American bookish package similar to *Parsons' Advanced Master System* with 128 and 84 versions on opposite sides of the disk.

Finally, if you join the Independent Commodore Products User's Group (*ICPLUS*) cooperative for £2 a year (plus £1 on joining for a shirt), you will have access to their free libraries of public domain software for C64, C128 and CPM, amongst others, covering both leisure and serious programs and 8 modules, just by sending a blank disk or two plus return postage and packing to the appropriate librarian, and will receive 5 copies a year of their excellent magazine as well. Contact the Membership Secretary, Jack Cohen, at 35, Winchester Place, Newbury Park, LUDLOW, Shropshire COE 7EP, or tel. 01-877 0208 (days), 01-344-0260 (evenings).

**Alan Higgins
Oxford**

There's a whole lot of useful information for C128 owners. I'm sure they'll be most grateful.

It is a cliff's edge

I am going to get a new computer, a BBC or a ST. I'm thinking of getting a BBC as it's the same as the school's got and I am taking *GOOSE Computer Studies*. I like the ST as it's got a huge memory and built-in disk drive. Can you please give me some advice?

**P Bruce
Huntingford**

You're one of a BBC Master is likely to be more expensive than an ST, with a slower spec. The BBC has loads of software available, but the ST is getting more interest at the moment and is likely to get more in the future. But there's that *GOOSE* to consider. I think you need to ask yourself just how useful it would be to have the same computer at home as at school - don't most people taking computer studies do

ACE LETTERS

Some spicy stuff in the mail-bag this month: boasting software pirates, accusations of anti-Amiga bias, accusations of anti-ST bias (can we be biased against both?), and letters from our oldest (71 years old) and youngest (5 years old) readers. Keep sending the goods to **ACE LETTERS, 4 QUEEN STREET, BATH BA1 1EJ**

quite nicely without having a computer at home at all? Not many people buy a microwave just because they're studying cooking.

It Where's Ultima?

Compared to the full onset of so-called real magazines your mag is brilliant! I am amazed at your fantastic offers for the *Amiga ST* - saving £12.44 for *Guardian*! But, you seem to have made an error in the *Amiga ST* versions of *Amiga*, it costs £14.95 in the shops, not £18.95.

When I saw your *CDL* *CDR* reviews and your rigorous PC, I was simply astounded. Your reviewing team have managed to do really in-depth reviews of games. I loved the huge 2 page review of *Scud* by Gary with a fun section! Brilliant!

immediately sent out and bought it and I fully agreed with the 99% rating you gave it.

Keep up the good work and please continue to support the ST. Can you tell me when *Ultima IV* will be released for the ST. I've been waiting for it for months.

**Geoff/Liz
Oxfordshire**

We've already seen an *IBM* version of *Ultima IV* so we expect the ST version should be in the air already, we'll assume that we'll receive it as soon as we can.

It Sega is as Sega does

My beloved CPC ain't keeping the garbage from getting lonely in the rubbish bin, why? Because I have found a new low. Not another 8-bit, not another 16-bit but even a computer! No, none of these, I've found the Sega Master System. I am totally obsessed by it. And I don't see some real serious reviewing of forthcoming Sega games I might have to get really sad. On a lighter note, I shall provide one question and one answer:

Mo! Carrie-Anne



Question - Is there a catalogue I can purchase reviewing Sega games?

Answer - Turn on your Sega Console without cartridge in hand in the machine and hold buttons one and two and the direction controller down. Something will happen!

But Sega really is my name!

**Neil Seggs
London**

With a name like that I suppose you were destined to fall for the Sega. We all wish you both the greatest happiness for the future, if you write to *Microzone* they should be able to send you a catalogue of Sega products.

■ XCR offer

Could you please tell me about your special offer on XCR. Does this include the "XCR Designer" and "XCR Designer" which I have read about in an advert for the game. If not how much would it cost to buy all the above from you? Would there be anything off the price of the "XCR" and "XCR" designers if they are a separate package from the actual game which is exactly the type of game I've been looking for, and your review in issue 66 made me decide to purchase, and your discounts, hopefully will persuade me to buy many games from you in the near future. If you could please answer my questions about "XCR" etc. Then I would be most grateful.

**Mr B Kyle
Widford**

The XCR Designer is a separate product, selling at £14.95 - but on the BBC only. It's not available through ACE.

■ Help!

Help! I bought a Spectrum £2 about 8 months ago and ever since then Ocean, Imagine, U.S. Gold games will not load except the odd one. Why is that? And is there anything I can do besides buying a new computer?

**Steven Moore
Nigel**

We haven't had any problems here with our £2, but we only got ours in

July. There were some problems with other games, due to the slight differences between the old £80 (Basic) and the £75 (Basic). We suggest you try all the normal adjustments, such as changing the joystick settings, and also - if you can - try out the games on another £2. If there seems to be something wrong with the software rather than your computer, then get in touch with the supplier of the game and see if they can help or if they will exchange the game.

■ Who does he think he is?

I have several points to make as I have outlined them:

- 1) Who does P. R. Menzies think he is? I refer to his entry in issue 2 of ACE. There is nothing wrong with the cover and it is much easier to see what great articles are inside than a page of attacks for one game. Mr Menzies also says that you need more colour inside ACE.
- 2) ACE has more colour reviews, screen shots and articles than most

■ Never heard such rubbish

I am not sure whether there is any point in my writing this, other than an article written in your third edition of ACE, as the article, about Amiga and Atari STs, was nearly written in a very deliberate and subtle manner.

My observation is that all the good points of the Amiga were highlighted on the first colour page whereas the great points of the Atari ST were left until the bottom corner of the following black and white pages, which is obviously not so likely to be read by many.

As for your subtle explanation about the Amiga's lack of software, again on the first page, I have never heard such rubbish in all my life. In America, the Amiga has had higher sales than the very best, namely A1000 and A2000 models, and in that country it is regarded as a games machine. The Atari ST has never held such positions. It has been aimed at the games market from the start and even now Commodore don't seem bothered. I don't see why your magazine should do that for us.

Your comparison with the C64 software explosion simply does not hold water, as that computer was a games machine and not not. As for Germany and Scandinavia, their offers on software can be no more than minimal. I suspect you only throw those two in, in an effort to get us into believing that somehow this country is the odd one out rather than the only country with more sense than money.

As for value for money is concerned, the Atari ST wins hands down. When you consider it costs less than £50 more than a C64 and disc drive, the value is simply amazing. When you ask the vital question as to

how much extra one should pay for the extra hardware contained in the Amiga, I would suggest the answer is not £200, as it is wrong. A further £50 or even £100 might be acceptable, but again, when you consider the serious lack of software, which the ports of the program is at.

I have enjoyed the first few editions of your magazine, but not so much the first. Alan deserves success with the ST machine and if you continue to run it down, I and I suspect many others will not buy any future issues. Be warned!

**P J Lattimer
Havant**

Of course the article was written in a deliberate and subtle manner, we wouldn't want to have written something that was straight and honest, would we? As for assurances that we're not ST, I think you're wide of the mark, both Amiga and ST were featured on the colour pages opening our investigation, we don't make any attempt to suggest the price difference between the machines, we stated clearly but without any fanboyism, that the Amiga has a superior technical spec; we merely presented the figures and left the readers to make their minds up.

■ ST bias?

I think that your mag is great, but - and a big but! - it is too - why are you doing most of the 16-bit work on the ATARI ST? I know it is a great machine, but come on, it's not the only one on the market! I own an AMIGA 500, and a mass machine it is to me. I think that it was well worth the extra cash and that it deserves more credit than it gets, what with its 4096 colours and the excellent sound it can produce. I can guarantee the quality of the games it has to offer. The cost for the ST is very good indeed and it will worth the money. But, if you want to get

something really special get an AMIGA. I can tell you it is well worth the money! Not trying to brag off any computers, but I think the AMIGA just has the edge on the ST.

**Steven Wright
Brecknock**

We review as much Amiga games software as we can get our hands on, and the Amiga featured nearly every month in the *Diagnose* section. It doesn't feature so much in *Music* simply because there's very little around in comparison to the ST.

■ Anti-Amiga mag?

In your first issue you supply a free cassette for Spectrum and C64 systems, but if you own an Amiga you get a goodly little £8 of some old games not even worth your current prices. If Specty and C64 owners think the free game is rubbish they can still use the tape as a blank. Me, I have to fork out £12.00 for a rubbish game/blank disk.

Also Amiga reviews are free on the ground, 'our graphics review said that the 16MB model of the Amiga is 'rather impressive' with 'very heavy restrictions'. I request your reviewer has a 504 if DigiMan!

I look forward to issue 3 with free software/blank disk for the Amiga (the ST and the Amibird are also getting a free disk).

**G. Tracy
Aldershot, Norfolk**

We are not anti any computer, I reckon the offers to Amiga owners (and others) were pretty attractive. The review of most new Amiga software as we can get for hands on. We would possibly give away Amiga games on the cover - but would you be happy paying £4.95 for the magazine? I'd just pay for the gift on the Christmas issue. Compatible with your machine.



other computer magazines available. Also comments like "what was the cost?" are not in the least bit funny and only make the magazine look immature and stupid. Plus the fact that ACE will not get extra readers by printing ideas from other magazines.

The only thing I can agree with is if Manchester ever is the rating system which is a very interesting idea especially PC.

ii) Do you know if there will be the Commodore Show in Manchester and if so when? Last year's show was a bit of a disappointment as lots of the software houses supported the show.

iii) Thank to Pat for a great C.I.A.C column. Being a Commodore C.I.A.C owner I find it very interesting.

iv) The competitions are great and I think that the prizes are very good and I hope to see more of them.

v) Finally a word about the reviews. They are very informative and I especially like how you put labels at the screen shots, sometimes you cannot always tell the games from the labels so put it clearly.

Thanks for a refreshing change in the normal computer magazines which seem to spend most of the page slugging each other.

Mich Frost Bromford

For old Manchester's sake a lot of a beating on these pages lately, let's make this the last letter being left to last. At this moment we don't know of any Commodore Show planned for Manchester.

Happy Amstradian

I'm writing to a disgraced Amstrad being reason, having taken full advantage of the first two issued special offers and saving over £75 on two excellent new disk games. Those savings would have been much better to me than one (old) disk game and a demo that would last only ten minutes.

The magazine is superb, for more reasons, more stylish, more colourful and with better features, reviews, and special offers than any of the rest, issue 3 being the best yet. As soon as I can afford it, I will certainly subscribe and save even more money.

Tim Ho Torburn

It's nice to get a letter from an Amstrad owner who's realised just how marvellous our special offers are - and just how marvellous the magazine is.

Gamey-wannay pins

I own a BBC Micro II and was being quite well for Software considering I own a BBC1 and all of a blizzard! Suffered all these lovely games that had been converted from machines like the Spectrum and Commodore were just wiped off the shelves to make more room for the more popular micros. So before I go and spend all my hard-earned pennies on a C64, could you tell me whether all those nice, kind, charitable personalities are going to share a gamey-wannay or find for my puny cash.

Paul McKay South Crean

Superior and Autopanic still seem to be committed to BBC gamey-wannay (as you beautifully put it). But we can't think of many other people producing the stuff.

Not running the Gauntlet

I own a Commodore 64, complete with disk drive, and games. Around January this year, I purchased Gauntlet on disk for the aforementioned 64. During play, the game repeatedly crashed at random points, making it totally unplayable. I returned the disk to the shop. I thought it then and was given a replacement. This replacement copy did exactly the same thing as the first. Rather than return the game yet again, I wrote to U.S. Gold and to this day I haven't received a reply.

Recently, a friend gave me a copy of the game which worked perfectly on his machine, yet crashed just like the rest, on my machine. I sent this copy to someone else who said it worked fine for him, which leads me to the point of this letter.

My 64 is quite old, indeed it was purchased shortly after Commodore first released the machine, and this I assume means that there must be some difference between it and later versions which perhaps have not become apparent.

All other software I have works perfectly, but I wonder if the issue has might occur with future releases, and if there are any other affected Commodore owners, who have had any similar problems.

Being a student, I can't afford to spend lots of money on software, particularly if I have no idea it's going to work on my machine, something which I am now going to have to consider.

I will be writing to U.S. Gold again, but would ask you to print this letter and do you think there is

any chance of getting some recompense for spending nearly £75 on a game that doesn't work on my machine?

Howard Cross Plymouth

We don't know of any specific hardware changes Commodore have made that would affect it - but that isn't to say that there haven't been changes. We assume that you've taken every precaution you can, such as unplugging all unnecessary peripherals (I.S. Card) alternatives should be able to supply some suggestions, if not explanations, and we reckon that in the last resort they ought to refund your money or offer you an alternative game.

Is this a record?

I got 137,478 points on my Bubble Bobble demo tape. Is this a record for my age? It was on a Spectrum - J.

William Barber, age 9 years, Northampton and his mum who wrote the letter and saw the score

Yes, it probably is a record. Any under-10s out there would care to challenge?

Wise guy

In the "Wishes or Wimp" feature (Skeuggery problem (page 40)) there's a solution, surely? You may get killed but if you get the top diamond then then dash for the bottom one, I think you will get it just before you get crushed. The problem was just about getting the diamonds, wasn't it? Or I get a special price for being down (Skeuggery for my £275, ha, I didn't think so.

David Wood Glasgow

Any more letters like this, chummy and you'll be in real trouble. We've got your address on file.

Paperboy problem

Thank for a brilliant and exciting magazine. But there is one question I want to ask you. In issue 2 - "Tides of Taurus" section I typed in the Paperboy program. I then checked it and then saved it, I then ran it as you read and loaded the



game. Paperboy but it did not give me unlimited lives. I checked and checked it but it still did not work, could you tell the why? Oh, and by the way, I've got a Commodore 64.

Lee Howard Whitby/Hampshire

The gods worked OK on our 64 in the effort we can only imagine that either there's something wrong with your machine or that there's something different about your copy of the program that means the gods aren't work.

Mail order misery

I was wondering if you could give me some advice on my rights as a consumer. As a result of your first issue I applied to a software house for some goods. Since then I have written to them four times and only received two out of four of the items which I applied for.

Each of the other two items have been readily available since I applied, and the software house have not written back.

Stephen Smith Sturtevant, Devonton

First of all write to the company concerned and tell them you are going to take the matter further. If you still do not receive satisfaction, get in touch with your local authority Trading Standards Office or

■ God of the month



I don't believe the price of ST software is CBS a piece! That's four to \$100! And I bought my car for the price. PLUS, I get a lot more mileage out of my Buick Triumph than I get from my Commodore or even Supra.

Luckily I found a person who gives me a copy of any ST file for the price of a tank of gas.

Thank God for software piracy!

A. "Doby" West Hills, Calif.

You seem rather proud of your financial exploits, but have you stopped to consider that the most people who believe as you do the larger ST software prices will remain as high as they are and the longer software houses will have an argument for keeping their lights lit? Picky on the matter is tantamount to stealing not just from the company, but from other, honest consumers. You should be ashamed of yourself.

■ Commercial piracy?

I wish to tell a tale of naughty deed that I happened to witness only two days ago.

I was in a city center and during my lunch break I'd like to go out and look around the shops. On this day in question I decided to go into a store to see what games they were running on their AMIGAs and A500s, and on their Acornmodels. On the Acornmodels a demo was running showing to version of the Amiga's new and flashy. The Amiga 5000 was running a short demo for those businessmen expecting the advantages of multi-tasking.

The Amiga 500 on the other

hand was being used by a merchant of staff for rather personal purposes. He was using an item of software called Amavis to — apparently — copy a disk. I went to see which item of software he was copying, and I have no idea of whether it was for his personal use or for use in the shop, but I'm sure of pure hypocrisy when the software industry and the computer magazines attack home and business users on the matter of piracy, while people in a position of trust and responsibility that the products that they sell are them for the taking.

I am not musing on whether or not piracy is acceptable as I battle games from tape to disk on my C64 and I also receive papers from friends, but I would like to draw attention to an area which is treated as much as possible by many magazines. Do other items have been attacked by the editorial staff of certain magazines that one can get the impression that the but must share through their anal orifice. I would just like to see some of them in the port of people that some of the American TV examples are taking themselves in. I hope you don't take the editorial standard of being totally superior as it would not be a lot of good debates in your letters pages.

To round it I would like you to answer truthfully the following questions:

1. Have you ever copied an item of software for any reason?
2. Do you know anyone who has copied software for any reason?
3. If you are impressed by an item of software you receive for review and at the end of the day two members of staff desire to link it home to play, do you insist it be the second person?
4. What do you believe is responsible for software piracy?
5. Do you believe there is a remedy to reduce or stop piracy?

I hope you answer the letter in a fairly sensible manner. Please don't write half a page of bull stopping me off.

Stephen Sheridan
Kings Norton

Answers:

1. Yes
- Yes
- No
- A combination of piracy, high prices and stupidity.
- More money for developers, speedier prices, more honesty.

ask the local **COMPUTER Advice Bureau** to help.

In the last issue) of course, you may have to go to the gutter — but usually those things are settled before that stage.

■ Adults only?

I've enclosed a few rings (most of some of annual digitized material) — put that in your magazine if you dare... or are you just sitting at home? I have plenty more material, a good understanding of the art side of the rings and all the art packages available if you need reviews.

Mark Haseman
Sainsbury

My wife said "just among of kids" — that's why we're not pinning your photos.

■ Controversy of last month

Sorry about my letter you printed. It was a little unclear. I believe strongly against the abuse of women but enough that I thought I might take up your points of excessive violence in the computer gaming world. I think that

Comix, U.S. Gold etc. have simply found the soft spot in a gamer's heart. However, many of us claim that we are gamers. The fact is we all like nothing better than a good episode of the A-Team or a really gory Stephen King suspense.

As for computer games, *Aggravate* is a fine example of a promotion ad for a game. In the words, I bet you don't think of it as carrying a wedge in some poor soul's chest. Not if it is merely a shooting of missiles to gun points. Similarly, I don't think that violence is really taken that seriously in computer entertainment. *Face Commando*, *Green Beret*, *Joe Danger* etc. and the huge amount of stories all based around the whirling dervish of a Vietnam war, nobody cares all that long as the game plays well. There is a little disturbing part of us that gets released while playing through. I can remember me smoking with gas when I purchased a club warden in *Penetration* at the end of the subway!

Desmet Paray
Harris

■ Failed expectations

I was delighted when your magazine appeared on the news stands but, alas, I have again been misled in subscribing to something which

does not come up to my expectations.

Believing that with the staff who produced *Personal Computer Games* this was a return to cover the disappointment of *Computer Gamer*, which was my favorite mag, I really let me off my butt.

As a person of 71 years I used to enjoy trying the things in the now-defunct publications, but all of us are computer buffs and there was always a lot of pleasure in getting the things correctly on to tape and watching the results, even though I admit that these were not up to the standards of commercially produced games.

Unfortunately I am not your ally to John Hammond (Issue 2) and Ben Griffin (Issue 3) that you had the supervisor view of the expert that the interests of the reader are not worth causing for. Even an occasional thing would be welcome, but if this is not forthcoming I shall be glad when my last copies and I shall no longer have to bother trying to find something in your mag which is of real interest to me.

C. Jensen
Rochester

I'm sorry that you don't like the magazine, but it's disappointing about our decision not to let letters in. In the age of *chat* more sophisticated criticism is bound to see that there is just too much to do in spending hours going in a disc program — and even less time in deciding valuable space to them in the magazine. It's not as if we promised to print letters and then changed our minds; we said from the very beginning that we wouldn't have them, and that decision is not going to change. As for the supervisor view of the expert etc., I think you're starting up the wrong tree: although some of the articles in *AGG* are written by both sides people, we always bear in mind that our readers are a mixed bunch spanning a wide range of experience and knowledge.

Personal replies

Please don't send SASEs or ask for a personal reply to your letter; we just haven't got time to give individual replies. If it's an off personal we'll print letters and help you out on the page. More than that we can't promise to do.

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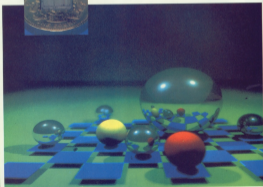
GAME OF THE FUTURE

Vision of the future

Check out the stunning graphics in this futuristic upgrading demo. They haven't used the thousands of expensive calculations with the distributed-memory approach of Intel's parallel processing chip, but they believe we can do this kind of thing in real time! Intel's True Vision technology makes that possible, with a processor to spare.



It's Xmas 1992, and you're loading up the brand new game some kind soul's just given you. But what kind of game will it be? What sort of machine will you be loading it on? Andy Wilton investigates.



A new generation of video is already on the horizon: portable consoles, but enough to run whole new types of games. Many using the technology in their jackets are still a long way away from the high-speed chips, but in the years' time you could be playing games on them, they'll be able to spread the work of running a game between many separate processors. They'll be able to display half a million of images in scenes of color; they'll be able to read out games from compact discs. But will programmers be making use of all that power? Will many people have the sort of arcade games? And could the needs be met at quite as low a cost?

Anything could happen...

In the last few years, five years ago the Spectrum was based name, and showed every sign of wiping out the year-old Commodore 6400 - a rather lightweight processor at the 64k with only 32k of memory at launch. At £130 for the (old) model and only £175 for one with 64k, the Spectrum was the 27 of its age: it delivered more bang per buck, and quite a bit more of that.

On the horizon at the time was the Acorn Electron, a cut-down BBC more than justified to be graphically superior to the



Spectrum. It was, as it turned out, but its high price, low power and late arrival were to prove its undoing.

The following of memory size and the reliance on micro-processor chips games out of their own-right dated stagnation, making whole new game-types possible. Software

8-bit machines need not apply

John-Coffin's estimate that entire game can be achieved because nature of 2d is long on taking in its nature. The power required to handle the display in this case may not be beyond the capacity of the 8-bit, a good example of how resource management can make more possible.

houses misused, and the games some we know today started to take shape.

The use and abuse of power

If the power of the 57k/66000 or the Amiga's better are revolutionising games the time, we can expect even better things of those micro around today. Xmas 1990. Already with games like 3D Gopher and Center Command the 66000 is producing unimpressive solid 3D graphics at high-speed, and it's still early days yet. With the far greater power around the corner, what other game techniques might become viable?

Ray tracing

A screen-confined 2d picture, and short animated sequences on the 57 and Amiga, the slow calculating process involves following rays of light back from the objects in a scene to the imaginary world of light illuminating them. Ray-tracing a scene involves an enormous amount of work, and using ray-traced animations are no more than 'slide shows' displaying previously calculated frames. The classic Amiga Juggle demo took over an hour per frame in calculation time, and even the Master's high speed 57 ray-tracing system took 12 minutes to produce the frame shown here.

Ray-tracing can produce frames of immense complexity and realism, depicting shadows, mirrored surfaces and transparent objects with breathtaking accuracy. Because the technique is so slow it'll be a long time before a frame movie can use it at anything like arcade game speed, but compromise methods should be able to offer many of ray-tracing's advantages in the foreseeable future. As Peter Cooke can add a great deal to game realism without slowing things down too much.

Others, the real thing could still prove profitable and appealing to graphic adventures, as well as solid rpg games in the 3rd and/or 4th world.

Rescue

They may seem like yesterday's hot piece of games technology, but with more powerful home consoles on the way fractals could go far beyond anything that Rescue or Planetix or The Island had to offer. The power of these exotic mathematical abilities to give surfaces a natural, realistic texture has long attracted programmers in them but there's an enormous burden of number-crunching involved. As a result not many home consoles lack the power to handle fractals effectively at arcade speed, and since the usual efforts there's been a conspicuous lack of interest in them for games purposes.

Perhaps Rescue is good deal more attention than this, now that high-power consoles are on the way in. They can texture anything from snowflakes to mountains, offering fascinating possibilities for show-up landscapes and similar images. Don't wish realistic hills and



57 Ray-tracing done by Tim Brown

problems by putting thousands of processors to work on them simultaneously.

Even if you don't have \$10 billion for one of Seymour Cray's little beauties, you can still get on the bandwidth. For starters, the (inexpensive) bundle Amiga has a limited parallel processing capability: with 4 megabyte or more of memory, you can get 68000 central processor doing one job while it waits - effectively a graphics processor in its own right - get on with another. By the time that job's done, it's often well be able to do a sign better than that.

AMAG

Due for launch in the fall fall of 1988, the forthcoming *Amiga/Peripherals AMAG* installation will offer mega-league parallel processing power that plugs straight in the back of your ST. The project, headed around the **7800 Transputer** - a chip that has teamed with a similar to the 5414) been quietly taking the computer world by storm over the last few years in it.

Like Amiga's ARM - the cornerstone of their Architecture main - the 7800 is a British design, coming from West country chip manufacturer Inmos. Also like the ARM, it's a 100% chip. Indeed, you could be forgiven for thinking that the idea of plugging a 7800 into an ST is very like Amiga's plug-in second processors for the 88C series, in a sense it's very easy example of parallel processing in a basic block. But there are some big differences.

For a start, the 7800 clock won't get get

Speed vs. screen size

Machine power is on the increase the whole time, but so is screen size. 'Size' here means the amount of room the screen takes up in memory, and that's a very important factor in games performance.

Computer bit packages and machine sales brochures describe the screen in terms of the resolution (256x256 or whatever) and the number of colours available simultaneously. Both of these have been rising continuously over the last few years, and the rates have pushed up the amount of screen memory required. For example, the Amstrad CPC needs 19K for a screen of 160 dots x 200 lines in 16 colours, while a 32-colour 512x256 Amiga screen needs up a hefty 40K of RAM.

In local bits the more memory a screen takes up, the more power you need to run the same game on it. That's why Amstrad games typically run faster than their Spectrum counterparts: the machines are just about equal in power, but the Amstrad's screen is almost twice as big. With ever larger game screens - the 256-colour 256x256 Archimedes effort used on each takes up 80K, probably the biggest yet - more power has to carry on being put to keep games running at current speeds!

The vicious circle isn't nearly as bad as it sounds. More power is using a good deal faster than screen size at the moment, with the Amiga and the Archimedes both capable of handling software sprites the size of the entire screen in typical games display modes. Quick game of *Space Harrier*, anyone?



Like the Transputer, Amiga ARM does a thing by leg to better, use a 28K screen.

your ST thinking rates. It'll give you really better graphics from its own onboard video chips, and compensate there at incredible speeds. In truth it isn't really an add-on for the ST at all, but a high performance computer that relies on the ST only for keyboard input and disk storage.

The second big difference is down to the basic steel. From the outset the Transputer really was designed as parallel processing chips, making them quite unlike anything

else around. Each one of them is almost an entire computer in one chip, complete with 2K or 4K of RAM already built in, linking them together in a 100MHz bus. Some have built a multi-player combat helicopter scenario that lets four or more 'archimedes pilots fly

Dynamic Universes

How have software for the machine of the moment five years ago (the Sinclair Spectrum) has matured in the quest for the dynamic universe - a real world encapsulated in your mind. And this is what we can get out of an eight-bit machine, what will the next five years represent out of STs and Amigas?



1 What you see is...

...what you get if you've designed the classic-looking Spectrum game genre a million or so years ago. The Transputer version is a little more subtle.



2 Isometric exercises

Given a 3D graphics engine on the ST architecture and an idea in someone's head, the ST can do a great job of presenting isometric views, but it's looking much better.



3 Going places...

...what you get if you've designed the classic-looking Spectrum game genre a million or so years ago. The Transputer version is a little more subtle.



4 New perspectives

...what you get if you've designed the classic-looking Spectrum game genre a million or so years ago. The Transputer version is a little more subtle.



5 The jig-saw approach

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around the scene with 3D landscapes, firing at enemies or flying with, and you'll find graphics per player. It only took two months to program, presumably because there was no need to get clever with that multi-processor architecture.

The biggest drawback of Transputer technology at the moment is the price. While Acorn's releases have usually been within reach of the home enthusiast, the Jazz/Archon box plus software will probably be around the \$3000 mark. Put that together with the price of an ST (and it may have to be a pricey Mega ST if that's not what you've got) and that makes the Archon box very cheap.

The Atari/Philips/Jazz computer box will be an impressive beast. It's hard to believe that a 20MHz 32-bit filter to program-operators should be around the level the speed of the Amiga's chip—the real point of all this—in its own right. These you do monitor in the box folk, because this one will be able to run on a 1024x768 screen in the wides, or a 512x448 one in standard but a million of them.

The box is intended as a workstation in that bit of graphic output isn't actually way over the top. Whether a future 100MHz would have graphics on the same-line as a system's guess, but the point is that between them, the 100 and the filter can handle it unless that was with "high" screen like the ones on Amiga or Amstruc. The dynamic duo could really seem to be dragging him.

The question is, are Atari planning or Transputer-based home PCs in the immediate future? Options offer, many we believe as the start of just such a project, with a finished machine coming out it around three years time. Despite the long-term nature for the game to the high price of the Transputer themselves, even after a second price cut \$144 will not \$148 work—and the last \$24M they need, but the options won't be discouraged. Transputer prices would fluctuate with the mass production on Atari machine would need, they agree, and chip prices generally are falling at the time.

In practice

It's no good having all that power to hand if game programmers can't use it. If more Amiga and ST programmers can't push the envelope of all, with their games still possibly written in high-level languages such as C. The moves then consistently slower than they need to be—the suggestion is to many ST and Amiga games is also attributed, rightly or wrongly, to a high C content—but it has its advantages at least as to the programmer and the software house are concerned.

For programmers, languages like C can make life a good deal easier, and cut down writing time. For software houses it makes their games more portable, cutting down on the time needed to convert from one machine to another.

To us, what this is just a piece of the total picture going through. Early Spec-ops games often contained huge chunks of basic and 100% machine code was a proved lower

in volume of the time, when someone is broken or granted as an 8-bit machine. The 10-bit C compilers can't match the speed of the machine-code operators as they're starting to be out, but such games may well find a lot of time on high-power systems.

The problem is really that, with the enormous increase in speed they offer, power costs will let it programmer get away with using C. As David O'Neil (Droid Broken) pointed out, "On the Archon you could even write a maintenance game in Basic. It's going to take a lot longer before high-level languages are dropped as ARM or Transputer moves."

Transputer-powered machine-code programmers, with additional obstacles. "Using pointers in Transputer can be very tough going indeed at such a low level, I can't remember strongly remembered the use of the pointer processing language Coccin. Instead, and the sign are that most programmers will too the line on that one. The chips designed to be programmed in Coccin, Amiga programmer Andy Whelan said. "It'll be worth the slight loss of speed to get proper pointer processing."

Sprite send-off

Not only will programming techniques have to be re-learned, so will the on-screen presentation of the games you play. With increasing power and screen size on the way up conventional bit dump (that is, sprite-loaded) games start to look less effective than a single layer that the entire screen does. There's also lower than a game going to have to do just that to actually impress anyone. The bit-dump games of today just won't stand up to the power/matrix capabilities. Furthermore, if you're writing a game for a micro with a 1Mhz screen you'll have a tough time doing your sprites and background data conventional than a CD could manage it through—see separate box.

On the other hand, the new chips will be able to handle the calculations and re-writing of multiple 3D games (a better than current machines can), higher resolution displays will also cut 3D games very nicely, with fewer jagged edges and better definition on small objects. Given the prestige attaching to realistic 3D—no vector line has ever been launched on a budget game, for example—such techniques should also help.

CD copiers

Two or three years ago, the future looked CD-stuffed. Laserdisc, CD-ops like the Atari 486 and Jaguar's CD hardware is now one of TV-quality graphics you could dream with. Well, that's the way it could, anyhow.

Copyright data are undoubtedly wonderful things and could have a lot to offer the game-players of the future. Their enormous capacity for data—over 500Mhz (that's 500,000,000) or one disc—makes them natural for home-computer use. CDs could be great for distribution of bulky games for the graphics adventures, big sports titles or whatever.

As for Dragon's Lair-style interactive video, it's hard to see how this can ever reach the level of player involvement most games players have come to expect. Several well-known houses have interactive video projects under development, but the primary problem isn't going away. Interactive video games like Dragon's Lair are something of a dead end—a top-end, speed-based shooter (the Atari and Sega ones). They only have a single free structure which gives the player very little to do. The way to get TV-quality graphics and graphics together is by video processing power—but that's looking in the very long term. (2) The White Mountain uses an multiple choice adventure in ACE 1.)

Games a better price. Will sprites ever be the challenge, or just fall by the wayside? I don't think sprite games will ever die out, and I'll remember the Atari, but they'll certainly be looking 3D games are a lot better to write though—see that a lot more to go wrong.

The related game of 10-bit technology will not only live on products with more punch, it will also change the nature of the games themselves. Certain types of game strategy and war games, for example, have never really caught on with the main market, simply because 8-bit machines didn't have the power to do justice to the complex ones involved. Suddenly, while new generations of game-ops getting ready to come out of the closet—take it back at Commodore's recent Midway Analyzer, reviewed in the Spec—games that really do bring to the next level in building a complete, polished, novel, or complex, those your best and proper to take off.

On-line low-down

Advances from the phone line are nothing new, but how about online arcade games? You can already play things like Flight Simulator or Ocean's Double Phoenix with a hand, your phone being online on the more and/or years, if he's sitting at the same table as you if it takes a interesting case, but that's on the other side of town (or the world) that a modern city will have the best of you. (Noted) a country of the phone company. That's all some way short of the interaction you get in a decent multi-user adventure game, but there's no real reason for this gap. A system where fast a dozen players from across the country could join in one game of an 800- or 900-line game should be possible—provided that it, there was enough money to make it worth the programmer's while—but there would be problems.

The bottleneck is the actual phone connection, with the poor quality of existing BT lines. It's a tough task opening the information into that end though. To get a smooth game your machine has to tell the central system what you're doing, and find out what's going on so it is up to 25 or more 30 times a second. That's a tall order on today's phone network, though there's some promise that BT's new System 4 will make higher data speeds a little more reliable.

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If there's anything new that you would like to see included in future issues of ACE?

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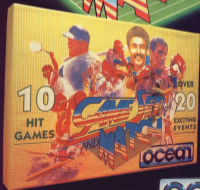
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Best - before presentation graphics (resembling Donnie's 2D, 2000x2000 27 graphics exhibition)

I bet you do doubt that good graphics will computers, time have money Allen 57's and. Amages have been sold on the strength of such famous ideas on Entry (Madden or the Apple?)

Spending £20,000 on a computer for its graphics capabilities alone is another thing altogether - yet that's what the exhibition at the October Computer Graphics 87 Show at London's Wembley Conference Centre was trying to convince visitors to do.

The eighth show of its kind, CG87 included a festival of computer-animatd films, a series of very high-level conferences, and displays from almost 180 companies involved in the very big business of making computers make pictures. The results were astonishing in level of images, some not about within the capabilities of high-end home computers, others so artistic that it

was hard to believe they were ones of pixels and not the real thing.

The show covered four main areas: imaging, business graphics, post-design-and-animation. Imaging is the jargon for the transfer of computer images to other formats, obviously, however making your picture, its not doing you many good things as a computer unless its intended purely to use in a game. Hardware such as digital still cameras, movie cameras, multi-media systems and laser printers was on show at prices to make your eyes water.

Even more impressive were the graphics systems themselves. At the low end, IBM PC-compatible software systems such as those from Ecomed and Designgraphics can produce a huge range of charts, graphs and diagrams using a simple-dots-very-quiete. The results can be polished up with different

COMPUTER GRAPHICS 87

Next time you're trying to do some animated 3D on your ZX81, you might like to think about what you could create if you could only save enough money for a really powerful machine - something costing a mere 20 or 30K, perhaps. Computer Graphics 87 displayed the Ferraris and the Lamborghinis of the graphics world. Chris Jenkins went along for ACE; he didn't have enough cash to buy anything, but he did bring back this report.



Animated graphics from shows at by Digital/Picture.

test their abilities at colour and background effects, to produce a side or overhead projector image which should help convince the marketing director that you really do deserve that role.

Amiga Workstations

You can also put together an impressive graphics workstation using an impressive graphics workstation using a Commodore Amiga 2000, with an additional matrix coprocessor chip, hard disk and plotting tablet. The bottom Amiga Centre showed a system working out at around \$3000 which produced some impressive work using software packages such as ImageJET and Form to Flight. Remember that in the world, \$3,000 is considered a bargain basement price.

The Amiga's 400-colour palette and 640x480 pixel resolution is certainly impressive compared to most eight-bit computers.



Image creation aided with colour in the Amiga 2000 workstation.

The real heavyweight is the graphics world through local pointers of over sixteen million colours, and resolutions up to eight thousand lines.

The heavyweights...

Many of these are used for technical applications such as CAD (computer-aided design), or graphical analysis of geographical, meteorological or meteorological data. The same systems, with different software and peripherals, can also be used to produce pictures which no photo-developer could ever hope to create.

Intel's business system, for instance, uses a 100MHz pixel display and a palette of 240 colours from a choice of 15.7 million. You can either create a picture from scratch, or feed in a scanned photograph, or a video image and export it.

Business features all the controls you would expect to find on a home computer (text, graphics, polygons, solids, lines, brush, stroke, attributes, tips, zoom, scroll and so on). The finished picture can be output to film, colour printer, or video.

Local personal systems like the Diamond Multimedia SP make Director look like DOS. This \$2,000 system has 40 MB of RAM storage on hard disc, and a maximum output resolution of 8000 lines. No wonder some Diamond images look so real that you want to reach out and touch them.

...and super-heavyweights

If you've been sitting about systems with non-keyboard/mouse joysticks. The next step up on the international telephone number available, often over half a million pixels, which produce the sort of images which you see every day on television.

Perhaps the most impressive source of



Smarter at it, Digital Pictures, more complete solution.

animated computer graphics is Digital Pictures, who are responsible for the IBM News and Opportunity Knowledge Base, and Smarties. Access and Typical adverts - these represent the most sophisticated computer graphics commercially available.

A typical Digital Pictures production begins with plans or solid models being converted to digital form using sophisticated software. Some objects such as mechanical assemblies can also be created "procedurally" using techniques such as fractals.

The results are stored in a Data General MV160000 machine, then transferred to an SGI 4000 machine workstation. The workstation is set up using a wire frame representation of the various objects to be assembled. These can be manipulated with ease to control the animation speed and direction. Key frames are defined, and the intermediate frames automatically generated by the computer.

When the animation has been planned, the workstation is transferred to a "frame store" where the details of colour and lighting can be added, using techniques such as the delightfully named "thing shading" which realistically represents smooth reflective objects.

Techniques such as "texture mapping" allow video, computer or painted images to be incorporated into the animation, and other properties such as surface texture, transparency and translucency can be simulated too.

The whole animation can then be downloaded into a video editing system such as

Quantel Position, or incorporated with live action, before the finished piece is transferred to video, or to film at 2000 line resolution.

The results are simply staggering, as you can see in yourself from the graphics shown here. The cost, though, is equally staggering, so what are the leading computer giant hoping to achieve with state-of-the-art equipment?

What's in it for you?

While the Atari ST and Commodore Amiga can already produce impressive results using software such as Aegis Animation and hardware video graphics systems, the next wave of home computers will be even more impressive graphically.

Recently, Acorn's 68000 Archimedes is creating a stir with its

Reduced Instruction Set Computing (RISC), which enables sophisticated graphics to be obtained better than ever before on a home computer. Atari, too, is pioneering a technique system which boasts resolutions from 1280 x 960 to four million, to 512 x 480 with 16 million colours available. Again the processing speed will be such that animation and video interleaving capabilities should be impressive.

Techniques developed on the extremely expensive workstations used now will eventually be available to the home user when the price of the technology comes down - as it inevitably will. In the meantime you can't be blaming computer animation on TV, reflect that the time next year you might even be able to do the same thing yourself. ■



Ready to go for the 400 graphics display speed when high performance is required - the Diamond SP2000.

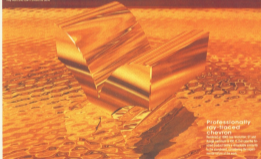
THE GOLD STANDARD

Some of the most advanced computer graphics you're likely to see is when you watch the old telly; adverts and, in particular, the station logos take the technology to its very limits. Brian Larkman brings you the story of how one such logo – the Yorkshire TV gold chevron – struggled in to existence.



The original

It started as a somewhat blurry and textured version of an advertiser's request: a chevron that had to be constructed. This is an approximation of the original. It shows what happened on a TV set in 1974 for a 10-minute advert on a £3 million trade. Each page of the letter that accompanied it was read in a rushed production; changes can be made in the field, but professionals usually know exactly what they want and how to achieve it.



Professionally ray-traced chevron

Rendered with ray-tracing, it was a huge advance in 1974. It also proved to have lasted only a short time before being replaced, following the rapid development of its work.

Unless you live in London and only ever watch Thames TV – and ACE readers are more adventurous than that, aren't they? – you must have noticed a huge increase in the quality of TV station logos or tags, an improvement that is largely due to the growing importance of computers as design tools. The famous 4 started things off and has been followed by a host of other computer-designed and animated logos.

Another landmark in this process was reached in February of the year when look-

able TV unveiled their own new ident, a gold chevron. It's nothing more than a bit of liquid gold – so forcing Thames to produce their own liquid logo.

It's a simple enough image you might think, but a second look would reveal that the liquid from which that later station emerges is incredibly realistic. Anyone who has ever tried to draw even a static image of a liquid surface will realize how complex it can be, especially when more than one source of waves is involved.

The story of how this degree of realism

was achieved illustrates perfectly the complexities of producing broadcast-quality computer graphics. It also shows how quickly the techniques of the graphics industry are becoming available on affordable home computers.

The cutting edge

As with almost every technological endeavour, the most original computer graphics are developed from ideas formulated by software engineers working at the cutting edge of research. One thrust of this edge has been

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in the realistic pathways of liquid surfaces. Stuart McEwen, software designer at the ITV logo production agency Image, has written algorithms to simulate extremely complex liquid surface movements, yet despite all he said it took a coincidence to fully realize the ideal for TV.

Charged with the responsibility of designing a new ident for ITV, Jeff Fox - head of promotional graphics for the company - was resistant. I wanted to do something impossible, he says, and McEwen agreed to be the man for the job. Discussing the mutual possibilities with Image brought the idea of a moving liquid surface seemed the ideal idea. The next step in realizing such an idea was the production of a series of keyframes.

The illustrators drew the ones that were approved by the ITV management. They show the various stages of the animation:



The *Lawman's Marriage* between computer graphics - film



It - all these close ups go to some city graphs

TV station identify Symbol

For a variety of reasons, the production of station logos - stands - has become the testing ground for new computer graphics techniques. TV companies are not shy of spending cash in competition for both viewers and advertisers - so the prestige of a successful logo is important. TV companies are also in collaboration with the advertising industry, its financial clout and technical expertise in sending home a visual message are readily available. Clearly ideas that are more than just corporate symbols are therefore almost inevitable.

The emergence of the gleaming gold television icon, the liquid gold, the surface seemingly like the fluid stage when you consider the software was not yet written, the cold yellow T floating against a black background. Next came the abstract ball.

Simulating software

Having said that, how could he do the impossible? Stuart McEwen now had to write the software to set up the simulation. This was to involve the first commercial use in Europe of liquid simulation with Ray Tracing - but using the same basic principles to one available to Amiga owners from Script 3D. Although the groundwork had already been done by other people, it was still necessary to study several books on cinematography in order to derive the equations that accurately reproduced the movement of a liquid when stirred upon by coverage of forces, including wind and tide. For example, one source of waves produces a straight line of concentric rings, two sources give interference patterns, none then two and the picture become very complex.

Three months of working day and night

until the simulation was complete, but although it was technically perfect the software nevertheless still lacked a certain something that television could not quite get right - weeks of frustrating work did not provide an answer. In the end the finishing touch was provided by Jeff Fox: after a few hours discussing the water movements from his hotel room overlooking St. Katherine's Dock in London the relative idea was found.

With the insight that these abstract period, McEwen was able to perfect the simulation, a few examples of the result of collaboration between software designer and graphic artist.

A system called Doris

A full moon the last sequence may be seen in the previous page. Doris' house has a system they call DOS2. It consists of four Sun Microsystems 68010 workstations and a Gould POWERPC2 frame-buffer developed by Autodesk for their flight simulator. Additionally, a pretty powerful system coating several hundred thousand pounds. Nevertheless, the final stage shown above took less on that to render (point - though it is produced at an incredible 30, 000 line resolution).

The final sequence, rendered at seven resolution, took 23 minutes per frame. The computer is about 30 hours for the majority of the TV ident produced using Script 3D. In spite of this, it is still quite amazing that Ray Tracing should be available at all for a home computer if you have the time - approximately 15 days per second of computation time - it is even possible to make an animated sequence. With any luck, *Amiga 3D* - by Script 3D - either the *Amiga* - will cut the time down a lot and make creating a ray-traced sequence rather easier. Your results will be poor compared to DOS2's - but then, she cost 1500 times the price of an Amiga ♣

NEXT MONTH

Next month we promise - cross our hearts and hope to die - that we'll be bringing you a selection of readers' artworks; pressure of space in this Christmas issue meant that we had to hold over these exciting pictures. And if you don't think you're in a fit state to be showing your work around at the moment, don't worry - we'll also be starting our How To Do It series on computer graphics; could you be the next Leonardo? You won't know unless you try; so don't miss the next ACE!



Amiga ray-traced chevron

Rendered with Script 3D. Obviously not clear resolution. Notice reflective effect on right-hand triangle. The next chevron starts to differ once it is then being lit up and its base showing reflections. More work is being in particular with the *Amiga 3D* system after it became obvious that being ready to be complete. Source follows the new line called *It* that cut into time to draw such scenes. To get serious use sophisticated specular reflection algorithms (available from Script)

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ARCADE ACE

Fearless reporter Chris Jenkins strides in to the arcades to struggle with squidoids in the horrifyingly funny *Xenophobe*, then blasts heffalumps and vacuums a few ghouls in *Ghostbusters*

• XENOPHOBE

Sally McKay
Zippor game

Xenophobe is so marvelous that I had to be dragged away from the screen screaming and kicking. (Well, very loudly indeed on the plot of the movie *Alien*.) It combines side-on science-fiction graphics with coin-stop action and black humor.

Each of the characters of these players has a guanine, which is longer and two thumbsticks. The screen is split into three strips to show each player's point of view. As the game progresses, the players can either stick together to protect each other — in which case the view is each strip in its own — or go their separate ways in a different area of scenery.

The game is set in a space station situated in the most revolting, slimy, oppressive

environment you could imagine. The characters — dressed with some such as Dr. Emily (played by) and Colonel Behler — look a trashed, miserable to familiar faces than like they could actually entertain in the transistor rooms of the stars.

As you move through sets of sliding doors into the separate chambers, you will be attacked by a menacing collection of mutations, including squids which try to eat your legs, shell-like creatures which shoot balls of damaging missiles, eye-eyed mutants who melt your brain, and the horrifying, leaping slug-like *heffalumps*.

At each movement labels appear below the screen to show the current location of your two thumbsticks. This can be to jump, crouch, move at a slower, pick up a gun, throw a bomb, or use another object. The bomb trigger is always either Punch if you have no gun or Shoot if you do. An ammunition level display appears at regular intervals on the walls of the corridors.

While finding your way through hordes of slimy mutants is all very well, you will need to use some strategy to clear the clutter before it self-destructs, using floppy disks, chemicals and pole coats to gain control of the ship's defense system and wipe out alien hordes. Otherwise you will overheat and will be either powered to the home or transported back to the ship when your time runs out.

Xenophobe is outrageously funny, with



Control by the Game

some real moments of horror as tentacle heads lunge for eating, grab you by the throat and try to eat your face off. The accompanying sound effects leave little to the imagination, and the facial expressions of the characters as they meet each other look not too far from *Godzilla* knows how scary it would have to make the game so anyone please produce a home video version, before I spend all my money.

• GHOSTBUSTERS

Data East
Zippor game

It's been a long time coming, but finally *Ghostbusters* has made it to the arcades. To be accurate, this is *The Real Ghostbusters*, based not on the film, but on the American cartoon series, as yet unseen on this side of the Atlantic.

The good news is that the game is nothing like the Amstruc home computer title, which was well-received in its day but is only coverage by today's standards. The concept is a fast-moving shoot-'em-up with plenty of laughs along the way.

Featuring memorably synthesized music from the film, and a selection of car-



Play of the game



Leaving the Ghosts

blowing sound effects. Ghostbusters enters for up to three players at a time. The three control handles and sets of five buttons are arranged in a semi-circle, and each player can join in at any stage of the game.

The rules are pretty simple: move your nicely-armoured Ghostbuster across the road tops, fighting your way through hordes of chattering moanies. If it moves that it, and if it doesn't move, blast it anyway to be on the safe side. Your capacitor energy gauge will blow away most of the ghosties you

encounter; you then use your stalling beam weapon to vacuum up the resulting squeaks in to your back pack. So load with extra weapons, though, and your energy will last in a fairly low level.

It's almost impossible to get through the early levels without a little temporary, ideally, two-players shooting moanies while the other vacuums them up. You'd have to take care, of course, since the more ghosts you capture, the higher your score.

The moanies are great, winged batlions, with flickering tongues, electric blue blades, and scurried claw fire-bulging nostrils. To help you out there are several tools to pick up: a Ghostbuster tool to extend your firepower, a globe which gives you a temporary shield, a bottom to lower your Ghostbuster's power level, and a skull which appears when you hit an evil moanier; this will temporarily drain your energy on contact.

Many of the special bonus scores are surrounded by bobbing spikes. It takes practice to manoeuvre through these while lighting off attacks, but if you manage it you get the chance to capture the Green Ghost - a fast-moving spirit which scores you a big bonus. Watch out, though, for the time limit on each level and your continuously falling

energy reserves.

Ghostbusters is enormous fun. In many ways it's a better and finer version of Ghosts. While Ghostbusters doesn't have the nice elements which made Ghosts a computer - the next level is always accessed across the narrow footbridge at the top of the screen - from the same sense of frantic action and the demand for co-operative play, should be a lot - especially if the ransomed Ghostbusters 2 movie really does make it to the screen. **A**



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KEYBOARD CAVALCADE

So you want to make music with your computer, and you know that the best way to do it is with a MIDI keyboard. Where do you go from there? Chris Jenkins checks out the competition and conducts a few auditions.

OVER the last couple of years, we've introduced the concept of MIDI, the Musical Instrument Digital Interface standard which allows your computer to control electronic musical instruments and effects. We've explained something about the necessary software and music software packages you'll need, and mentioned some of the suitable instruments you can buy. The complete list will give you some further ideas about which MIDI keyboard to choose.

We've set a price limit at \$400, which allows us to include some pretty impressive instruments without going over the top. First, though, a few notes about some of the things you're likely to encounter as you search for the perfect musical set-up.

The two main classes of MIDI instruments are **synthesizers** and **home keyboards**. While the technology involved and the sounds produced are often very much the same, the two types cater very much to the sort of total musician.

New keyboards are intended to be as well as themselves for use entertaining your self and the family. They normally have features such as drum machines, single-line chords, and auto-accompaniment built in. They often feature battery power, and they almost always include built-in speakers, so you don't need to connect them to an amplifier or to a base tuner.

Usually you are given a small selection of preset sounds-on or tone keyboard, which can be stored in some cases but not normally changed. The lights, on the other hand, almost never include built-in drum machines, single-line chords or other accompaniment features. They do, though, have a large selection of sounds which can be fully reprogrammable using a set of sound parameters. Reprogramming sounds is an aspect of which some love, others hate, and many simply choose to ignore.

The simple choice, then, is to buy an off-the-shelf home keyboard. If you have any real musical ambitions, though, go

for a more flexible synthesizer, but be prepared to find yourself almost inevitably going on to spend money on a selection of drum machines, solo units, synthesizers, mixers, patch boxes, multi-track recorders and the whole technological Spogfests Junction of modern electronic recording.

Yamaha SHS-10

Latest and greatest MIDI keyboard on the market, the SHS-10 is slung over the shoulder and played like a guitar. The two and a half octave keyboard is a little short for serious use. Start on the neck and the pitch-bend wheel and set to work.



Technical terms

A few helpful definitions. **FM** is Frequency Modulation, the digital process by which Yamaha synthesizers produce sounds. Many other manufacturers have now licensed the FM process to use in their own systems. **ABC** is Auto-Bass-Chord, and **SPC** Single-Peak-Chord, both accompaniment features which allow you to play complex parts with single keys. Many manufacturers avoid their own fancy terms, but the principles are usually the same. **PCM** is Pulse-Code Modulation, a process used to produce realistic drum and instrument sounds by digitally synthesizing the waveforms of a sound sample. Again, different manufacturers use different names for the same principle. **PO** is Power On/Off, Chorus, stringer, reverb, or Yamaha FM.

We're leaving out of this feature some unrelated keyboardless MIDI synth modules — such as the Roland MT-10 improved low-costality Yamaha TX-802 and the Oberheim 12-24 — since as they're not much good without a controlling keyboard you're not likely to buy one before anything else. Also our one cheap sampling keyboard such as Oberheim's 800, which don't have MIDI, and many useful discontinued or obscure instruments such as the Ring 32 600 Synthesizer and Poly-800 2 synth, and the

controls for rhythms, auto-chords, effects, sequencer and the demo tune 'Wham's Last Christmas'. Nice FM sounds, but a pity that there's no MIDI IN.

KEYBOARD	30 miniature, F.C.
SOUNDS	25-PM presets, 8 note
DRUMS	25-PM
FEATURES	ABC, chord sequencer etc.
SPEAKER	2 watt
MIDI	OUT only
PRICE	£149.95

Board June 6, 1980, which can now be picked up for a couple of hundred pounds.

Notings

The **8080** company lists the size, number and type of the keys, **SCANS** the number of preset-programmable sounds available, and the number of voices which can be played simultaneously (the 'polyphony'). **DRUMS** the number of rhythm patterns available. **FEATURES** the accompaniment features such as ABC, SPC or note sequence modes. **PRICE** the number and power of the built-in sound source of these can be, then, the keyboard usually has a music-clock tempo key set.

There are three possible MIDI outputs, IN, OUT, and one through-a-cable-out, **DRUM**, which gives MIDI data unchanged to another instrument, allowing it to be chained together. **PRICE** is 800 including VAT. **BATTERY** gives an overall verdict with the more stars displayed the better. This takes everything including price into account, then, if you have no keyboard with which speaking at, many of these units will enable you to produce some impressive work-and-learn, in combination with MIDI can open up a whole new world of self-expression — not to mention a lot of fun.

Farfisa FK 50 ★★

One of the many Italian keyboard manufacturers, Farfisa doesn't quite seem to have got the hang of the modern keyboard business (but check out their TK30, a later model reviewed below that promises well for the future). The MIDI features of the FK50 only work on MIDI channel 1, and for some reason it includes an RS-232 port which appears totally useless. Conventional organ-type sounds rather than PS.

KEYB	Full-size, 61 note C-C
SOUNDS	4 preset analogue, 8-note
DRUMS	0
FEATURES	SFC, Arpeggio, Tris
SPEAKER	2ohm
MIDI	IN, OUT, TRIG
PRICE	£240

Vicount K8200 ★★

Despite its full-sized keyboard, the K8200 produces some full analogue sounds and excellent preset and programmable PCM rhythms. It also features a very powerful speaker, but bear in mind that it runs powered-only.

KEYB	Full-size, 61 note C-C
SOUNDS	10 preset, 8-note
DRUMS	10-PCM, plusprogrammable
FEATURES	Autosave, SFC, Arpeggio-etc
SPEAKER	10w
MIDI	IN/OUT
PRICE	£200

Casio CZ-101 ★★★★★

Officially discontinued since the CZ 101 is still available in many shops and shouldn't be missed. The first Casio to be based on Phase Distortion, a simpler version of Yamaha Frequency Modulation, the CZ-101 is capable of creating some excellent realistic and synthesised sounds. Multi-timbral over MIDI (it plays four notes simultaneously at the same time) the CZ-101 is fairly easy to program. The big test is that there are very few on-board sounds, and extra RAM cartridges are ridiculously expensive and hard to get. Like the Yamaha DS-500, the CZ-101 has miniature keys, and if you can't stand these you should look out for one of the larger CZ types.

KEYB	Miniature 49-note C-C
SOUNDS	PG, 10 preset, 10-programmable, more on RAM
DRUMS	NONE
FEATURES	NONE
SPEAKER	NONE
MIDI	IN, OUT, TRIG
PRICE	£200

Casio CZ-200-S ★★★★★

A corner-using stunning preset sounds based on Casio's impressive Phase Distortion synthesis, the CZ-S also features heavy PCM sampled drum patterns, and such professional touches as a pitch bend wheel, ornaments (gate between notes) and full MIDI. It's multi-timbral over MIDI (playing up to four different sounds at once under control of a sequencer), and there are also four programmable functions, though you'll need a

software editing package to use them. Basically a preset version of the famous CZ-101, and best of all...

KEYB	Miniature, 49 C-C
SOUNDS	100 PG preset
DRUMS	4 programmable, 8-note
FEATURES	20 PCM, plusprogrammable
FEATURES	Rhythm-chaining
SPEAKER	20
MIDI	IN, OUT, TRIG (Multi-timbral)
PRICE	£340

Vicount K8210 ★★

One of many keyboards featuring touch-yourself-most facilities, the (70) series ROM cartridge containing preset tunes, LEDs above the keyboard light up as the tunes play, waiting for you to hit the right note before continuing. Programmable PCM rhythms and full-size keys add to the (70)'s attractions for reviews.

KEYB	Full-size, 61 note C-C
SOUNDS	10, 8-note
DRUMS	12
FEATURES	Autosave, SFC, memory, arpeggio etc
SPEAKER	10w
MIDI	IN, OUT
PRICE	£260



Casio CZ-101

Casio CPS-101 ★★★★★

For this one caught you out, it's a digital piano, the cheapest around. The CPS-101 is touch-responsive, playing louder or softer according to how hard you hit the keys. Touch sensitive keyboards are usually worth it at least twice your budget, so the model is worth looking at for that feature alone. It can produce other notes to choose sounds, electric, harp-like and other types of sounds... but does it sound like a piano? Well, it's a little off the price of a concert grand.

KEYB	Full-size, 61 note C-C
SOUNDS	10 preset, 8-note
DRUMS	NONE
FEATURES	Note sequencer
SPEAKER	2x 5W
MIDI	IN, OUT, TRIG
PRICE	£240

Casio HT-700 ★★★★★

Using a much simplified version of PD synthesis, the HT-700 has a nice balance between preset and programmable, some keyboard and synthesiser.

Features include RAM cards for extra voices and song storage, 32 digital waveforms, five LFO

waveforms, programmable filter and amplitude envelopes and selectable MIDI channel. Worth seeing, if a touch over price. Former also produced the model, budgeted as the **Porteur K540**, but I'll not you back on extra £20.

KEYB	Miniature, 49-note C-C
SOUNDS	20 up, 10 for, adjustable, 8-note
DRUMS	PCM
FEATURES	SFC, Envelope-generator, autosave, harmonics-etc
SPEAKER	2ohm
MIDI	IN, OUT
PRICE	£240

Casio HZ-600 ★★★★★

Getting confused by all these Casio's yet? I keep I ask. This one is based not another great programmable hybrid with amplifier/PG-type sounds. Features include RAM cards for extra voices and song storage, 32 digital waveforms, five LFO waveforms, programmable filter and amplitude envelopes and selectable MIDI channel. Worth seeing, if a touch over price.

KEYB	Full-size, 61 note C-C
SOUNDS	20 up, 10 down variable, 8-note
DRUMS	MONO
SPEAKER	MONO
MIDI	IN, OUT, TRIG
PRICE	£240

Casio CT-630 ★★★★★

A big chunky keyboard, this one, with 75 sounds, rhythms, drum patterns and MIDI facilities.

Some original sounds like Typhoon, and Punk (based along with the standard Jaz) Ogawa and Marimba, nice to hear modern electronic sounds along with the other drums, etc. There are three MIDI modes which split the keyboard into different zones, but as it only transmits on channel one, this isn't as useful as it sounds. Once again, there's a former (available - by PS/BE).

KEYB	Full-size, 61 note C-C
SOUNDS	75, 8-note
DRUMS	20 PCM
FEATURES	SFC, Autoharmonic, keyboard etc
SPEAKER	2x 7W
MIDI	IN, OUT, TRIG
PRICE	£270

Yamaha DX 100 ★★★★★

An incredible package, the DX-10 synth is small and nice and produces great sounds, including flowing guitars, wicked basses, changing piano

coming synths and bright strings.

Fully-programmable, four-operator FM technology — like that of the exotic Fairlight CD1, but cut down a little — contains with probability, full MIDI spec and a massive 192 preset sounds, which can be transferred to and edited in the 24 programmable memories.

Fast bend and modulation wheel, touch sensitive pad, LCD editing display, and a host of other features make this the choice of the desk-aced musician on a budget. If you can't stand the no-ways, check out the DX11 — it fulfills every bit at almost double speed — for \$120 more!

KEYS	Miniature, 49-note C-C
SOUNDS	192 preset, programmable, 8-note
DRUMS	None
FEATURES	None
SPEAKER	None
MIDI	IN, OUT, 7-BUS
PRICE	\$219

Casio MT-3000 *****

Like the others in the MT series, a good cross between programmability and preset. Clean, full sounds using 32 Waveforms, five LFO waveforms and programmable filter and amplitude envelopes, adjusted using a rotary dial. Lots of auto-features, plus spittable MIDI inputs to drive the melody chords bass and rhythms separately. Worth looking at if you want something with more auto features than the CZ 2000. Again, the Honor KM4 is almost identical, but pricier.



KEYS	Full size, 61 note C-C
SOUNDS	32 opt., 10/48, 80 on RAM cards, 8-note
DRUMS	32 PCM, 80 on RAM cards
FEATURES	SFC, autoharmonicless, etc.
SPEAKER	2x 8W
MIDI	IN, OUT, 7-BUS
PRICE	\$420

Bla EB105 *****

Bla has only recently broken away from the organ and all of the mawkish, and the EB105 shows some promise for the future. Good preset tones similar to Yamaha's PB, with four programmable memories featuring parameters for waveforms, filters, and pitch and filter envelopes. A very good selection of seventeen PCM drum sounds in the programmable rhythm section, and spittable MIDI channels.

KEYS	Full size, 61 notes C-C
SOUNDS	15 preset, 4 programmable, 8-note
DRUMS	PCM, 18 preset 4 programmable
FEATURES	SFC, chord memory, solo chord-acc
SPEAKER	2x 8w

MIDI	IN/OUT
PRICE	\$450

Yamaha PSR-50 *****

The cheapest Yamaha MIDI home keyboard is an impressive beast, featuring excellent FM voices and PCM drums. MIDI implementation includes articulate channel routing, and even synchronization by MIDI clock gate to the drum section, which few home keyboards can boast. Not too many expensive hits, either: overall probably the best home keyboard of the price.

KEYS	Full-size, 49 keys C-C
SOUNDS	FM, 16 preset
DRUMS	16 PCM
FEATURES	SFC, access, memory, etc.
SPEAKER	2x 2.5W
MIDI	IN, OUT
PRICE	\$479

Viscount KB 550 *****

Realistic digitally resynthesized samples form the basis for the KB 550's sounds, so it's more interesting to play than many home keyboards. MIDI implementation includes CMS email, and internal or external state control of the accompaniment features. A great keyboard, then, but a little expensive.

Viscount KB 55



KEYS	Full-size, 61 notes C-C
SOUNDS	10 preset, 8-note
DRUMS	12 PCM
FEATURES	SFC, autochord, memory, etc.
SPEAKER	2x 8w
MIDI	IN, OUT
PRICE	\$595

Farfisa TK20 *****

Lots of interesting features here. The preset sounds are digitally re-synthesized from samples, and there are "spice sounds" in which a particular and customized tone are applied together. You can program your own PCM rhythms, and the MIDI implementation includes variable channels for harmony and reverb, and spittable chords. It also responds to MIDI Program Change and Song Pointer information, which is unusual. Check it out.

KEYS	Full size, 61 notes C-C
SOUNDS	30 preset
DRUMS	16 PCM
FEATURES	Autochord, memorychord, suboct., 110-80
SPEAKER	2x 4W
MIDI	IN, OUT
PRICE	\$499

Gem DSX-6 *****

Realistic Sample Rate Processing gives good effects and you can layer two of them together to produce thicker sounds. There are also manual play buttons for the separate drum sounds, good MIDI implementation and excellent speakers.

KEYS	Full-size, 49-note C-C
SOUNDS	18 preset, 8-note
DRUMS	12 PCM
FEATURES	ABC, harmony, enhanced accompaniment
SPEAKER	2x 5W
MIDI	IN, OUT
PRICE	\$555

Kawai MK-10 *****

The business. Based on Kawai's Digital Wave form Synthesis, the MK-10 sounds great and has some awesome features: velocity response (70 hammer and 3 plays buttons), 2nd bend wheel, keyage, classic rhythms, full MIDI with different channels for the bass, solo, poly, counter (bass) and drums, ornaments, two massive speakers, and you can even play the drum sounds from the keyboard. A complete MIDI studio in one box.

KEYS	Full size, 61 notes C-C, velocity sensitive
SOUNDS	18 preset, 8-note
DRUMS	18 PCM
FEATURES	SFC, memory, dual, tri-acc
SPEAKER	2x 10W
MIDI	IN, OUT, 7-BUS
PRICE	\$595

Viscount KB-580 *****

Digitally re-synthesized sampled sounds here again, but this time you can combine waveforms, envelopes and modulations to produce 10,000 combinations. Very powerful accompaniment and sequencer options make the KB-580 an impressive 2 expensive choice.

KEYS	Full-size, 61 notes C-C
SOUNDS	10 preset, programmable, 8-note
DRUMS	14 PCM
FEATURES	SFC, chordmemory, autokey, sequencer
SPEAKER	2x 8W
MIDI	IN, OUT
PRICE	\$595

Yamaha PSR-60 *****

Similar to the PSR-50, but features the Mass Pro grammar, a sequencer which allows you to record chord, bass and solo parts separately, then play them back together with the other accompaniment features. MIDI clock synchronization to external instruments is supported, and you can play the PCM drum sounds from the keyboard. Party to get your teeth into.

KEYS	Full-size, 61 keys C-C
SOUNDS	18 variable FM
DRUMS	18 PCM
FEATURES	ABC, SFCM, dual, rhythm key, etc.
SPEAKER	2x 2.5 w
MIDI	IN, OUT
PRICE	\$399

MIDI MADE SIMPLE

A few points remain in our discussion of the MIDI (Musical Instrument Digital Interface) system, which as you should all know by now is the standard communications system for personal-controlled musical instruments.

Everything from synthesizers, keyboards, computers and electronic pianos to effects, digital guitars, wind instruments, drum machines and sequencers can be protocol-controlled and true MIDI-equipped these days. In the case of the last two categories we're talking about units which make things happen over a period of time - playing musical notes or drum beats in the pre-programmed patterns of a speed decided by the user.

Being several such units together means linking their running speeds together, since they're bound to drift apart over it you set their displays to the same BPM (Beats Per Minute) value. MIDI includes several timing codes to help you do this, the most common is the Simple Timing Clock (which has been adopted by always in the MIDI standard). MIDI-BASIC will concentrate on the current state of affairs, but point out that only MIDI instruments may need an update code to make them compatible with the latest timing.

If a sequence or drum machine is running, it sends or receives if it's slowed to another unit the **MIDI TIMING CLOCK** (code 246) or a one of 24 notes per quarter note, three clocks are sent in between other notes such as **NOTE ON** and **NOTE OFF**. Being transistor-level binary codes, they're totally different from the dual 24 clock pulses used by older non-MIDI drum machines, although you can buy interface units to connect one to the other.

Other Timing Codes are 250 (clock), 251 (continued) and 252 (stop) the operation of which are fairly obvious. You can refer back to issue 2, page 34 for a complete list of MIDI status messages and their respective codes.

Recently there have been made to make MIDI compatible with SMPTE, the Society of Motion Picture and Television Engineers' time code system. SMPTE codes, which unlike MIDI can be recorded on tape, are long binary streams containing a time in hours, minutes, seconds and frames, the number of frames per second depending on the television standard being used. The codes that there are four different kinds of SMPTE worldwide.

When SMPTE timings are expressed as MIDI notes they're known as MIDI'S MIDI-SMPTE, or more popularly, as MTC (MIDI Time Code). Very few MIDI instruments support MTC as yet, but as the coding

thing and will mean that you can link your MIDI device (synthesizer or sequencer) to a film or video and have it start at exactly the right part of the tape whenever you start playing back the picture.

In control

Beyond note-codes, the other main uses of MIDI we haven't covered is Controller - the little and pedals on your synth which give expression to your playing.

With benders, vibrato/whammy pedals and breath controllers are all MIDI Controllers, MIDI assigns plenty of codes for such purposes but doesn't specify exactly how they should be used, except in the case of the flow-style code 011AAA, 000000, 00000000. This includes Controller (data-wheel plus channel number 00), controller number 0-127, and controller value 0-127.

When 0-0 were talking about the system Pitch Benders, an obviously MIDI can bend the pitch of any synth on any channel from 0-127 units.

Controller 0 is always the pitch bender, but other knobs or sliders (continuous controllers) can be assigned to any controller number 1-127, and on/off switches can be assigned to 0-0.

Control by velocity or aftertouch on, for example, which could open or close a filter, change a Modulation Index or increase full-time or vibrato depth, is dealt with under a few channel information categories, that is, there are different codes for each category, but every one can be assigned a MIDI channel not only the correct synth in a multi-system setup a channel.

Lastly, there's a MIDI Sample Data Dump (code 00100) at the process of development if you really complete get, since everybody's samples exist in different ways, but most samples will now allow you to exchange sample waveforms via MIDI if not all the details of loop points, filtering and so on. Some samples run Sample Data Dump it inside the control speed for MIDI data transfer, it may be that all of MIDI will be speeded up to the rate before long, but the established laws can probably not be completely superseded.

PANEL OF EXPERTS

Helped by MIDI? Want to know more but don't know where to turn? Can't get your DDP to talk to your Yamaha O2E-Liquidator? ACE proudly presents its Panel of MIDI Experts. Each month the panel will respond to readers' MIDI problems, whether these be from our loved MIDI musicians or those of us who think that a status message is a letter from Pinocchio. The panel are ready to help you solve the very next issue of ACE, or get those queries sitting in DDP!



Mark Jervis

Presently runs Jervis of Electronic and Video Sales, Assistant Sales at Electronic Instruments, and Technical Sales at Video. After five a year's experience as a MIDI guru, he's about to release a new book, *MIDI: The Complete Reference*, for technical reference. He also sells software and gear from a variety of music stores, and is a member of MIDI Association and computer/graphics association of audio equipment.

Michael Dimery

Currently based in Berlin and runs Walter Instruments' four European branches, including the manufacturing plant in the Netherlands and in its plans to start off in other parts of the world with a focus and sales in the US, various operations in Europe, a German branch, and more.



John Robinson

John is the son and of his father - he was a footballer with a first-class education and a successful engineer for several years. He's now a former MI6 agent and has been in the security force for years. He's currently working in a computer unit and works in the same company as a member of a British secret service.

Richard Ingham

After an education at school with MIDI in the music world of 1971, Richard's been involved with MIDI in a variety of ways, starting with the first MIDI book in a series 'MIDI: The Complete Reference' in 1982, and the following year with the publication of the first MIDI book in the series 'MIDI: The Complete Reference' in 1983.

Many thanks to all of you who write in. From time to time we'll be visiting Panel Members to give other knowledgeable readers a chance to give their turn. If you'd like to be considered, drop Steve Carter in line addressed to: ACE MIDI PANEL, 4 Queen Street, Salford, BA1 1EL.

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PILGRIM

What a Christmas! The Pilgrim joins up with the White Wizard to take you on a red-hot romp through *Plundered Hearts* (is bondage back in fashion?); *Hard and Bert Couldn't Make Head or Tail of It* (but can you?); *Beyond Zork* (FAR beyond Zork!); *Pat's Patch*; *Shades Diary*; and just about everything else you always wanted, except the brushings from Ol' Whitey's beard. So drop that rod and staff and read on...

PLUNDERED HEARTS

Do INFOCOM have the key to your heart?

...You are intensely aware of the strength of his hard-muscle body, of the deep-set-lens of his eyes, and then his mouth is an open, lips parted, breathing, and you watch into his stare.

SO begins Infocom's adventure into the realm of romantic fiction - the genre, meaning that you're so proper and staid, it's a brave world of Mills and Boon. Will the challenge of the game make it most of you? Or, if you're already made of puppy dog talk, will discovering the tokens to a robot link give you a look worth nearly 100?

Nearly anything, really. This excursion into Infocom's romantic setting, *Plundered Hearts*, is a straight-forward detour of the heroic spirit of *EP Loomis* and others, and *Plundered Hearts* simply continues the search for new areas of inspiration that can bring fresh blood to the adventure genre. There seems little doubt that the love and grit of Infocom

are trying very hard to come up with new ideas for us players (take a look of both *Hard and Bert* and *Beyond Zork* later in the issue if you don't believe me), so the question is less one of not only whether we have a good new game, but whether we have a good new genre.

As an adventure, *Plundered Hearts* can be compared with *Mohandais*, in that there's relatively little exploring to be done. The hot hot of the game involves very few locations as you find yourself on board ship, traveling to 12 islands after receiving a letter from the local big-wig, *John Latrod*, in the effect that your father is surely ill.

In exile, the local you see traveling to is captured by pirates, the captain of whom, *Medicus Jenson*, professes to be both a gentleman and a bandit if your father's life is still deservingly attractive, but sure of his lot. Throughout the early stage of the game you will have been able to type *WALT* or *W* continuously without much ill effect, and even if you adopt a more active strat-

egy you will discover only three locations, two of which are both on which you are close. I might add.

Finally, however, the game ship arrives at 12 islands and *Cap'n Black*, page off to see *Latrod* and drop him into pieces. You now have a chance to explore the vessel and solve a couple of puzzles. Only one of these presents much difficulty, and the Pig solves it in a matter of a few minutes because it is a few lines - i.e. the solution to it appears out of thin air only after you have made a couple number of moves.

Having escaped from the ship and taken care to have everything with you, you make to *Latrod's* residence to find your father, who you now have good reason to believe is a prisoner there. You see also, by this stage, that a few comments that *Cap'n Black* is a mean old man, a great he soon have to drive home with much *Latrod* contact. There's a ball going on, which you manage to penetrate, and the old *Latrod* can't keep his hands off you. Neither can the other old *Latrod*.

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WINTER OLYMPIAD 88



WINTER OLYMPIAD'88

Winter Olympiad'88 is undoubtedly the best winter sports simulation to date. It features the classic winter olympic events; Ski Slalom, Giant Slalom, Two man bob, Ski-Jump, Bobsalon and Speed Skating. These have been depicted in a way not seen on any home computer before. The result is a phenomenally realistic and spell-binding game.

Available on the following formats:

- CBM64, BBC/ELECTRON, ATARI £9.95
- SPECTRUM, AMSTRAD, C16/+4 £7.95
- DISK - BBC £14.95
- MASTER COMPACT £14.95
- ATARI 8 BIT £14.95
- ST. £19.95 • AMIGA £19.95
- IBM £19.95



TYNESOFT

COMPUTER SOFTWARE

- Inland - and the game becomes a challenge to evade the traps of the one, seek the traps of the other, and find Pappi and the Gargoyl.

RELEASE BOX

CD-ROM	CD-ROM	MINI-DISK
ATARI ST	CD-ROM	MINI-DISK
IBM PC	CD-ROM	OUT NOW
AMIGA	CD-ROM	MINI-DISK

Compared to other Inland releases, however, there seems to be much less gameplay in *Phantasm*. In fact, say, in *Inland*, there are 25 points in all to be gath-

ered, and the Pig had gathered 19 in one afternoon's play. The programming's excellent of course, with various participants coming and going at appropriate times, and delivering appropriate remarks on state. In the end, regard the game is slightly under to suggest, which also perhaps a slightly mysterious where or hell is taking place.

In, as far as the challenge is concerned, I have to say that this is not one of Inland's best releases. But what about the atmosphere? What about the style of the text? Most of all, because I know that is what you're all interested in: what about the solution. Before, the unsolved *LAST*... 300

There isn't any one - at least not what most students would call one. There's a however, a great storyline and the best a resolution - every bit as good as the early Inland adventures, aimed on a par with

Looking Back (one of my favorites). Above all it shows off precisely because it is showing on a new location.

Conclusion of course will, as usual, have in addition of the best of a *SHAMELESS* facility - the 1041 being used especially in Inland games - and the *SHAMELESS* text that this game is slightly better than *SHAMELESS*, but what it looks at is the *SHAMELESS* more than makes up for the *SHAMELESS* facility, with adventure, and the *SHAMELESS* text like that, we all know that we'll need to be... 905

SYSTEM 95 ENCOUNTERS 96
CHALLENGE 76 LANDSCAPE 90
VERDICT 905

NORD'N' BERT

INFOCOM lunacy for puzzle addicts.

FROM Inland to wordplay, Inland's puzzles search for new ideas like another level. *Nord and Bert* presents you with eight mini-adventures, seven of which may be played in any order to yield a series of puzzles that gives access to the eighth. The unfortunate citizens of Puzzer have been subject to mysterious abductions of witly and you are charged with putting the world back on its feet and restoring normalcy.

You do this by entering each scenario and controlling through a succession of top-down situations in which the right input line your truly will transform your location and/or the objects within it. The puzzle is repeated until you have scored all the possible points within that section and returned to your point.

Better than being an adventure in the normal sense, each of these sections is really just a series of mental puzzles. In the same category is other similar to early Spectrum adventures in which you could spend hours trying to guess what input would take you past the obstacle in the next location. The problem is that most people are likely to feel approximately half the puzzle extremely easy and the other half almost impossible. For this reason, it's advisable to treat *Nord and Bert* like a game of *Inland* - maximum enjoyment comes from playing with others or two to themselves.

RELEASE BOX

CD-ROM	CD-ROM	MINI-DISK
ATARI ST	CD-ROM	MINI-DISK
IBM PC	CD-ROM	OUT NOW
AMIGA	CD-ROM	MINI-DISK

Nord and Bert Couldn't Make Head or Tail of It

Eight tales of Inland, presented and other Inland titles.



INFOCOM

Apart from substituting the pleasure of puzzles for the wonder of exploration, *Nord and Bert* also brings the challenge on a number of other traditional adventuring habits. First, there are sub-sections. In each location a lot of relevant items is printed at the top of the screen. To travel to one of these you simply type the name of the place in question. Similarly, there is no *EGADAM* command and this function is performed by typing the name of the object followed by *MOVE*.

Lots of crossword puzzles and other sorts of wordplay will lower *Nord and Bert*. Those of us with a disposition for exploration and discovery may find these puzzles overly tried. These puzzle magazines are the best-selling category of publications in the UK, the Pig can only conclude that adventuring has spawned a new category of computer entertainment with tremendous potential. I suggest we call these 'puzzles', the players 'puzzlers', and look forward to seeing what readers find of this new set of lore. 9

White Wizard speaks...

...with forked tongue, I'm afraid I just can't allow this issue of *AGE* to pass me by without making comment on at least two of the games reviewed.

First, I reckon *Phantasm* really should get a lower rating. It's ridiculously easy for any seasoned adventurer and if you're playing between CD and CD for a you deserve a greater challenge. I agree that the text and the storyline are excellent, but is this enough?

When we're on the subject, I can't resist making a point at the Pig for missing the real solution to his 'time-based puzzle' in *Phantasm*. The solution he mentions, which appears out of 'this air', appears only as a saving grace because he failed to check the puzzle in time! Caught you there, Piggy!

Nord and Bert - I really enjoyed this, being something of a pig and puzzle fan, but I think the point needs to be made that it is definitely not a game for people expecting a traditional adventure. The best comparison I can think of is *The Travel Game* on the PC (reviewed in this issue). Again, however, I'm concerned about the long-term challenge.

I agree totally about the poor control in *Stone* - it is infuriating - but since you get used to it the game plays reasonably well. Of course it's not a game for traditional adventurers, but I think that some people will get quite a bit of enjoyment out of it. It'd be nice to suggest a (minor) improvement on the rating here.

Oh yes, and before I go, when's the retrospective review of *Support* at? Don't worry again, have you? Make sure it gets in next month, huh, (it will, baby, Piggy).

SYSTEM 95 ENCOUNTERS 76
CHALLENGE 85 LANDSCAPE 85
VERDICT 895

ocean

NEWS

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4

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SCREEN TEST INDEX

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Christmas is a-comin' and the software houses are slaving at the prospects of getting their hands on your cash. That's why they're bringing out all the big guns, and that's why we're reviewing more games than ever before in our history. 32 titles get the ACE treatment - and precious few of them are naff.

Unless you've got pots of money it's going to be tough choosing between games of the calibre of *Nebulus*, *Stealth Fighter*, *Bobsleigh*, *Madballs*, *Buggy Boy*...but help is at hand; the ACE reviewing system is designed to give the clearest possible idea of how good a game is and how long it's going to last you. So look no further for your authoritative Yuletide software guide.

THAT REVIEWING SYSTEM

Regular readers will notice some subtle but profound changes this month in the layout of our reviews.

To make our coverage even more thorough, we've introduced separate Predicted Sales Curves and ACE Ratings for all versions of a game, along with separate comment boxes.

The main review now tells you how the game is structured and how it plays. The separate boxes let you know how much we've enjoyed it in terms of Graphics, Sound, 3D Performance and Fun Factor.

You'll also notice that we've designed the box giving a verdict of these ratings in terms of a simple score out of 10. This was partly because of the pressure on space, partly because some people can't score, so just add up the numbers that they didn't find too few ratings too easy to understand.

Never sure that these headings will make the system work even better, it's now clearer to critics of whatever discipline a game is reviewed on just what we think of that aspect.



720°

Get on board and go with US GOLD



SKATE City is where the action takes place in this isochronous simulator, based on the coin-op of the same name. You and your board must go places, do things and generally accumulate points - and what do points make? Power Coins, but don't expect an all-expense-paid trip to Disneyland. The only prize you'll get is a ticket to the skate park where you can and your stuff and... called more points.

Before rolling in to Skate City you must decide upon your skill level. Whether you are for a newbie or old, look. There's still plenty to avoid. So remember, be careful out there.

The city - an American city (what else would you see body builders, unapologetic and breath-dancers at the same street?) - consists

of four parks, four shops, streets and inhabitants. The idea is that you roam the streets collecting points and money. Points are gained by jumping, spinning and pulling wheelies - the three basic you trick. The more you succeed, higher bonuses also stack up welcome points. Certain features, such as dollar bills, add to the bank balance.

At the start of the game you have four

Spectrum Version

While skateboarding can be a lot fun when you're getting the hang of the controls, US's graphics might take the punch of the game - they're a little on the indoor side. The title bar in particular seems so clearly that they might just as well be called a letter box. The sound, too, is nothing to write home about.

GRAPHICS	7	IQ FACTOR	5
AUDIO	4	IQ FACTOR	7
AGE RATING: 721			

PREDICTED INTEREST CURVE



Fun - and the controls are fun-to-mastering - but it isn't demanding enough to really test the driver.

tokens, which give you access to the parks. When a park and you lose a ticket, but get the chance of performing low fees and getting a medal - Gold, Silver or Bronze. Do well and you get a decent reward and plenty of points. And as the points come so do the tickets (because as you need a lot of points to get the ticket).

Money enables you to buy protective equipment from the shops: helmets, shoes, pads, skateboards. You may wonder why you need this gear, well, remember you're an American, but if you look good and have the goods then you're bound to perform well.

NICK Pigea is not a letter that springs immediately to mind when you're asked to think of a top-line sportsman. He is, however, currently rated as Britain's top Bow-leg driver, and has engineered the latest simulation from Digital Integration.

The player gets a driver's eye view of all the action on six World Championship tracks, and has to fight his way from disaster status to Chrysalis standard by street gas, set and determination.

RELEASE BOX		
OS/128	OS/160, OS/192	OS/256
SPEC	OS/160	OS/256
AGE	OS/160, OS/192	OS/256

Simply learning the controls and using the old man is not enough in the game. The player has to compete and do consistently well enough to win the sponsor.



Look out for your life, it's not easy when you're going in 720°

You may get the impression that there is little to *Ice*. In fact, there are plenty of obstacles to hinder you. If you're being around too long you are threatened - (unpleasantly) - by icebergs of alien bees, crystals, meteorites, crystals and perforators - can take the wheels from under you, stony pits aren't too healthy either, and if you get rocky you'll plunge from your bobsled anyway. After waiting outside of the pits is fun, you move to the next level. Things get hard quickly. It's not long before you're stuck in the early morning and too cold for bees. Think you're the bested thing since Adam's apple. **Richard Minter**

Big history needed for the team's upkeep. Coaching is interesting, can be disastrous not only for your chances of a place in the winning top three but also that you realize as well, repeat cost money but not sponsorship can have you looking on the brink of bankruptcy - and becoming bankrupt means you'll have to restart the game.

Before you start into serious competition, you can practice each run in whatever order you desire, which is helpful in familiarizing the player with problem courses etc. You



BOBSLEIGH

ACE
901
RATED

Ice screaming with
DIGITAL INTEGRATION

can then compete against other teams for full the one run, which helps to give you an idea of how well you compare to them.

Getting to grips with the race is, as you'd expect, tough. It takes a keen eye and sharp reactions to read the courses and find the path of least resistance which you need to follow if you're to achieve anything like the speeds needed to earn yourself a place on the leader board. Make sure you control the weather reports before the start of a race, selecting the wrong numbers for the bob can lose you valuable seconds on a run.

Options to increase your bobsled, tires, etc included, and the idea is to wrangle your joystick to use the bobsled fast as possible.

C44 Version

The menu options of the Commodore version are well designed and down and the music and other sound effects are superb. It seems that the game itself is not so fast. You get no real feeling of control over the bobsleigh - it seems more a case of hit ball and watch the action. All the options are there but it's just not so much fun on the C44 as it is on the Spectrum.

GRAPHICS: 5 HD FAC/504 4
AUDIO: 4 FM FAC/504 5

ACE RATING 567

contained with having to wrangle the joystick at the start of each race stimulates your form, returning with the bobsleigh to the start line like you have you feeling physically tired at the end of a season.

Ice might be a stalling game with enough strategy involved to add another dimension to a highly completed and addictive simulation. **Andy Leah**

Spectrum Version

Fast and furious, you get a real sense of speed on the Spectrum. All the action is well presented and controlling your bobsleigh properly takes a fair bit of practice. Sound is used well and adds to the impression that it's not just you and your team versus the team opposing you as you thunder down the run. Spraying, real thing out that is a thrill to play.

GRAPHICS: 5 HD FAC/504 4
AUDIO: 4 FM FAC/504 4

ACE RATING 901

PREDICTED INTEREST CURVE



Tweaking and adjusting on the Spectrum does give them the opportunity for the C44 to give controls and real graphics something to



African Violence

One of the characters goes berserk and looks a bit more like a mad IT graphics nerd, but still grooves.



PASSENGERS ON THE WIND

INFOGRAMMES blow in from Africa

DAHOMEY was either a tough place in the late 18th Century, or it doesn't exist. The title West African kingdom had enough homegrown dangers to feed people, what with lions on the prowl and a very short-tempered dictator on the throne, but when your computers included prisoners, justice and slaves — well, you really did have to watch your step.

You talk, write back with Leo and Mary, the central characters of *Passengers on the Wind*, based on a classic French roman àp

Wind, based on a classic French roman àp, the original game related a tale of intrigue and high adventure at sea with a graphic style that amazed lesser players and a game structure that left them baffled. *Passengers* it takes up the story, and the strange computeric style is jarring.

The first scene opens with one of the game's many beautiful screens, depicting the Dahomey village where King Ewepe holds an audience for Leo and his companions. It's then your job to try and help the story unfold. For the most part you control the plot by selecting one of the game's numerous characters in a small window below the main picture, and clicking on them with the pointer to make them speak. There's only occasionally any choice over what they say — it's really just a matter of picking different people's speeches together correctly to advance the plot.

As well as conversing dialogues in the way you can affect the plot directly by click-

Atari ST Version

The graphics is effectively the same as of machines, but its color and graphic resolution this is the best of the bunch. Just the single screen format, at any rate — and why not it looks like.

GRAPHICS 5 10 FACTOR 7
AUDIO 5 100 FACTOR 0

ACE RATING 678

CPC Version

The CPC can't match the ST for graphics at all, but it comes pleasantly close here thanks to careful use of color. The tape versions might not get a little better, and the lack of a mouse makes control a little clumsy.

GRAPHICS 4 10 FACTOR 7
AUDIO 7 100 FACTOR 0

ACE RATING 665

C&A Version

Graphically the poorest of the bunch (though still a good-looking game) and also, it seems, the slowest to play.

GRAPHICS 5 10 FACTOR 7
AUDIO 7 100 FACTOR 0

ACE RATING 659

ing on different parts of the main picture, set tag action sequences in motion. There's never really anything controlling the proceedings in all this — just revealing a fixed story line. The actions are shown as panels evolving the main picture, rather than as conventional animations. There's rarely any indication of where these sequences are possible, so you probably end up clicking about background on until you get the line just on the dot choice.

Somewhere between a story and a puzzle game (and a long way from anything you'd normally call a game) *Passengers* is a very much the comic strip equivalent of *Caliberline*. It's really the sort of thing that's better off the screen visually, but *InfoGrammes*' gameplay shortcomings are also in evidence — with a single-line action screen in the first and more involved dialogues what challenge it might have had as a game, but *Passengers* offers an unworkable situation-level interaction.

Andy Wilson

RELEASE BOX

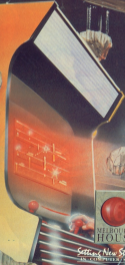
DAHOM	(12 Mo, 14 Mo)	REVIEWED
ATARI ST	(12 Mo)	REVIEWED
MSX	(12 Mo, 14 Mo)	REVIEWED
IBM PC	(14 Mo)	MINI-IT
AMIGA	(12 Mo)	MINI-IT





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SKATE & DESTROY

Karate chop your way down the boardwalk along with neighborhood Greaseup! (with cars, bottles, flowers, and the other guy). Get across ramp off the top. Oh.



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ELECTRONIC ARTS

BRAVE how game boards are size through these days, and without to come up with, too. That just makes you guessable like things is pretty bad properly after the casual but 3D real-worlds motion of Implosion!, he's just delivered the sickening casual victory retrospection.

The basis of the game are simple but twisted: eight cylindrical towers project from the ocean, and you have to destroy them. To do that you must guide your little character

might the game keeps him in full view by rotating the tower behind him, platforms and all. The rotary scroll is steadily original still even on small movements, but Nebulus can do better if Pogo steps into a tunnel, the tower spins through 180 degrees to show him, peering out the other side.

Graphic ingenuity isn't enough by itself of course, but you'll find that the gameplay too a solid start. Though based on conventional timing and jumping problems, Nebu-

ted by each tower, but a few falls can end the up-and-down running out with you to life.

With practice you can get past the short the lowest routes fairly easily - though the timing can be very demanding in places, especially on the Spectrum version - but that still serves you with colorful backgrounds to deal with. These flying routes turn simple problems into death-traps if they appear at the wrong moment: fraying on life or changing into tunnels can save your broken hero, but you'll need to plan ahead a little.

Nebulus strikes a fine balance between frustration and addiction, and should keep you occupied its months away with only eight towers to climb. Add in the fun and originality of that rotary scroll and you've got a good-looking, playable winner and a pain.

Andy West

NEBULUS



Towering originality from HEWSON

Pogo to the top of each tower, causing it to telescope down into the sea. A spiral of platforms, edges and lifeless your souls up the outside of the tower walls, along with several tunnels directly through the towers' cores. Its no panic grips between and sleep-gazing floats in the middle of edges have to be jumped, and needs in your path need shooting or clearing.

RELEASE BOX			
QATB	Q1Ra	Q2Ra	OUT NOW
SPBC	Q7Ra		OUT NOW

These immediate problems will have to wait for the first few games, because the chances are you'll just be staring at the screen in wonder. As soon as Pogo starts to move, you'll be struck by the startlingly odd way Nebulus handles his movement around or through the tower. As he walks along

but too subtle twists to it that make its real oddities. For one thing, most scrolls don't tell you outright; they merely nudge you off your ledge, or in whatever. If you're still fairly low down the tower (or just suddenly) you'll fall into the water and down, losing one of your three lives.

Once you've started to a decent height the wind you have to feel is a funnel into a cone position, forcing you to cover the water ground again - but this is quite fast enough. You make each tower against a time limit, so the delay involved in climbing back up can cost you dead as well as drive you wild with frustration. There's a certain amount of slack in the time ratio-



Pogo's Progress

QATB This is the only character motion screen. Pogo can float around on a ledge or platform, ready to jump. But there's a pit to jump into that just goes in circles.

SPBC The background is a sea of blue.

C64 Version

High credit and following, the C64 version is an excellent as well as good. However, the Spectrum version is more difficult for some parts to make it through, so the recommended audio games and version of the other are not being profitable. The best game performance is not.

GRAPHICS	4	IQ FACTOR	8
AUDIO	7	FMV FACTOR	7

ACE RATING 943

Spectrum Version

Though it already can't make the C64 version for other reasons, the Spectrum version is very hard to get through, but it's a pleasure to find a game where you can't find a single of a game.

GRAPHICS	8	IQ FACTOR	8
AUDIO	4	FMV FACTOR	8

ACE RATING 917



QATB Better than, you can float and wait for the best points. Spectrum version is very hard to get.



SKATE OR DIE

Ollies and plants with ELECTRONIC ARTS

PACK your pants, board and wheels greasy and head on down to Beverly's skate shop. There you'll meet the coolest hot-beans in town — Rodney of course. He sure knows how to handle his board. Can you say "do it right"? If not, you'd better head to your local toy store and purchase Psycho Skateboards Daily, otherwise you'll end up as another pretty pattern on a board. (After the movie, visit www.skate.com.)

If you intend to keep your mark on the city then sign in at Rod's stock. There's some to you and several other competitors. This is either a practice roll around town or a head-to-head in this grunting arena. You're either to stick to practice mode after all you'd look a ripe prize if you fall the streets with a

RELEASE BOX

CD-ROM \$19.95 (U.S.) \$24.95 (CAN.)

For other versions (page 6)



From the skate to the city to the

and board and all hope of stopping your steps into the arena.

Leave Rodney's pasture and move around as spiky-painted wheels, slowly down the one with the event of your choice selected over it. The fun starts.

The first event — if you choose to compete is all five — is the Pearly's Ramp to hundred feet of wood and steel obstacles into a wide U-shaped. Jump on your board and use your start, stop, back-flip and backflips if you flip (and if you can figure out what they are, look at the Skate Speak box). But if you're really cool you'll also manage an open eye for the Bell. Try to be too fast and you will crash through the ramp — not a pretty sight.



Next on the list is the Sign. Jump over the U-shaped ramp. Only this time you've got to wobble but not land to get you into your board test of test is the air. A really beautiful, especially if you jump at the wrong moment.

Rolling is not to stop you in the third corner. It's just to control your in the Bonus Box. A side against time. On the way to the finish line you can go on, over through and along objects. Stay on your board and get to a score of points.

If you opt for an opponent in an obstacle, most class to the last line is the Chemical.

Jan. Anything good, side over fence, get, smash bottom and tip over back one. While doing this you start to get and understand the other party by looking him in the hand, stomach or other painful areas of the body. But also take care you don't slip into buildings or transfer through fences (you) and up whatever it you do.

The last event, Pool Joust — in which two players enter, but only one comes out alive — is simple: one player moves rapidly toward the other trying to dodge the other's skateboard. If you get hit, the other player manages to get into one side of the ring is the other, first time, without being hit. Then the clock is up. This comes as usual whenever gets splashed.

Skate or Die is a highly entertaining and varied. The graphics and animation are

explicitly detailed and the characters look in great pain when you do something wrong. It's not the best in the recent skateboard game genre.

— Robert Hodson

C64 Version

There are some stunning graphics and animation in this in Skate or Die, you really get a sense of the skateboarding life in the character you control by get around to map or board. The action is complete with an obstacle here with some nice effects. You don't have to be the best of those to compete. But who cares when it's such fun?

GRAPHICS 9 SOUND EFFECTS 4
AUDIO 7 FUN FACTOR 9

ACE RATING 87%

PREDICTED INTEREST CURVE



With an interesting look and the right amount of reality, it's still more fun in the months to come.

Skate Speak

Area — the board is in the air during this move.

Ball — when you mess up and get ready to fall.

Backflip — when.

Be — a spectacular trick.

Headlight — when one hand is on the board and the other on the ground.

Off — an aerial trick without the skater touching the board.

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SENSITIVE 40

RAMMING

a spaceship into objects in order to change its direction and generally considered a good idea. However, at the Centaur its primary essential to go bouncing off things like a few in a pinball machine.

The crossover Mini-arc of Zig is where all the boss-battling collisions take place, as you would in the eight crystals of Zig hidden in the 1,000 screens. As it implies that's what the game is - just a matter of exploring each collecting. What makes it interesting is the weird way you get around and the crazy stage layouts encountered as the way.



You can fly left and right in a corridor and also height as well, but you can't turn around or turn a corner without some assistance. Trampoline levels are placed at many

intervals and by ramming them you can alter the direction of the ship through 90 or 180 degrees, depending on whether you hit the angled or flat part of the block. Scrambling walls will also turn you around. Feather icons contain any damage to the ship.

The corridors are populated by several levels of nasty aliens. Heroes locate it as you, while obstacles draw you towards their reward. There are also bonuses, dashes,

C64 Version

A single screen full of walls that have that can be of, accompanied by some bashing. Cheetah man. The graphics are OK, but there isn't anything remarkable, although the ending is very well. Sound effects are limited to beeping and beeping.

GRAPHICS 7 HD FACTOR 6
AUDIO 4 NEW FACTOR 4
ACE RATING 783

RELEASE BOX

DATE 08/01/1988 REVISED

ZIGZAG

Ducking and diving with MIRRORSOFT

The matrix is viewed from a bottom-type perspective, scrolling diagonally to keep the ship centered on the screen. The matrix is actually composed of crystals associated by right-angled turnings. In places the corridors narrow and some steps forcing the ship upwards.

recesses and cubes to look out for. Most of these guys can be deadly if rammed or if they hit you with their missiles. If you die then you're returned to the starting position.

Overing the class adds money which can then be spent if you find a shop area. They're found at the end of corridors and

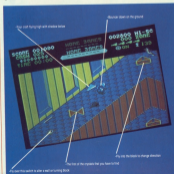
when you fly into them a prompt or menu of additional features in the ship. Each feature costs a varying amount of money, from 50 cents to the cheapest level to add lives to the ship's response. Other powers are speed, wings, missiles, shields, extra activated and flip.

The maps show the area you're in, activated and ship respectively enhance view, and allow you to see through walls. All the powers are useful to use either or another but decide if you like.

Other features which add to the puzzle nature of the game are matches that break or remove walls and blocks when flown over or shot. Additional secret points can also be found to prevent you having to fly off the way back to the start.

At last the concept is very intriguing, particularly as the feature and their use are discovered. But it quickly becomes a matter of exploration and sipping rather than one of puzzling. It's certainly a creative task to find all eight crystals and it's going to be a disaster to stop, but it may not hold enough surprises in the long run.

• **See Also**



PREDICTED INTEREST CURVE



Approximate with the current methods, unless confirmed by your banker prior to use. Does your situation match what's going on? Or does it not?

THROUGH THE TRAP DOOR

Cartoon capers from PIRANHA

BERK and **DRUT**, the two cartoon buddies, are back with a vengeance. This Doppel-turd you controlling the accidentally arrested Berk in the dingy corridors of the best Tempseed thing's castle. The sequel

RELEASE BOX

CD-ROM £19.95, £11.95pb DEC 87

SPCC £19.95 CD-ROM

MS £19.95, £11.95pb DEC 87

PREDICTED INTEREST CURVE



Will you get in the event for a surprisingly long time.

not only lets you manoeuvre larger-than-life Berk, but also his bawling buddy Drut! The alarmist shrieks when he slips from the skull gets plucked from his steels and subsequently taken to an underworld by a hellfire levit. Both Berk and Drut must travel through four underground regions to rescue their pal.

You have 16 lives with which to fend for Berk. It sounds like a lot, but these are nasty levels and you lose it all roughly every 90 seconds. Berk, the large blue thingamajig, is the main character. Drut just buzzes around solving his moving bit worms and occasionally, with great frequency, gets took out of a hot spot.

The four regions are fraught with danger and puzzles. There are jigs, scales, levers and other devices to dodge. The task usually involves locating a key and taking it to the next door - it is in the manner that you pass to the next stage.

As with the original, the

SpectrumVersion

There's some tremendous variation in the size and shape the characters on the Spectrum. Sound is little more than the old peeping effect, but the sound really detract from the fun in the rapidly stock piling.

GRAPHICS 8 IQ FACTOR 6
AUDIO 5 FUN FACTOR 7

ACE RATING 824

graphics are bold and superbly coloured. Berk's facial expressions have to be seen to be believed. Add Drut, who insists on gabbling every passing worm, is cute in his own special way. The tasks are harder than the original, but could still do with a little freshening. A game worth getting it only to watch the big, bawling characters.

■ Roland Martin



Berk and Drut look as the heroes because they often do these regions

WEREWOLVES OF LONDON

Fancy a bite of VIZ DESIGN's latest?

WEREWOLVES features sound effects which include that sticky song of the same name by Warner Bros - and it will be the other than any

other aspect of the program which might tempt you back to the game.

It's presented on the '60 institutions - with it out for yourself' format, but basically you stroll through London, collecting potentially useful objects which will enable you to open invisible covers, or shine a light on you when the sensors by night you transform into a werewolf and attempt to keep your levels up by attacking people.

As for its gameplay goals, there's an awful lot of trotting about streets which all look exactly the same. The objects may be useful to the end, but of feel you need to work out what they are - is a wire coil, electric footswitch? - as the graphics are certainly not all they should be, and certainly perfunctory.

■ Charles Martin

RELEASE BOX

MS £19.95, £14.95pb OUT NOW

SPCC £19.95 DEC 87

CD-ROM £19.95, £14.95pb DEC 87

Amstrad Version

Despite the fact that it's using Stereo can be good for it, Amstrad's just doesn't have the depth or the charm to make the grade.

GRAPHICS 8 IQ FACTOR 8
AUDIO 7 FUN FACTOR 8

ACE RATING 573

PREDICTED INTEREST CURVE



The fact of being interested in it will be a matter of long time.



Don't lose too easily against one ball and watch it after you get and look out. Really, you're against a single yellow ball.

MADBALLS

Battling balls bounce in from OCEAN

MERGER

comprised elections, and voting for winners from the power of Ots. If you want political power then you're going to have to get out there and look a little better than you do. After all, you're a Madball and that's what you do best.

As in all political struggles there's more than one candidate in the pot of leader.

There are seven other Madballs doing an excellent impression of the SDP leadership struggle—as well as a pack of Securicats

doing a reasonably good job of getting in the way and generally being things up for you.

The surface of Ots is a brain's landscape of stretched platforms, surrounded by a sea of

RELEASE BOX			
04/18	04/18/04	04/18/04	04/18/04
SPEC	C'64	04/18/04	04/18/04
AMS	04/18/04	04/18/04	04/18/04

grey confusion. The main (or only) method of scrolling view is from movement, so the balls get larger and smaller as they bounce up and down. The Madball space also recognizes a little enemy by their colors, but the total features aren't quite distinctive enough to differentiate them.

Initially you are visited at Dots level, a mid-range Madball in terms of speed and strength. The other seven MAs (Member of All-Things) have equally differing names like Invisi-Sucker, Stabula and Picky Ball-bats. They have different speed and strength ratings which affect their maneuverability and performance in combat.

A spinning pole (called 'pole') indicates a ball's energy level, which is supplemented by bouncing on items of garbage that pass for food on Ots. Running out of energy won't kill the ball, but it does make him more vulnerable to attack.

To capture another ball you simply have to bump him off the platform and into the grey void—the goal. You can do the same to the Securicats for points. Once a madball is captured you can switch control to a

different Madball. It will also come into play if you get launched into the goal, ending an entire life.

There are several items in the game, and only one ball will be found in each. The ones are collected by passing files which you can bounce down, falling into the ball and not to double.

To bring some variety to the tough politics involving there are many features that affect the ball. Transposers, springs, traps and traps can all give you extra bounce to clear gaps, but using them too frequently is often difficult. Bombs, pyramids, clothes and all sorts of items and you sprouting off course and into danger.

One rule that's really unplayable feature is the food eggs, which, when launched on, release chickens who can be squashed for bonus points. Bubbles come in for similar treatment with the same bonus points result. However, whatever you do, don't bounce on the message as your joystick control will delete faster than Cecil Partridge's.

The gameplay is absolutely hectic as you find yourself fighting the joystick the whole time, trying to stay in play in a chaotic up-and-down. The moves are intuitive and satisfying, a deadly combination because you keep having one more go and get more frustrated every time you die. Something has to give eventually—the joystick, the game, your mind.

The main drawback is the element of frustration of dying and having to repeat conquests of the other balls. It's not a serious problem, but along with the lack of graphics it takes the edge off the game. I conclude that there is only one difference between Dots and Ots points—one has pretty polished graphics that put you to sleep, the other will give you heavy sleepers' rights.

● **By Rob**

Madball Ball Coll

There are eight candidates for water of Ots. These are their candidates:

	A	B	C	Food
Freshy-Fullback	1	8	8	Cake and cheese
Same-Sucker	2	7	8	Anything
Stabula	3	8	7	Fish heads
Dot Brain	4	5	5	Blood
Fun-Face	5	4	2	Bones
Worm-head	6	6	7	Catapults and ball
Snail-Face	7	1	1	Catapults
Beastball	8	2	2	Cake
Message				

As Speed Is Strength Is Power

C64 Version

The graphics are disappointing, looking pixelated and dead. The backgrounds are dull and the Madballs are fairly bland to that I lack personality. But the game sound effects are wonderful, a different sound for every ball and really pleasing noise from the goal-buzzer.

GRAPHICS	5	HD FAC 100	7
AUDIO	7	HD FAC 100	7
ACE RATING 826			

PREDICTED INTEREST CURVE



The graph has made this the most enjoyable political ever. See the background.

AIRBORNE RANGER

Hit the silk MICROPROSE style

C64 Version

Ranger boasts some crisp and colorful graphics. The graphics is tough to get to grips with but does become easier with practice. The ability to save positions and character qualities means you can return to a fight a campaign and hope to get your character promoted to Colonel. You'll find yourself in some really tight spots which require a quick trigger finger, while at other times you'll need to think on your feet and work out your plans very precisely.

GRAPHICS 5 HD FACTOR 5
AUDIO 5 FUN FACTOR 7
ACE RATING 801

PREDICTED INTEREST CURVE



Graphics is pretty interesting to start with but fades away as you get to grips with it and then there you are with some more.

HAVE you ever forced yourself to sit at a table soldering operators behind enemy lines for the S.I.A. ? If so, then you're your choice.

Microprose tell us you also enjoy testatory where you can prosecute behind enemy lines and attempt to complete a number of hazardous missions, varying from capturing enemy officers to cutting enemy gas supplies.

The general idea is to fly over enemy territory, drop supply packs that you may need during the operation, then, when the lights turn green, launch yourself from the aircraft and guide your parachute to the ground. The part of the game is viewed directly from above and only lasts a few minutes, but once you touchdown, the view changes to show your progress in the middle of a screen.

RELEASE BOX

COMP/DEV	IN REVISION	OUT NOW
SIEMC	UNDECIDED	YES-81
AMN	UNDECIDED	YES-81
ATARI ST	UNDECIDED	YES-81

Action Man!



Getting through enemy lines is the main mission gameplay. Needs a real concentration of fire. Good job if you're a concentration.

which scrolls around him as he runs, walks and crawls on his stomach.

Focus here on its up to the player to complete the mission and make his way to the pick-up point to be rescued. Of course the enemy have been alerted and will be hunting you down, so quick reactions are needed in order to survive. Controlling the character involves moving him to one of eight directions, while he can fire in any one of 32 directions with a choice of weapons. Repositionments are available - if you can ever reach the supply pods.

Airborne Ranger is not one of those instantly playable Commodore-style jobs, but a game which takes a while before the fun begins to show through. When you do get the hang of it, it can become a gripping and demanding task.

Andy Smith

PHOENIX

INFOGRAMES dodge the black holes

NAVIGATING the space lanes and shooting the occasional gun turret may sound like boring stuff, especially when the lanes in question are full of random letters of abiding tiles. But when large holes and other lethal obstacles are the rule rather than the exception - and you can't slow down to avoid them - boredom is unlikely to be one of your problems.

Navigation, as the other hand, certainly will be. The only way to stay alive in the game is by changing from one row of rectangles to another as the whole lettered screen barrels to you. The warden here are slick and the feel of movement is mostly continuous, but the star player's eye view - you just can't restle on the screen - causes a few problems telling where you stop-actually is.

Telling which row you're on is easy - the letter rotates or moves sideways under you as you push left or right on the stick so as to keep you centered - but telling how far you've got along the line you're on is another matter.aving left or right before there's a tile obstacle you end your dead. Out of the end of a file into blank space because you waited too long and space routes closed. The bonus isn't actually too high, but you've got an awful lot of sweating to do-and you're back to

the start of the level-every time you die. Since you're only got three lives anyway, the clearly isn't going to be a picnic.

There-oh-other hazards come from space, purple tiles and falling tiles hit you outright, as do gun barrels if you aren't there. Light blue tiles and shot fire gun barrels drain your energy, and green tiles send you out of control for a few precious seconds. It's not enough to dodge these though - you're also got to positively seek out the orange tiles that top your energy up.

Later features add complications - black



There's not too long you before trapped as it's worth your while going to that.

holes are particularly nasty - but the overall game remains simple, addictive fun.

Andy Wilson

RELEASE BOX

STAR-87	IN REVISION	OUT NOW
---------	-------------	---------

Atari ST Version

Not much graphics, it's not really smooth. The scoring system is almost impossible to make out, but that's right in keeping with such an intelligently playable game.

GRAPHICS 5 HD FACTOR 5
AUDIO 7 FUN FACTOR 7

ACE RATING 887

PREDICTED INTEREST CURVE



Not too interesting with graphics, but it's not too bad. Not too through in front.



Model: You've found the gas pipe hole to target. Click with L and you can take it to the limit!

ACE
956
RATED

DRILLER

Solid exploration from INCENTIVE



Model: You're in the place looking for it in the expansion pack!

GAS build-ups are so (slightly) visible - not when they're (flickering) in blow-up size of your heavy-gas-horn means, or any size. The debris from the explosion would make either a hole in everybody's sleep, or you'd get to get up there and prevent that big bang by setting up drilling rigs and exploring of the gas. It's a nice repeat time to find the gas points, and there's a lot you'll have to work out to your will.

The playing area isn't the actual level surface - that's for too basic an environment even for your heavy-removal-removal pipe - but rather it's an artificial structure built around, and almost enclosing, the mine itself. This structure consists of 4 square sections joined at the edges, but there are still holes you can fall through as you'll have to watch your step.

As you explore the buildings and objects to be found in each section, your driver's-eye view of them is at true perspective 3D, with solid colors or texture-maps used on all surfaces. (Especially where textures are used, it

not always entirely clear what details or small objects actually are. The solutions are: peep holes (or travel up to them and take a look. Day data become rules or pyramids on close inspection, and seemingly connected buildings turn out to have no holes - but navigable - alleyways in between.

RELEASE BOX

CD128	(14.99) (17.99)	CD 128
SPIC	(14.99) (17.99)	CD 128
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At first you'll simply want to explore the mine. This is a tough enough task to be getting on with though there are obvious doorways to adjoining sections or into buildings right from the world go, you'll need to find or create them. There's more to this than wandering around and looking, you'll also have to identify various utilities, and show them with your own devices to fix them.

Often switches don't directly create the results you want some work is going to you'll have to set all the switches correctly before anything useful happens, while often simply moved further switches that were previously available. There are no general principles here - just about what happens.

As you might already have guessed, you can't be the only one who gets to do some exploring. The mine's abandoned security system is still in working order, and its static laser beams can subject you to withering fire if you step into their field of view. The look and you may knock them out or at least impair them before they clean your state and destroy you. But some beams are non-lethal, you may have to search for suitable holes through them, or simply get your hands and run the gauntlet.

There's even the only hazard of that. An exploding killer robot will fall down on you if it gets the chance, while marauding anti-acc rivers make some routes decidedly dangerous. Large-drops can wreck your probe even if they don't plunge you into the abyss.



1 Section 1 view for Settings - experiment 1 to get a feel.



2 All the lowest wires, so the graphics don't give you an idea of what is going

below, to escape touches can't be taken lightly either.

Once you've explored the moon, with the help of the energy and shield crystals around the place, you still have to overcome the central problem of venting the gas. Practising drilling rigs is chainy play - just take part, in fact, you have passed all the press CFD test - but you have to know where the gas pockets are. The handbook contains all the information you need, but much of it is in cryptic bits - symbols are, for general, messages in wide etc - so you'll need to

have your brain in gear.

The realism of the Driller playing area lies not just in the solid 3D graphics used to depict it, but also in the very adventure-like way you can find things up, do them and find they work. There's so much to do beyond the screen: if you find the switch to get the network transport running, can you work out how to top it? If you find a space plane to fly around it, can you keep it airborne?

Fitting Driller into a package is a tricky. There are credits, adventure and logic

putting elements to the gameplay, while the slow-but-impressive graphics bring some realism between Starline II and the Destrial. It's laid, steadily original and very playable too, and it deserves to feature prominently in the Future charts.

Andy Miller

PREDICTED INTEREST CURVE



The Annuity's future growth rate index appeal, but both versions offer what you need you start to explore the game's full.

Amstrad Version

Hard to believe you're only looking at a CPC display, what with the realism the one brings out of it in colour. It may take a time updating the screen, but it's worth the wait.

GRAPHICS 9 HD FACTOR 8
AUDIO 8 FEM FACTOR 8

ACE RATING 936

Spectrum Version

It may only be a movie, but the feature used in the Driller are all very effective and the screen makes it a healthy speed making the game the most movie Driller.

GRAPHICS 8 HD FACTOR 8
AUDIO 7 FEM FACTOR 5

ACE RATING 931

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HER COMPANIES EVEN BOTHER...

Coming early 1988: HALLS OF KYROS (SEGA), BOLLERS TRENCH (PANCO) BOARDGAMES (ATARI GAMES)

BUGGY BOY

Are ELITE buggin' you?

AGE
906
RATED

FORGET the Ferrari. Buggy Boy puts the player behind the wheel of an off-road, non-licensed race buggy.

The game is viewed from a position behind and slightly above the buggy. The aim is to complete one of five courses by completing the various legs that make them up. The roadway scrolls towards the player, constantly bending and turning so that the player has to move the joystick to avoid the various obstacles. Of course, you're racing against the clock on each leg - usually like Out Run - and failure to reach the check-

point means it's time to start the course. Besides the almost obligatory road dirt, the player has to fight to avoid a plethora of road-side and on-road obstacles including

Buggy Boy - what's new?

So you thought Out Run was the definitive car racing game and anything that bears even a passing resemblance to it was bound to be a poor substitute? See Buggy Boy and then decide. Sure, the idea of completing several stages with a time limit appears in both games but that's where the similarity ends. Buggy Boy is far more concerned with giving your course and avoiding the obstacles that merely complete a course. In Out Run, you had cars to avoid, but Buggy Boy has the player making far more than an attempt to drive through fence gates, the car prove to be tricky until you get to know the course and will have the player running into an immovable object or more than one occasion simply because his greed for points has overcome his common sense.

The inclusion of on-road obstacles is also a cause for concern. Hit a log and the buggy goes flying through the air - great for a watch but should it happen on a corner then you could be in for a lot of trouble, because you can't steer a car that's in mid-air. Buggy Boy is often enough to merit a high level of respect from even the most ardent Out Run fan.



RELEASE BOX

CD-ROM	CD-ROM	CD-ROM
BMPC	CD-ROM	CD-ROM
AMS	CD-ROM	CD-ROM
ATARI ST	CD-ROM	CD-ROM

Oh Boy!

Before utter the opening line, first let me say you're getting the goods for the rest of the day.



tree, brick walls, fences and the occasional other buggy. Hitting an obstacle will leave your buggy leaping into the air and coming down with a thud - you then have to pull away from a stall and try to get your speed back up again before you lose too many valuable seconds. As well as drifting, the player can also utilize his buggy flying through the air whenever he hits a bump and going up into the air allows whenever he hits a obstacle or a tree stump - the two wheel business is actually quite helpful for steering for through tight gaps.

Almost as an afterthought, the player can attempt to increase his score by driving

C64 Version

Although the handling is a bit more the graphics are very colourful and well drawn. Found a great 'trick' using the joystick in its rest position with 'trough' involving the joystick can help. It's certainly worth a go and you'll enjoy it with the variety of trees and logs providing much to be avoided.

GRAPHICS 7 IQ FACTOR 5
AUDIO 8 FUN FACTOR 8

AGE RATING 906

PSST!

Where's the best way? Go to all the best singers? Get about on all the best railways? Give yourself a chance of getting up to at least 10,000? And play a jolly entertaining quiz game of the same time? Yes?

Then look - as they say - no further. The Travel Game will be right up your street. The ultimate object of the game is to score an 'Elegant Finish' - get the right and you stand a chance of winning that prize - £100 plus £1 per copy of the program sold. However, you only stand a chance of getting the pieces of the endgame puzzle by travelling the world to the right places.

And, of course, you can only go places by buying tickets. In The Travel Game you earn the money you need by answering questions, which is where the quiz element comes in. Deciding the best steps in the game is probably the best way of giving an idea of what goes on.

RELEASE BOX

BMPC CD-ROM CD-ROM

The program is available only by mail order from

Random 01-754000

You begin in London with a clue to the first destination you must reach, a musical club. When you've figured out that the place is Dublin you then have to get there. You have to go to a hotel agent's, buy a ticket and get to the airport (in time).

When you reach Dublin (or anywhere else, come to that) you should get to a shop and buy a souvenir. If you're lucky you'll be given a question which - if answered correctly - will give you a part of the endgame.

the floppy through various gates and over a number of flops. Also included are time gates that give you a two-second bonus for the second leg.

Flaggy Key's non-stop action that a fan to play, and it's difficult enough to keep even the best drivers engaged for quite some time.

Andy S.

PREDICTED INTEREST CURVE



What do you do when in different zones you can get a bonus or reward and enjoy the game's flexibility.

THE TRAVEL GAME

Peripatetic perplexity by RULEFORMAT

possible. Entering Daptry destination will give you a clue to the next stop; you must make the destination clues are generally some too difficult to work out, what can be tricky is actually getting there. The logistics of getting fees A to B every other via D, G or even E, one or larger part of the fun and the frustration of the game.

The other part of the fun comes from solving the money interests to complete. You go to a shop and buy a question for any where from \$10 to \$20, answering it correctly can bring you large amounts of cash. Getting it wrong means you lose your stake. There's a wide variety of questions, ranging from logical/mathematical questions through word puzzles and recognizing quotations. The cheaper ones can be fairly easy; the expensive ones tend to be difficult.

You need to accumulate money in order to score - indeed more than in the Middle East and other things. But you may well be wondering, what do you do if you run out of cash? Well, it's demanding to remember exact calculations before trying to enter the cash to buy a cheap question, but it's the only way and it does work, eventually you get enough to start trying to accumulate more cash.

There are numerous pitfalls in The Travel Game. As well as knowing all your money you can get stuck in traffic jams - as missing buses ends losing valuable time, and forcing you to stop in overnight hotels. In certain locations you will literally regret carrying your cash in cash, rather than traveling cheaply. It's not pleasant to be rugged and left stranded on the streets of an alien city.

The overall object of the game, of course, is to collect and answer all parts of the Dodge's puzzle and give yourself a chance of winning the \$5,000. But on the way you can have plenty of fun, picking the gas elements and just getting around. The Travel

IBM PC Version

Just buy the game if you're graphics are what you want there are none. The Travel Game is all about engaging fun and puzzle-like questions. The user interface could have been a little smoother, but once you get used to it there's no mark of a problem.

GRAPHICS 9 HD FACTOR 10
AUDIO 5 FUN FACTOR 9

ACE RATING 835

PREDICTED INTEREST CURVE



Will really keep you hooked when you enter it - or not that \$1.00.

Pat G.

BRAVESTARR

GO! west young man

FRONTIER players like New Terra attract some pretty enviable titles, so local heroism Masada Bravestarr checks you for his work out in his film. That goes double right now, with the wise old Bravestarr, held prisoner by evil Tee Rex and he's going. It's certain to be the Last Star planet

RELEASE BOX

C64/128	© 1991, TM 1991	DEC 87
SPC	© 1991	OCT 1989
MSX	© 1991, TM 1991	DEC 87

If you can't locate Bravestarr, so you'd better get into him's ball any game.

You can run up and down the terrain scrolling, side view mode, steady lighting of bad guys with your trusty six-shooter, a deep side-view of the town's twisted buildings - the all, her or back to baseline - in search of information. Once you've made a menu system, let you examine the place or talk to

anyone there. The bear's your best bet to talk, but you'll need money there - and to let you'll have to head out of town.

Clanking ahead your flying machine, you can attack your destination from the air - a mission will help in the sky. At last there's only one real town location, but as you talk to



Bravestarr is a quiet town, waiting for the big guy. He's his machine's friend.

people and gather clues, the map starts to fill in. You'll have to lead your way through the town's streets, and other colorful locales that contain all you, and when you arrive, it's

another round of talk-and-examine.

There's an overall time limit to the game, and the clock can run down quite quickly if you keep taking without hits. Bosses left behind by dead enemies can increase your rate of fire or even stop the clock briefly. But avoiding the bad guys is the real difficulty. Bravestarr is a violent effort at something new, but it's certainly no substitute for popularity.

—Andy Kelly

Spectrum/Version

No use of color and no hardware attribute than other. Both the graphics looking out.

GRAPHICS	7	IQ FACTOR	3
AUDIO	4	RAM FACTOR	3

ACE RATING 778

PREDICTED INTEREST CURVE



See how many minutes you expect to be watching your game.

R.I.S.K.

Scroll and shoot to THE EDGE

RAPID Intercept, tank and ICE - just in case you were wondering what the robot stood for. Being in your distance and fly over the surface of the planet

RELEASE BOX

C64/128	© 1991, TM 1991	OCT 1989
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There's something about your help - so do try to avoid any long falls.

Chances if in an attempt to save your space weapons. Research. Discovered from the alien invasion.

The side-on viewed action starts with the player selecting a sector to explore before climbing into his craft and setting off to check each sector of aliens. All the action here takes place over ground where the occasional small character can be seen running along the surface wearing his armor. These things are your better and should be avoided and returned to Bravestarr.

Heading to the sector of aliens it's then time to head under ground into which conveniently known as the Tube. Here your ship moves continuously from left to right and the power bar to guide the wall gently onto one of those platforms, re-emerging supplies. Deciding which platform to go to depends on your flying skill and your trust for supplies, the amount of which increases with each platform you pass.

Because some bottles and believe some computers and yours able to have with one health or emergency devices built and level to your ship - a lot of lightning aliens there

becomes easier to live. R.I.S.K. is sufficiently different than you average scrolling about you up. It keeps you fixed to your screen for entire year.

—Andy Kelly

C64 Version

The backgrounds and characters in R.I.S.K. are all very well drawn and colorful. The scrolling is particularly effective. Gameplay is a little rough in that the ship seems to be affected badly by the player's gun fire, but building yourself some extra parts seems to solve the problem. It's not great scrolling stuff but definitely fun to play and playable when it lasts.

GRAPHICS	8	IQ FACTOR	4
AUDIO	7	RAM FACTOR	4

ACE RATING 709

PREDICTED INTEREST CURVE



The predicted interest tells you how much you expect to be watching your game. The curve shows you how long you expect to be watching your game.

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AGENT X2

MAD pop the pimple



OH, one what this simple-but cleverly executed shoot-'em-up is all about: one-of-the-many-thud-puzzles-who-obsessed-a-computer-games-is-about-to-attack-his-20-May-on-an-unexpected-event, your hero, as Agent X2, is to stop us all from tanking out in terminal damage.

The game is a 3-part, the best-but-irrationally-wonderful that, the second-it-verbosely-rolling-one-and-the-third-it-where-you-but-through-a-vent-to-get-at-the-road-pool-forward. It's very clearly done, but

does tend to suffer toward the repetitive - with the addition of the repetitive and otherwise odd sound track, you can find yourself asking if it is to a zombie-like shoot-'em-up genre. Graphics, too, are neat, a well-executed.

● Pete Dinko

RELEASE BOX			
GM	1.99	100.00	
AM	1.99	100.00	
SPC	1.99	100.00	



HYBERBLOB

Blob minding with FIREBIRD

BLOBBOD are among the most stupid creatures in the universe and controlling them on their rampage is your thousand task in the very simple, very clever and very addictive design.

The Blobbods are chaotic bouncing balls who have to bounce their way from one end of a row of cubes to the other. Unfortunately, there are gaps in the row where which the Blob will disappear - unless you can be quick with your rock and move cubes in to the vacant space. Sound cool, but it can become tedious as you try to fill the gaps with a swarms of the stupid creature leaping down at you.

With 100 levels - which don't start daily for easy - there's a lot of fun to be had. It's all basically the same thing, but the third is fun, so who cares?

● Pete Dinko



RELEASE BOX			
GM	1.99	100.00	



ACTION FORCE

Join VIRGIN and shoot Cobra

VIRGIN's long of fine programming team has a deservedly high reputation, which, unfortunately, is unlikely to be furthered with Action Force.

In the game of the top, you control a Dragonfly helicopter landing the state in order to protect a CIA-type-buggy on its way to reach the enemy computer base. Along with conventional shooting (as in that machine) you must also watch up bridges, road-dry them so that the AWE (stake buggy) doesn't fall down, catch cars and shoot out electrical lines (substations, some nice graphics and that's all, but the intended path, fairly quality.

● Charles Davis



RELEASE BOX			
GM	2.99	100.00	
AM	2.99	100.00	
SPC	2.99	100.00	



GUNBOAT

PIRANHA mess about in boats

PIRANHA (and, well, in the order of the day in the wotery shoot-'em-up. Get out on the river is your hunter-killer and shoot everything in an attempt to penetrate the complex network of inland waterways held by the enemy. You can fire missiles, torpedoes, shells or drop depth charges - which accounts for just about every type of enemy you'll encounter.

There's a choice of routes to take, but wherever you go you'll find that the going is pretty tough - so tough that it's pretty hard to even get going at the start of the game. The rather drab and old-fashioned graphics on the Commodore don't help much.

● Pete Dinko



RELEASE BOX			
GM	2.99	100.00	
AM	2.99	100.00	
SPC	2.99	100.00	



WELL, here's a fun up for the books — a French game that's not only a pretty form, but packs a powerful and addictive punch of gameplay as well. Although we've seen lots of programs showing off their dazzling cartoon-style graphics, but they really looked anything like the one that's still rising.

Like many of the best titles the game is astonishingly simple: all you have to do is blow a bubble through wires. But, of course, it's not quite as simple as that might sound. These rooms are filled with a collection of obstacles to graphics and traps, whose presence makes the bubble's progress somewhat problematic.

Using the blowing and puffing is the only ghostly you control — a slow-over-the-head theory of considerable charm. Ghostly is subtle: keep the mouse button, and gasp.

death by pressing the-still key. Pull, though, is not unlimited: a bar at the bottom of the screen decreases rapidly the longer you keep you legen on the key. If you blow full a bit too fast Ghosty turns red, presumably the French got that colour rather than blue is the face.

As you'd expect, the greatest problem with the bubble is that it has a tendency to burst, contact with any of the walls or objects means the end. To keep it airborne and going is the right direction, you have to open the glass around and

blow — with just the right force.

On the first few screens this is simple enough since you only have to go in straight lines and the obstacles are few. Then room 3



Bubble's technique with blowing, except like to the wire.

Atari ST Version

The graphics are witty and really clean, with some astonishingly smooth-looking. There could have been a few more screens, perhaps, but you will get a fun-packed prog with what there is.

GRAPHICS 4 HD FACTOR 4
AUDIO 4 FREN FACTOR 4

ACE RATING 8/14

stretches, though, things get a little more tricky, puzzles and tricky traps are introduced, while your route becomes much more tortuous. Clusters appear — and that last will cause the bubble to rise (there's a simple way to deal with this, but we'll come you to figure it out). Expanding and contracting walls mean you have to guide the bubble through the gap of exactly eight tiles and it exactly the right level, thus promising terrific rewards for your degree of blow.

BUBBLE GHOST

Spectral fun from ERE INFORMATIQUE/INFOGRAMES

Screen 3



later screens introduce further puzzles, frustration and addiction both about the longer you play.

The feel of Bubble Ghost is reminiscent of Thrust as you rotate horizontally in attempts to keep your bubble going. And like Thrust, it's very addictive. The only possible problem with it is that of 40 or so rooms in, you may not have the time to get to the end. But while it lasts it's great fun.

• Peter Coates

RELEASE BOX

ATARI ST	£19.95	REVERED
CD-ROM	£5.95	£14.95
IBM PC	£19.95	£22.95

PREDICTED INTEREST CURVE



How you might pay it to have, but you'll have to go slowly. It's not enough to make it into a classic.

ARCADE CLASSICS

FIREBIRD raves from the grave



We think that once upon a time we all went go-go-omr-games like these Monday's Space Invaders, Asterix, Invaderz Space Wars and - and play - like devicem from the land that time forgot. It's all a bit well really, a compilation of classic games sounds like a great idea.

RELEASE BOX		
GM	£ 19.95	CD ROM

Unfortunately they just haven't got the capitalisation of graphics or gameplay to cut the mustard in these 16-bit times, only the strange deep space re-birth of Asterix retains a modicum of comparison.

● Pete Connor



INSIDE OUTING

The EDGE'S little gem

ISOMETRIC three-dimensional games will make an appearance every now and a while and if the games good or bad then why not?

Inside Outing is a witty isometric romp that has the player looting through rooms that would give many a steady house. The object is to collect 10 hidden jewels, and take them to the lady of the house - who spends her time wandering aimlessly around in one of the upstairs bedrooms. Collecting the jewels is far easier to say than do however, because many are hidden and only covered there whereabouts offer the player too solid a puzzle. Colossal-graphics looks a bit of a struggle for a game that takes more than a passing resemblance to Gem Center.

● Andy Smith



RELEASE BOX		
GM	£ 19.95	CD ROM
MS	£ 19.95	3DC D
SPC	£ 19.95	3DC D



KROMA ZONE

MASTERTRONIC blast again

160 resolve 3D shoot thrup comes down, you may. This one's got some pretty neat graphics and sound but it's really willing in the way of depth or originality of gameplay.



You start off in a preliminary dog-eat-dog, you must avoid the gunfire heading towards you Monday ship. This is pretty tough, depending on getting the right rhythm of the alternating waves. Assuming you get through that, you go on to the blasting. Standard stuff, this is, with all sorts of shapes coming at you. Don't know if it's worth looking for a quick and cheap blast, but give it a try if you want something in the way of mental challenge.

● Pete Connor

RELEASE BOX		
GM	£ 19.95	CD ROM



SUPERSTAR ICE HOCKEY

DATABYTE'S puck prog



JRNY and Nite's what the two versions - IBM PC and C64 - of this game being in mind on the PC its graphically smooth, socially tolerable and good fun to play; on the C64 its graphically poor, socially not and not a barrel of laughs.

The game's core is playing the game on screen, around the you can do all the usual stuff with on-field players, sliding around with fans and competing in a league over a season. All well and good, but you won't really want to bother unless the graphics is fun. While on the PC you can tramp and bice and see-ya'll try

from your skates as you spin round, on the 64 year man scores more like a bowl's player in the accompaniment of sound effects that sound like someone sweeping the living room carpet - as such, its one study for the dedicated Ice Hockey fan.

● Pete Connor

RELEASE BOX		
GM PC	£ 19.95	CD ROM
IBM PC	£ 19.95	CD ROM
SPC 66	£ 19.95	3DC D
JRNY 64	£ 19.95	3DC D



AMSTRAD

SUPER SPRINT

Electric Dreams \$9.99cs
\$14.99cdk

Spectrum version reviewed issue 2 - ACE Rating 907
C64 version reviewed issue 1 - ACE Rating 810

A lot of it (disappointment) really, with little achievement meaning the game's playability. Custom deserves a body of its place, and the feel of the other two versions isn't really there. Still a good racing game, but not a great one.



● ACE RATING 831

TRANTOR

GO! \$9.99cs \$14.99cdk

Spectrum version reviewed issue 2 - ACE Rating 817

Great use of colour makes the extremely simple a big improvement on the Spectrum version. On the gameplay front it's simple but addictive. Still, and the game isn't as well a bit too easy to provide any real long-term challenge - but what is a shame is a graphics only!



● ACE RATING 681

RED L.E.D.

Starlight \$9.99cs \$14.99cdk

C64 version reviewed issue 2 - ACE Rating 100

Spectrum version reviewed issue 2 - ACE Rating 918

Some very tasty updates are now available for your machines. Can PC owners afford to neglect Gunship? Can Amstrad owners be so unwise as to miss out on RED L.E.D.?

Bear in mind that even if we didn't particularly like the version of the game that we originally reviewed, the next version could be a whole lot better - as in the case of Trantor on the Amstrad, whose graphics put it in an altogether higher class than the Spectrum version.

Great handling - surprisingly smooth - and good use of colour make this an impressive and worthwhile conversion. As for the other versions, the combination of handling, exploration and planetary style delivery gives it both a high level interest and a nice feel to it.

● ACE RATING 915

IBM PC

GUNSHIP

Microprose \$34.95cdk

Excellent graphics, involving situation, and a variety of missions make this one of the best PC games in a long while. Keeping your cooler around is a case to say various goods they can be really useful - but if you can't see the picture you should have a lot of fun.



● ACE RATING 902

SPECTRUM

IMPLOSION

Cascade \$8.95cs

C64 version reviewed in issue 2 - ACE Rating 752

Microchrome it may be, but the handling on this shoot-em-up isn't satisfyingly fast and

smooth to suit a fairly serious subject. The Missile-Edge version is gone and the search pretty unimpaired still, but the game-play will attract making a good, simple but



● ACE RATING 694

AMIGA

LEVIATHAN

English Software \$19.95

The Screen-its 3D-look-up-up really makes it in the Amiga offering a complete but unconvincing boat. Like other versions it lacks the feeling of urgency and desperation, you get some a good action game. Graphically it's well-done and well, but better use of colour would have made for more initial appeal.

● ACE RATING 746



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PHILANTHROPIC you may be, but there's no place for it in the Phantom Club, the sequel to the highly original *Movier*. In the guise of a lovely (and/or beautiful) you must travel through a staggering 160 3D levels, including the Club's headquarters of and, completing level after slowly climbing the ladder to *Spacemur* - inverted status with complete power to defeat the nefarious King.

Thankfully, the icon-control system, which featured heavily in *Movier* has disappeared. In fact, almost the whole screen is devoted to the graphically-appealing artwork of the Club. You, Phant, begins with five missions, full energy and liberators (you see power). The start menu, and every location thereafter, is filled with objects - some good, some bad, some purely for decoration. To determine which is which will take considerable time.

Completing missions entails looting and killing or character. When you achieve a certain level (8) you get to do battle with King himself. However, a task as simple as you've obtained the correct coin will have 40,000 points under your belt.

Points are gained by blasting the screen-scattered objects. When King returns, he and his death sleepers: some characters leave, others spin, the really scary ones mutate.

Phantom Club is going to keep you locked to the screen for a long while. Most

PHANTOM CLUB

Evil evasion with OCEAN

graphics, pleasing introductory music and plenty for the fast-paced action-adventure to explore-and blow away.

Richard Roberts



Phantom Club has exciting graphics - 3D bits add to the fun.

RELEASE BOX

CD/DVD	£9.95	£12.95	JAN 93
SPCC	£7.95	£11.95	DEC 92
AMS	£9.95	£14.95	JAN 93

Spectrum Version

This is a top game and is definitely one for the map-geos and puzzle-lovers. And if you don't like *Movier* it's certainly to grab you. Graphics are not simply beautiful, but are very detailed, too very playable and will keep you at it for some time.

GRAPHICS	7	IQ FACTOR	9
AUDIO	6	RUN FACTOR	7
ACE RATING 845			

PREDICTED INTEREST CURVE



Use this as a guide to gauge when you'll lose interest in a game.

FREDDY HARDEST

Playboy fun from IMAGINE

FREDDY our sophisticated hero, is called all the wisecracking playboy in the galaxy. In his screen debut, Freddy has crafted his specialism somewhere in the Milky Way and must fight his way off the planet, eventually escaping to home.

The game is a two player, the first ball taking you through a horizontally scrolling landscape, shooting at a host number of various enemies or falling them with a flying ball while negotiating dodges and keeping some coins in the air. The graphics are all large and nicely detailed and the items on large, neatly decorated and subtly word-looking.

Having completed part one, you'll be given an arena code which enables you to



Freddy finds getting in bits. It takes a while...

RELEASE BOX

CD/DVD	£9.95	£12.95	DEC 92
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load part two. Here you're inside the enemy base, searching terminals for a code with which you can lock the captain's ship.

Although part two's screens look comparatively different, the gameplay is more or less the same. The enemy base is a network of two-bit tunnels and corridors. You must crouch to avoid scanners and blast or kick

the introbots and robots. You can also move up and down floors level to level via lifts or tunnels.

Freddy himself is essentially very simple in concept - dodge, blast and kick your way out of trouble, basically - so despite the different scenes in the second part, it all gets rather repetitive after a while. But it's silly enough and pretty enough while it lasts.

Chris Drake

C64 Version

Graphics appear slightly better than on CD/DVD, especially on jumping and landing, and you'll be tempted to say 'but' when falling items materialise into yours in real and final you off. Graphics have plenty of detail and the music sounds great.

GRAPHICS	8	IQ FACTOR	8
AUDIO	8	RUN FACTOR	8
ACE RATING 715			

Amstrad Version

How similar with Freddy shooting, leaving robots, dodging up and down, often falling across the screen. Gameplay, but with plenty to shoot and watch out for. The graphics are colourful and colourful to the extent that the items look almost subtle items of the colour detector is noticeably superior, but when jumping from level to level it frequently waits in your face.

GRAPHICS	8	IQ FACTOR	8
AUDIO	7	RUN FACTOR	8
ACE RATING 734			

PREDICTED INTEREST CURVE



Use this as a guide to gauge when you'll lose interest in a game.

RELEASE BOX			
DATE	1992, 1986	MIRENT	
SPIC	1992	OUT NOW	
MS	1992, 1986	OUT NOW	

Spectrum Version

As your expert from the console, there's nothing too technically demanding in Jackal. Graphics are rather poor by current standards, enemy enemies are few and concentrating stick figures, while both guards are standard issue stuff. The heavy average sound does nothing to keep up the fun.

GRAPHICS: 3 IQ FACTOR: 1
 AUDIO: 5 FUN FACTOR: 4

ACE RATING: 467

PREDICTED INTEREST CURVE

Even for a game as intense for the sake of the way of long and constant, Jackal still has much to offer the player with.

JACKAL

KONAMI koin-op conversion

TWO years too late is the initial feeling you get upon playing Konami's latest conversion; the game is basically the old Commodore/Spectrum idea in a jeep.

The plot is perfection; you land behind enemy lines in order to rescue your captured troops. You get a jeep which can fire either a machine gun or missile. When you collect men, you then go to a heli-pad so that they can be picked up by a chopper.

As you'd expect, the territory is dotted with enemy traps and obstacles, hidden but around with guns and grenades, pit-bombs with rotating guns are all over the place; tanks are plentiful. It's a question of



Spectrum version. Start to gun, head to tank, head to soldier.

stealing oil and sandy in order to survive.

Jackal's playing area occupies only about half of the screen, and your jeep and even enemies inside it, so that when you get to the edge of the area you're quite likely to get blasted by a gun emplacement you couldn't see. Furthermore, the range of most of your weapons is such that you have to get dangerously close to things to shoot them.

As well as the unsatisfactory graphics, Jackal also suffers from oddities in the presentation. In particular, the packaging might lead you to think that there were elements of choosing characters with different capabilities or weapons, or such tasks. You get what you're given - the jeep - and have to make do with it.

CPC Version

The CPC Jackal is worse than the Spectrum in every regard; graphics are even less satisfactory, with horrible-looking colours you wouldn't wish seen in reality if you were running your own army. Sound is very weak and it certainly won't be your favourite music from the Spectrum.

GRAPHICS: 4 IQ FACTOR: 1
 AUDIO: 4 FUN FACTOR: 5

ACE RATING: 450

Peer Control

BLUE WAR

Plumbing the depths with GO!

BY the very nature of the real-time, sub-marine structures are likely to be slow. The emphasis is always going to be on tactical manoeuvring and the console rather than making free with the top-down and blasting the enemy out of the water. Blue War certainly doesn't let you down in the slow and cautious department.

The game feels like a relaxed release. Originally produced in France, the English version has been happily translated, with instructions like 'Insert the disk 2 and push

enter' and the escape points on your console marked M, S, E and O like Orest instead of What. On the ST version, the instructions tell you to press F to fire torpedoes but they actually work a lot better if you press F!

In the past, you accessed the submarine CVT in the Pacific Ocean in TNG. Get the most going, slow - or fast - right your torpedoes on water, lower, check the map, focus in on enemy ships. This can take a very long time and the torpedoes do them. Go and what. That's it.



ST version. Looking for ships in the North.

PREDICTED INTEREST CURVE

Just standing in waiting for the enemy to be killed is not so boring.

It's not about obsequious and nice looking on the ST version, but it won't give anyone using Sierra's more any sleepless nights.

Online Online

RELEASE BOX		
ATAR ST	1988	OUT NOW
MS	1988	OUT NOW

Atari ST Version

Here graphics are some good geometry scoring sound effects, but there's little excitement here either the action is quite slow paced. The pace remains from the French can be confusing.

GRAPHICS: 7 IQ FACTOR: 5
 AUDIO: 4 FUN FACTOR: 2

ACE RATING: 450

Amstrad Version

It may be slow only, but its appealing slow to respond to the present - yes, it's reduced only. Converting the submarine's course is much less accurate, due to the use of numbers 1-4 to denote direction rather than compass points in degrees on the ST.

GRAPHICS: 4 IQ FACTOR: 4
 AUDIO: 4 FUN FACTOR: 2

ACE RATING: 426

REAPERS, peasants, lords, land and your men - be the darkest darkness on the line! Windows like you and I have been crushed by the malice of the Dark Sceptre and have become the Lords Of The Sceptre, gripped by evil!

That, then, is the scene set for this long-awaited Mike Singleton game. The player takes charge of a band of warriors of varying ability and tries to use their differing characteristics in an attempt to defend and recruit other lords among the other six lords on the island. The objective is to recruit and destroy the Dark Sceptre before it can do more harm.

You view the game through an on-screen window that displays either a representation of the character on the screen or a menu displaying a number of possible



The Dark Sceptre is a powerful and dangerous foe!

RELEASE BOX

SPEC	C78a	REVIEWED
AGE	08/9a, 04/8a	JAN

DARK SCEPTRE

Make some strange friends with FIREBIRD

choices that are available to whichever character you happen to be controlling. Alternating between characters simply involves moving either your joystick or pressing a key left or right. You then issue up to three separate orders to the character, when you have finished, the screen switches to show your character stomping off to carry

out the task order (to the best of his ability).

Order penalties include: MANAGING other warriors, RECRUIT other warriors, COMMANDING objects, WHAT AT places and WHAT FOR weapons. There are approx 50 different commands that can be issued in any number of your characters. As mentioned earlier, these characters have peculiar attributes which need utilizing. Myths are usually in possession of magical powers which allow them to carry out orders regarding a certain knowledge of such things, whereas Peasants (despite the name) are persuasive and good listeners, which makes them handy at convincing other characters of your worthy and just cause.

It's really attempting to take the Sceptre at the beginning of the game is not such a good idea as several steps have to be taken to ensure the power of the thing doesn't destroy you. There are lots of other objects found around the island that can be utilized in the attempt to reach your goal, and it's up to the player to discover how these objects are best used.

Dark Sceptre has a very familiar feel about it if you've ever played Lords Of Midnight or Domesday's Revenge, in that the game is deep and complex with enough happening to keep you engrossed and playing for months to come.

• Andy Smith

Spectrum Version

High resolution graphics mean the game area contains only 16 colours. It looks better around each figure, prevents any loss of attribute data - it's clear, effective and very well done. Sound is limited to stopping footfalls and adding sound on some effects. Also a short piece of music to indicate a movement on a direction. The large game area and the amount and variety of objects that need to be manipulated properly means (with the pointing to take some time). There is, the ability to save the game position enables you to pick and play to your particle without having to return old ground.

GRAPHICS	7	IQ FACTOR	7
AUDIO	7	PER FACTOR	4
ACE RATING 85%			

PREDICTED INTEREST CURVE



Interest level will rise as you play, as your friends become aware of the game and you play more. The game will remain high.

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CHRISTMAS CRACKERS

Compilations represent one of the cheapest ways of buying games - particularly if you can buying a sale computer, even more so if you're buying one that has got to attract a large software base such as the Spectrum Plus II. For around the price of a new full-price release you can add the best, even a dozen games to your collection. Classics of yesterday, recent hits and the odd lucky old code fit space on the tracks of these software discounts. We take a whodunnit tour of what's on offer this season so you can make sure there's at least one you don't get to what you'd like as a stocking filler...

The Elita Collection

C14	£14.95-00
CA4/128	£14.95-00 £10.95-00
Spectrum	£14.95-00
Amstrad	£14.95-00 £10.95-00

An eight-game collection that leads on galaxy adventures and includes a title that was held back from early release - *Battlebots*.

VOLUME I

Bombjack

A completed conversion of Britain's business platform strip that sets a rapid cascade on the track of falling bombs. The action is fairly straightforward - spring-loaded auto-succumbing covers gathering up the bombs, and gathering them in the correct order to maintain points. There's no depth of plot or involved scenarios to battle the boss, pattern-learning and auto-control are all you need.

Conversion owners might be a little less impressed that this Amstrad and Spectrum owning collection.

Frank Bauer's Boxing

Effectively a re-run of the arcade-scraping game, *Frank's Out*, this was Bauer's contender in the boxing simulation stakes nearly two years ago. Eight boxes stand between you and the World Heavyweight Championship, each with their own contender lighting style. Viewing the action from behind your fighter, the aim is to reduce your opponent's stamina and then knock him down. Three knock-outs leads to a convincing defeat and an arena code is given, which allows the next fighter in line to be challenged. And so, the fighter isn't one of the eight boxers staged before you in the playable sports simulation.

Commando

Capcom provided the licence and the battlefield action is fast and furious in this one-on-one action of isophores and destruction. *Commando*, it should be pointed out, is a slightly more complex version, the vertically scrolling landscape the aim is to knock out four enemy bases. The enemy quite naturally take exception to such depictions of heaven and a host of soldiers armed with single shot rifles, grenades, bazookas and machine-guns are up to get on and to your attention. Fortunately you can locate your gun never runs out of ammo and there are levels of grenades lying around the terrain to replenish your supplies. The going gets tougher the further into the game you get - should any deep full-oner psychic writers (happy and) their finger-finger bleed.

Every so often, collections of classic or not-so-classic games appear on the High Street shelves, but at this time of year, with Santa about to start his annual round of house-calls, the software industry goes compilation crazy. Graham Kidd sniffs out some unbeatable bargains...

Airwolf

Assuming the role of Vietnam veteran Dingbatton Haver, your mission is the control of a helicopter in a network of rivers. Before you can get to the imprisoned bottles the complex defence system that guards the caves has to be shut out almost by element and there's always the risk of crashing into the rock walls. A golden state this, dogged fans the task of time when the time has but a budgeting software house - still stands up as a shoot-em-up, not least because mounting the controls of the helicopter takes a while.

VOLUME II

Popularity

This year's all-time about 10



according to the figures published by Gallup - it proved almost impossible to dislodge from the Number One slot. Proliferating round subtitled as the representative of the local dog, the aim is to deliver goods to subscribers while avoiding pedestrians and obstacle vehicles. Better than place the wrong gear is introduced, you have to find them - now, and you can

the idea of breaking windows. At the end of the round bonus points are collected by rolling over a BAC (bonus) and indulging in a lot of target practice. Amuse too many subscribers and you're taken off the round - build up the round and the points potential increases. Not that best effort of converting from the arcade, but subscribers made it a close winner.

Whoosh 'n' Goblins

A tall taskset is captured by an evil demon, so the knight has to chase - the demon hurls and the flames of the supernatural have to be overcome on a winding quest to the demon lair where the body may be rescued. Probably didn't best arcade effort to kill - due to the original cost and lot of fun to play. Hard to see to reach?

Bullwhips

The game they claim not release. All credit to the fact that the computerized resolution of the original pencil and paper game created really stand up as a full-price release. There's nothing borrowed or like in the Game Collection, and the game sits in at the new! An interesting diversion, but seems likely to become a cult classic.

Bombjack II

Better than the original. For once, unreleased by the competitors of producing a faithful version of an arcade game. This was some fun. The capped crusher made famous by Zenon abandons tanks too dangerous and collects bags of gold from locomotives. Another platform/collecting game, the sequel boasts many more screens and includes meeting enemies that get weaker the longer you stall. The life bubbles can be refilled, but that uses up energy and when the hero gets low he'll die. Lots of fun.



Verdict: A good, solid collection of games that offers plenty of variety at a reasonable price.

Ten Great Games

CM/CR	1999 vs 014-00-04
Amuse	1999 vs 014-00-04
Amuse	1999 vs 014-00-04

Not six of the best, but two of the best games launched into the world over the last couple of years by Gemline Graphics, that one first, and one from Fortes. Picky, picky...

Avenger

Gemline's answer to shooting through dangerous games like Dead and Gaudier sets on a quest to penetrate the lair of an evil wizard and rescue some friends. These two and embrace the plot-



ed by the aggressive wizard that try to throw you as you lock and punch past them. A limited supply of deadly thorns that is available to, but at the top. Nothing outstandingly original here, save the moving walls of fire, but still a very playable/engaging diversion.

Future Knight

A slick platform and action game we made the bulk of it created approach. The futuristic round attempting to kill or avoid the boss's security clock as he built his own weapons and keys and finally, the exit pass that gives access to the outside world. More space here to be collected as the Great Outdoors before the imprisoned master the cause of all the

harmful activity can be freed. A polished arcade adventure that should challenge a range of skills.

Kirkout

Another come back into fashion this year for an up-just-out-pinned reason, and falls and whites was added to the basic concept by a host of software houses. Gemline went going to be left out and is offered up the computer version on the theme. Playable and fun, though arguably not the best of the second line of Kirkouts, but still stands up well, particularly as a completion.

Bounder

A moderately addictive platform game with one twist difference - the player viewpoint. Controlling a bouncing ball, you view the action from above, bouncing from one section of platform/ground to another as the vertical scroll moves the game. The screen is navigable with a bonus section at the end of each, all pedaled with twists and turns - like a ballroom to drive you off of course, impossible walls that have to be bounced around and extra-bonus punting skills. A little bonus and bonus skills like that little bit more difficult. Addictive, frustrating and fun.

Footballer of the Year

A lot of Footballer of the Year, which your aim is to become, you're it, Footballer of the Year. Strategy is involved in deciding how to apply your financial resources and a spot of creative skill comes into play when you get to shoot or the goalkeeper. Goals are easy, play well and you could end up as F.Y. you, some get the picture. An interesting and potentially very addictive game that is playable even if you aren't a football fan.

Trollblower

Where's Word is more game. Depending with the usual coupled

up take or formula using one, you roll a ball along a three-quarter pathway that scrolls out of space. Gaps in the pathway must be negotiated if a time penalty is to be avoided and color-coded sections of track speed the ball up, slow it down or cause extra jumping stunts. Desperately fast and furious, quick reflexes and a good memory for the track are called for if success is to be achieved. Great fun on your own, more fun with a friend.



Highway Encounter

The only non-Gemline game in the collection, chosen no doubt on account of its steady sale at 3D. An odd, out-there sort of one and of a long, dangerous highway and the means to destroy it, along with a host of two sub-levels, it's a point at the other end. You can't push the deadly vehicles down the road and destroy the other end. Only one shot of a time can be used to store the weapon, and a lot of class lies in your path. Thought as well as shooting action is involved, so some parrying also need to be tested. By shooting barrels and boxes around the road.

Monkey on the Run

The classic follow-up to the game that launched Gemline. The last made it out of drink but wishes to flee the country - to do so money and an escape kit need to be collected by keeping round the platformed environment. Monkey took himself occupying. Full of steady wins and tortuous puzzles, the game calls for precise platforming and



Q Good head. A Slightly offbeat platform-based arcade adventure.

West Bank

Generally, you'd be much happier to floor-pipe in several Q profiles or a bubble. Shoot the goods and bad, shoot the bad, the better the goods you send you win. Every level adds then a little challenge appears in an open doorway with either a bomb or pipe of money on the floor. Shoot the bomb and you lose, shoot the money and you win. Move left or right to pass your field of view across the screen you have to defeat, save the to shoot. That's it, but the game's great fun to play.

Jack The Nipper

An arcade adventure with a fairly traditional feel and more real object to steal than most construction but featuring the added glitz of comic characters that Lee Brice's hilarious version of the Benoit's Jack the Nipper would have been proud of. Rather than being a hero, you are out as a tiny white, not yet out of nappies, whose aim is to be as messy as possible. Climb as the graphics, puzzle over the female bodies and find yourself steered.

Verdict: Essentially, *The Best of Breeders* - a collection of respectable games that represent excellent value and offers a wide mix of content and playing styles. A well-rounded selection that would form a good basis to a software library being started from scratch.

Live Ammo

Genre:

Amibest	£8.95 vs £14.95
CD-ROM	£8.95 vs £14.95
Specimen	£8.95 vs

A 'specialist interest' compilation like one - if you like your pirate miniatures and served up with plenty of opportunities for murdering the opposition, then *Live*

Amibest is the compilation for you. Apparently *W&A* (which insisted that the name be changed to *Live Action* - we reckon it should just be called *Snk, Snk, Snk...*)

Army Moves

We'll not fight them from the sea, we'll not fight them from the air, we'll not fight them on foot. Such might be the motto of the Secret Operations Corps. You are one of the elite squad with a mission to retrieve a set of plans locked away in the enemy HQ that

time, only it's a botanically-studying killing field that you have to traverse. Armed with a knife and ion decontaminator, three levels need to be completed before the mission ends, each pitted with running, jumping fighting men - and a truckload of soldiers waits for you to arrive at the end of a level. Characters and backgrounds can be selected by killing key opponents, but the video language only looks for a few icons. Slightly playable, every bit as much fun as the arcade original.

Top Gun

A particularly good tin-tin level - one that doesn't bother trying to make ground with following the plot. This is a case of two player combat flight simulator that looks like the simulator at the airport at an F14 Tomcat takes the Top Gun term. Yacht graphics, with an oblique row of ships in the horizon, are used to replace the view from the driving seat, and head to head combat is what the contest is all about. Excellent fun, even if you don't fly fighter simulators. [See more fun when you play with a friend.]

graphics, with an oblique row of ships in the horizon, are used to replace the view from the driving seat, and head to head combat is what the contest is all about. Excellent fun, even if you don't fly fighter simulators. [See more fun when you play with a friend.]

The Great Escape

Yet another classic title from the British Design team, as much of a movie as a game - it's well worth watching the cutscenes a while before starting to play. Life matches us in the POW camp, whether you try to escape or not. Prisoners and guards go about their daily routine, seemingly oblivious of your existence. Fabricate a plan, gather up the equipment and try to make good an escape. Fail, it be caught out of bounds by the guards and it's a spell in the eviler. A challenging escape adventure with a novel presentation. Some killing, but not a lot, which can give it a good feel that you don't need blood-

shed to borrow your trails from military conflict.

Verdict: Four out-of-out combat games rounded off by a spell as a POW. Standing to fall is the main theme, although there's some opportunity to use the Guy Miller in advantage.

Magnificent Seven

Genre:

Amibest	£8.95 vs £14.95
CD-ROM	£8.95 vs £14.95
Specimen	£8.95 vs

Not seven, but eight games in this action collection. Which one's the best game? Answers please, on a postcard.

Wood Over Hills

Jim Williams provided the world with *Ballroom* and then went on to leave even more concentrated



concentration only the academic world of board scheduling with the role of two-class secret agents training up to destroy the forces of evil. Nothing really remarkable at first in terms of the presentation or style, but what it does of game is great! Why would you get graphics comparison with the female games to capture the attention of the most dedicated adventure?

Adrenalid

Another British video title *Ben Great Games* shows the one great you'll notice at back-biting ball-biting action. One of the best examples of the genre.

Wiz Ball

A fast little game in the *Ben Great Games* line - a new program.



lies at the end of every combat-robin level of play. That the bodies that the relative amount of pig while avoiding hazards in the real, take to the air as a change and then fight through the jungle on foot. A different game to play - which can lead to frustration or total oblivion.

Bombz

A one-minute (just) into the jungle on the trail of some captured comrade, the alien Commando-style play is a different multi-dimensional walking scenario. Push-in my prefer *Commando* to this, done with *Warfare*, but there's a fair bit of fun to be had if killing gods is your bag, including the opportunity to pilot a helicopter laden with your buddies if you get that far. On the other hand, if killing gods is your bag, then you probably don't desire any buddies anyway. A little dull on playability, but fun to those with a dry tongue.

Green Base!

Not again it's all the money soldiers and reward your buddies



ally partnership that led not accidental as the trouble to the 3D0. A waxy arcade adventure that casts the player in the role of glaucousy decorator - starts here when all the cocoon from Weyward, wondering if a doob place and it is the fall of the Wizard, cided by his magic but not puppets. It's cated and new pigment and that being white back to the world. A shimmering object screen is enhanced by the way the int has to interact with the cat to get the best score.

Short Circuit

A fun level that consists of an 3D arcade adventure action followed by a chase and shoot sequence over a scrolling landscape. The cute robot, Muzbee Free, has to find security keys in order to escape from a factory-office complex, preferably with some weaponry and then avoid his enemies as they pursue him down country. Great fun on the Amstrad, a little less on the Spectrum and less fun still on the Commodore. Strong few weeks the three versions offer in appeal.

Cobra

Another Scobone-come-to-it, the little action is opposed steel. There, it called a 2-D action. The background scrolls horizontally and is peppered with patterns. Green desert is a different game - and three different environments, almost. The well-playable Spectrum version is full of humour and added touches, while the Amstrad version is a little less easy and the Commodore Cobra more of a slow-worm than a snake.

Frankie Goes To Hollywood

A fun classic that brought a new dimension to both music



...And that's not all!

No, should find a few more compilations getting for their space over the last month or two. **Three Castles Classics** is on its way from US (cost at £3.99 in volume, featuring *Beastly, Crystal Castles* and *Kung Fu Master*) but the most powerful mix of arcade versions ever assembled. Then there's **Best of the Five Star Games** (again featuring two classics, making seven) that comprises *Alien, Ray of the Expanding Fan, Snake Force Hammer, Top-Gun, Frost and Ice-Cat* for everyone. With Amstrad owners collecting *Temple and Castlemania* and Spectrum people receiving *Dragon Plus*. A powerful collection for £3.99 on cassette or £74.95 on Commodore or Amstrad disk.

It doesn't all stop at Christmas, either. Should you find there's still some game-buying cash in the kitty in January, **Heroes' Four Great Hits** wouldn't be a bad buy. Offering *Synapse, Exotic, Ramenno* and *Unlucky Flat* for £3.99 on cassette or £74.95 on disk (including Spectrum - if it demand makes it viable).

and arcade adventures. Design Design enabled themselves - set a franchise to be seen everywhere in the genre. Instead, the central character wanders around a terrain of ordinary suburban houses, searching for objects by touch and using them to enter sub-games. Love, sex, war and religion stories have to be invented and they reach maximum wholeness the player becomes a whole person. Only then can you contemplate entering the pressure dome - a very unusual playing style involving a moving sub-game in which you have to solve it

Not just for kids...

The year's sharpest competition, **Kick Play**, offers ten pretty good games for £3.99 on cassette and is well worth checking out - not least because all the games have been donated to the cause and any profits made are sent towards off to the NSPCC to help disadvantaged youngsters.

musical. An essential part of anyone's software collection, it only because it's so different.

The Art Kung Fu

Impagin's version of the Chinese cooking hit went down better than *Wing of the Expanding Fan* at some quarters. Light opera sounds edge themselves against the bubble Colours, demure of light and justice, bringing into

play their own personal weapons and fighting styles. Kick and punch your way past the opposition to fame and glory - if you can. Great fun for tight books.

Solid Gold

£10 Cost

Amstrad	£9.95 or £14.95 dk
Com	£9.95 or £14.95 dk
Spectrum	£9.95 or £14.95 dk

Age of Aces

Remember *Darkstalker*? Well this is a cogently what *Darkstalker* should have been but never quite was. Inspired on the concept of *Mosquitto* you get to fly missions against farming, choosing whether to intercept business or markets or perhaps going in a 3 best way or less. Real flight simulator operation or taking all skills related but real full arcade combat game, the should keep potential *Aggleworts* pleasantly amazed - you don't have to pole over a huge mountain and practice endlessly to start flying competently.

Inflictor

A veritable jet power of gamesplay is on offer in this mission to save the world from yet another machine and to haranguer into Port a helicopter to the base in the light-emulation sequences, crash, kill or save the queen in the throne-room's den



and search the buildings for clues and vital information. Once the story parts have been photographed, fly back to base and start all over again. A more recent game that duplicates all the skills needed to join the secret service...

Winter Games

An outlet of six action games from *Open*, the sports simulation specialists. The skier or ice-hockey challenge of a winter man is a limited. All the glow, pink and playability that have made *Open* leaders in the field - so much fun on *Summer Games, World Games* and *Colossal Games*.

Counted

A bit conversion of a hit arcade game. Play solo or with a friend, choosing which of the four strategic adventures you wish to take into the walled dungeons. Climb ladders, break and poison, kill the snakes and attempt to conserve strength for the later levels. An excellent first try excursion into the world of exciting dungeons.

Underboard

The good simulation, that *Underboard* derived on *Balance*, got lost a game that hasn't managed to be the imagination of game players - you either had the purest results (lovely concepts, deadly boring) or the so-called arcade simulation (little stick men, as green backgrounds). With *Underboard* the control was simplified, the view of the board given from behind the bar and the game finally made playable and fun to call.

Wanted A good mix of gamesplay assembled from the better part of *US Gold's* back catalogue - a bit more user-friendly on disk, however.

Budget Bargains

Yes, there's even a budget compilation - More issues are offering **Four Great Games Volume Two** for £3.99 and lower the *Golden, 8000, Alien II*, and *CRU* as well as the three main 5-in-1 game machines, offering different sets of venerable old games.

TAITO
COM-OP

RASTAN



...the Warrior King

The latest hit coin-up from Taito.

Imagine the excitement of the original Rastan, the classic of the genre, now with a new twist. Rastan the Warrior King is a new coin-up from Taito, the latest hit from the company. It's a new twist on the classic of the genre, now with a new twist. Rastan the Warrior King is a new coin-up from Taito, the latest hit from the company. It's a new twist on the classic of the genre, now with a new twist.

...the name
of the game

1 Coin	1.00	1000	10000	10000
2 Coin	2.00	2000	20000	20000
3 Coin	3.00	3000	30000	30000



10 Computer Hits 4

March-July

Amstrad	£9.95 to £19.95 or C64/128
Spectrum	£9.95 to £19.95 or £9.95 or

...And how? Your games make heads. Everyone gets a copy of *Spindizzy*, the first-rate Martin Maddams-style spinning top game, and *Sandy, Electric Dreams* plays at the Commodore video market which came a bit late and proved less than totally impressive.

In addition to the aforementioned duo, five games are common to all three formats:

Shogunke

An excellent, early arcade adventure from the programming genius of Steve Crow, guaranteed to confuse and entertain.

Dogzovillers

A computerized puzzle game that requires you to clear buildings of bombs and missiles in a computer using *Dogzovillers* droids. Plenty of strategies is needed to solve this unusual game.

Sacred Armour of Antilod

A beautifully presented platform-and-mapping arcade adventure. Collect up the components needed to activate an anti-robotic suit, discover its use and destroy the alien mother-owl that is bringing you trouble.

Bride of Frankenstein

Go off to search of Frankenstein's missing organs in yet another arcade adventure—the first the action is a little quirky, but fun nevertheless.

Uchi Moto

Probably the only judo simulation to be attempted on computer—and certainly in the order of the day. To begin with, judo is relatively easy, but serious thought on how to win a game is needed if you are to progress to beating the more

skilled opponents. An extremely complicated game that often rewards if you persevere.

The Spectrum and Commodore collections 'share' three more games:

Classic Breaker

A straightforward port-to-tape table-tennis production.

Snake Rock

An unusual but playable archery/shooting simulation where points are awarded for hitting big flags and avoiding towers on a series of urban courses.

**Alleykat**

A fast-action scrolling side game from C&A with programmer Andrew Reynolds.

The Commodore collection is rounded off with:

Magic Madness

An unusual and appealing subterranean platform adventure.

Iridis Alpha

The excellent, fast and future Jeti Miller shoot 'em up that includes sub-games where you can take a rest from the energy-collecting and alien-killing which forms the core of the main game.

Spectrum owners can thrill to the delights of bomb-explosion in the 3D arcade adventure *Pyramaze* or go on a little private investigation of all their own with *Combat Sam Cruise*.



Amstrad owners receive a different set of five games along with the five common titles.

Wizard

Set you in a fairly traditional 3D isometric adventure scenario on the quest to rescue a man who is capable of saving the magical realm. The pace of the game is a little slow and the puzzles less than mind-bending, but there's enough to keep you busy during a rainy afternoon.

City Slicker

Oh yes you'll pretend of the equipment to defuse a terrorist bomb, following a fairly traditional arcade adventure format set in London and featuring many familiar landscapes.

Pulsator

A straightforward maze game that doesn't impress with the graphics but sets quite a tricky task involving the rescue of five captives.

Ballknight

A nice game with a difference—you race against time as a set of stacked courses, flanked by spheres, cubes and both of energy dropped from the skies. Different, but a bit dodgy...

Revolution

A tortuously tricky maze puzzle in which the player enters to cross successive levels that make up a hodge-podge landscape, demonstrating how makes on each level. In control of a bouncing ball, the aim is to avoid falling into a bottomless chasm, escape the clutches of a variety of obstacles, but avoid mines and touch that one mine and then the other within a rapidly diminishing time limit. Tricky stuff indeed.

Finally, a fairly random selection of games presented here, some classics mixed in with some mediocre or less successful titles. Nevertheless, good value

for money and a reasonable mix 'n' match of personalities.

Game Set and Match

October

Amstrad	£19.95 to £19.95 or
C64/128	£19.95 to £19.95 or
Spectrum	£19.95 or

Twenty fine sporting events in one package—a enough material to form the basis of a pretty neat simulation attempt that should keep jockey sports fans working out well into the New Year.

Eight games are common to all formats: *Knockout Barry McQuiggin's World Championship Boxing* which sets you on the quest to beat Barry himself on offer the opportunity to set up the personality of your contender and take him between each bout as the lead up to the challenge fight; *Jackie Starling's Sports*, the classic coin-op football wrapper *Hypermart* featuring six events; *Play Away* again from the omnibus *Solar Trainers Superstar*—on occasion rather than a occasion, and *Super Soccer*.

Commodore owners stand off their work out with *Soccer* and tennis in *Matchpoint*, while Spectrum and Amstrad owners take a gentle tea-room break with *Real Tennis* going for separate way's onto the tennis courts, with *Green's Tennis* and *Matchpoint* respectively.

Game Set and Match offers a positive jogg of muscle-exercising athletic action and represents stupendous value to anyone who prefers to work up a sweat in front of the TV rather than out there on the field or in the court. This is the only specialist, then compilation so often the Christmas and forms an essential, good value purchase if sporting simulations are your mainstay. Just about all the games on offer are high quality and were very well received on their first outing, but some of them do go back rather a long way...



SOMETHING HORRIFYING AND IN

SCHWARZENEGGER

PREDATOR

Nothing like it has ever
been on Earth before.
It came for the thrill
of the hunt.

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person to hunt. **YOU!**

ACTIVISION

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Commodore 64/128 Cassettes (\$9.99) and Disk (\$14.99), ZX Spectrum 48K/128K (+) (\$9.99), Amstrad CPC Cassettes (\$9.99) and Disk (\$4.99), Atari ST (\$14.99).

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INEPLICABLE IS GOING TO HAPPEN.....

TM

MP



UNIVERSAL MILITARY SUCCESS?

UNIVERSAL is one of a small number of programs released during 1987 that show the true promise of 16-bit computing — the use of increased processor power to offer radically different games to play and the challenges they present. Lack of adequate hardware beyond introduced handi-capping need, by offering a window into the world of 16-bit-ness, tempted every player who might otherwise have been put off by its "strategy" associations. In a similar fashion, **UNIVERSAL** puts more detail, more features, and more scope into the wargamer's hands than ever before, and does so with a style that could well open up the market to those previously uninterested.

There are five pre-set scenarios (with further scenarios to be made available in



Viewing the battle field of *UNIVERSAL* from one of the eight possible angles.

future). These range from *Arctic* to *SOBIC* to *Gettysburg* to *RED*. Whether you play one of these or use it as your own, the program first enters the *Game Simulation* screen, which is fun presents on *Issue Commands* phase and the *Movement/Setup Phase*. The computer can play one, both or none of the forces involved and can also be forced by the player to make tactical decisions.

Once the desired strategy has been decided, a three-dimensional grid-view of the terrain is displayed, showing hills, ridges, depressions and other features. The map can be viewed from various distances and from various angles, but always from slightly above. Forces are shown as the top-down view, pointing to a corner of a grid square, each number indicating the type or membership of the unit.

Up to eight orders may be issued to any unit at the start of a simulation phase and those are processed by the computer with a pause between each of the eight stages, at which point you can check what's going on.

Rainbird's *Universal Military Simulator* is designed to simulate a conflict between two forces on a user definable terrain that can be viewed in three dimensions from any one of eight directions. The programme takes full advantage of the ST's GEM display and heralds a new era in 16-bit computer wargaming.

Many considerations are taken into account by the program including morale, terrain, and efficiency. Once a simulation phase has been entered you cannot change your mind about the orders given, which is perhaps a

Running a simulation

When the Issue Commands phase is operative, the computer can be made to zoom in to show the detail of the unit's immediate surroundings. Clicking on one of the compass points in the left hand box will result in the unit being ordered in that direction for the first of its eight time segments. Orders to leave the unit attacking, retreating or in reserve are also included in this part of the simulation.

The time segments are user definable — unless changed, the computer will run 10 minute segments. At the end of a time segment, two opposing forces are close enough to fight, the computer will display a table showing the result of the combat before moving onto the next phase. After every eight time segments, the computer will slightly re-arrange the units to conform to its "no stacking rule" (which breaks piling units up on the same spot) and will then display a table showing the size of the remaining forces and capacity areas.

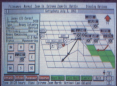
Zoom out

During the battle movement screen, clicking on the zoom out button will allow the player to see the entire size of the board, both areas, as well as both maximum distance or radius the computer's unit orders can be input on as well as all units that have a size command to see how units move and pile up on the board.



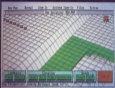
...and zoom in

To see the player when a camera is moving units, an automatic unit to look is incorporated which greatly increases the level of detail and shows the unit and the surrounding area in much more detail. The required window can be created in any of the directions using the set view in the status bar corner and can also be dragged on or off.



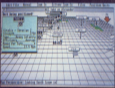
Creating a scenario

How do you envision how Napoleon would have fared against Alexander the Great or the battle field at Gettysburg? Well, even if you haven't, *IMS* gives the player the chance to create battles between forces of almost any size from absolutely any time period on a terrain designed entirely by the player. That level of interaction really does give a wargamer scope to exercise his imagination and experiment with an infinite number of what ifs. Creating a scenario, however, requires the player to design the terrain and the forces — and then put them together. The player is limited only by his own imagination when it comes to creating scenarios, and the manual shows examples of terrains, ranging from both historic locations (e.g., Calais), as well as landscapes.



Landscape gardening

Using the software with the player in mind is in the way the units are stored. One a feature has been added to the map it is recorded as an object in a database so that the player can edit the terrain before the battle. This is done by clicking on the terrain and then clicking on the terrain in the map. The player can then click on the terrain and then click on the terrain in the map. The player can then click on the terrain and then click on the terrain in the map.



Deploying your forces

One advantage of *IMS* is that it is not only a wargame but also a terrain editor. The player can edit the terrain before the battle. This is done by clicking on the terrain and then clicking on the terrain in the map. The player can then click on the terrain and then click on the terrain in the map.

work point but returns to a certain extent the immovable nature of terrain which gives it real warlike battles can be saved to disk or any stage and can be resumed whenever the player has the inclination to continue.

IMS is not a simple program to master, but it requires mental study. The instructions are slightly too concise, simply because there's no room to cover, but anyone with an interest in writing up fantasy, historical, or actual conflict simulations will find it invaluable. It's also worth mentioning that *IMS* itself will consider new battle scenarios created by users. It's such a simple way to increase the amount of available scenarios created by the *IMS* utility.

Universal Military Simulator Revised Software

IBM AT	\$24.95	IBM PC	\$24.95
IBM PC	\$24.95	MS-DOS	\$24.95
Macintosh	\$24.95	Amiga	\$24.95
Amiga	\$24.95		

Additional scenarios disks planned, but no release date as yet.



Deploying it — making tactical decisions can be helped by viewing the terrain from above and from map views.

Panel of Experts



In poses for gaming who took members of the Staff Wargaming Group on a tour of *IMS* in Berlin in 1992.

We called on the local experts to pass judgement on *IMS*. Chris Brown, from the Staff Wargaming Group, together with Gareth Woodhouse, Mark Thornfield, Nick Gray, Mark O'Donnell, and John Cassini, put *IMS* through its paces and delivered their considered verdict.

Display

Although initially impressive, members found the display of the larger scenarios (e.g., Waterloo) confusing, despite the numerous Zoom options. This, combined with the difficulty of including trees in the terrain, led to some doubt as to the program's suitability for setting up modern scenarios, where conflicts cover very large territories. The program's going to be great for anything pre-20th century because the battles are easy to be situated. But you something for the battle of the slug with a huge playing area and you could find things getting very complex.

Features

Some sort of randomizing factor should be included, affecting the response time of certain units, for example, so that the 'real-time' aspect of wargaming could be emphasized. A further option suggested was the ability to designate parts of your own army as computer-controlled, thereby simulating the action of independent commanders.

In addition the position of the commander-in-chief could be altered, with perhaps a viewpoint of the battlefield from further back. This would introduce some of the problems arising from tanks of view, where the action is hidden from those who are directing it.

Everyone was very enthusiastic about *IMS*. Despite the suggestions made above, I can think of some numerous scenarios you could program or it, without Gareth Woodhouse, and members were particularly excited by the ability to flank out the opposing army, making it invisible to the player. That feature makes the program ideal for guerrilla warfare simulations, with irregular troops and limited intelligence on their location. Chris pointed out:

"The Undisputed Champion"



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around the
world. C&A,
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around the
world. C&A,
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graphics.
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title.
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C&A,
Amstrad C.P.C.,
C&A and +.



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only.



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speed
game
with
realistic
graphics.
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strategy
game.
Spectrum,
C&A,
Amstrad C.P.C.,
C&A only.



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An
original
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game.
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C&A,
Amstrad C.P.C.



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game.
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There's a real Christmas hamper this month, full of succulent tips, pokes and maps on all those games you want to beat. We bring you *Indestructible* on Amiga Goldrunner, infinite roughness on *Jack the Nipper 2*, infinite lives on *Re-Bouncer*, and much, much more.

TRICKS 'N' TACTICS

F-15 STRIKE EAGLE

C64 version

Being crazy with frustration at always running low on fuel before you've reared out more than two enemy installations? Frustrated that dropping external fuel tanks, or otherwise lightening the aircraft by progressively using up the ordnance mounted on external pods, appear to make no difference to the fuel burn? Well, now a solution is having to constantly return to base for fuel is at hand!

Engine power is rated by turbine speed on a percentage basis. This corresponds to the keyboard as follows:

1 2 3 4 5 6 7 8 9
8% 8% 15% 25% 35% 50% 65% 80% 95%

Afterburners can be engaged by pressing the 'A' on the keyboard. This is quoted as increasing the fuel consumption of a core of 'about 60% higher than at the 100% gun level'.

At the bottom centre of the screen cockpit layout is the fuel status display. This reads as pounds of fuel remaining and is invariably reading downwards. Digital readouts will



reveal the direct relationship between the percentage of thrust the pilot has selected and the amount the fuel decreases - (the relationship is as follows):

Keyboard 1 2 3 4 5 6 7 8 9
Fuel 4 5 6 7 8 9 10 11 12.5

So, if the pilot is running at 10% power to intercept, the fuel status display will be going down at a rate of 7 lbs at a time. But if 50% gun thrust is selected and then the afterburners engaged, the aircraft speed increases but the fuel burn rate reaches a 3 pounds

The pilot now has the range and endurance to do a great deal more damage to the enemy. He can fly at Mach 1.5 speeds on route to targets or fight at an op-

to a speed for direct response.

This has the additional advantage of avoiding the pilot the more effectively enemy host-weapon missiles. If the afterburners are engaged and a host-weapon is closing on the aircraft the tactic to follow is, wait until the missile is within 5 miles, disengage afterburners and simultaneously release a chaff flare. This immediate evasive action, ie, stop run, and the F-15 will always escape; the host-weapon S.A.M. will see the extremely intense heat signature of the exhaust on afterburners when the missile closes signature of 50% thrust is selected and follow the flare instead.

And, with this tip, you can usually always afford to fly with afterburners engaged.

WARREN GANN,
East Finchley.

SUPER SPRINT

Make sure you always qualify on the Spectrum with this poke

- 1 REW Super Sprint poke
- 2 REW 00 J 00000 07
- 3 REW A0E 00 07
- 4 CLEAR KEYS
- 10 POINT AT 100, *START
- *SUPER POINT SAPE*
- 15 LOAD ""CODE 00000
- 20 POKE 00100, 100
- 25 POKE 00000, 07
- 30 FOR POK000 TO 00110
- 40 READ IN POKE POK Next P
- 50 DATA 00,001,00,000, 100,100
- 60 DATA 0, 104,000,04,004, 100
- 70 DATA 44,000
- 100 RANDOMIZE USA 00400

JERMAINE HUMED, Enfield

NINTENDO THE FIRST CHEAT?

This tip for Super Mario Brothers will prove invaluable for anyone having problems in the Nintendo classic



After you do that, go back to the title screen, aimed at pressing Start game button, and then all the same time as holding action A down, press start. You will now be returned to the game, but world you were on, so skipping all the levels before it. For example, if you are on level 63 and you do so the above procedure, you will arrive at 4-1.

RICHARD BLTON,
Stockport, Tameside

MYSTERY OF THE NILE

Mysterious passwords on the C64

- Level 1 0000%000
- Level 2 0000%1111
- Level 3 0000%1000

MITCH POMFREY,
Stockport.

PLEXAR

Spectrum

Certain squares (black and white diagonal lines) make you breathe backwards one square, and this is different when every sixth squares, one next to each other. The solution is simple - because up to the square and below you because look move the joystick (or keys) to come you in the opposite direction. The square (lines you have looked on it from the opposite direction to the next one and thus because you the other way - which is where you want to go!

BEN SINCLAIR, Farnham

INDIANA JONES - THE MAP

PART 1



Jefferson Thomas has provided a map of the first part of Indy Jones, showing the positions of the captive children, the snakes and the whip poles

CAPTIVE CHILDREN

GOLDRUNNER

Amiga indestructibility

Press 1 to start a 1 player game, then fly backwards straight into the last building. When you crash, hold down the F8 key until you see the status screen. Then - with a little bit of luck - you can pass through anything without.

MAX HARBOWER,
St. Austell

MISSION GENOCIDE

Choose your level on the Amstrad version

To activate the cheat mode type 666 on the title screen then press keys 1-6. This gives access to those levels.

RICHARD JENNINGS,
Abbeeyon.



INFINITE NAUGHTYNESS!

Infinite Naughtyness on the Spectrum Jack the Nipper 2! Plus the chance to change those "orid control keys".

10 REM JACK THE NIPPER 2
20 REM @ 1007 CHRIS WILD
30 REM ACE Dec 87
35 CLEAR 32075
40 LOAD "" SCREENS
50 LOAD "" CODE
55 POKE 43251, 0: REM (PRINTS LIVES)
70 LET A=8 LET B=807
80 LET C=75
90 REM LINES 150 - 150=BRINGABILITY
100 REM LINES 160 - 200 - CHANGE KEYS
110 POKE 41022, A:POKE 41026,A
120 POKE 41027, A:POKE 41028,A
130 POKE 41444,A:POKE 41576, A
140 POKE 41886,A:POKE 41762, A
150 POKE 41027, A:POKE 42274
160 POKE42620, B:POKE 34272,B
170 POKE 48844,C:POKE 48912,C
180 POKE 48887,C:POKE 48632,C
190 POKE 48891, 251

200 POKE 48905,250
210 POKE 48912,250
220 POKE 48907, 107
230 RANDOMIZE USR 49430

This results in the new control keys being:
C=up
A=down
Q=left
P=right
B=fire

1=Quit
2=Music (oroff)



If you were happy with the old keys then simply leave out lines 160 - 200

CHRIS WILD,
Chalfham.

RENEGADE

Infinite lives on the Spectrum

1 REM ACE Dec 87
4 CLEAR 49181
5 LET T=0 LET W=0
10 FOR P=0 TO 9999
15 PRINT A:POKE P,A
20 LET T=T+T+W:LET W=W+1
30 NEXT P
35 IF T=60290 THEN PRINT "ERROR IN DATA":GOTO 5
40 PRINT AT 15,0:"START RENEGADE TAP"
45 LOAD "" CODE
50 RANDOMIZE USR 47672
100 DATA 201,32,711,187,8,8,187
110 DATA 201,1150,201,103,1
120 DATA 201,78,2,8,17,8,128
130 DATA 201,79,209,64,201,30

140 DATA 160,208,0,126,201,38
150 DATA 201,301,201,58,160,38
160 DATA 202,31,188,208,17,0
170 DATA 202,10,4,207,175,175
180 DATA 50,15,205,30,90,187
190 DATA 17,23,205,1,20,207
200 DATA 176,20,30,187,17,8
210 DATA 85,1,20,8,207,175
220 DATA 186,244,254,205,8
230 DATA 80,82,18,50,76,205
240 DATA 33,72,80,34,77,205
250 DATA 207,280,20,58,80,82
260 DATA 36,80,87,180,48,79
270 DATA 90,281,198,200,80
280 DATA 187,208,18,215,208,24
290 DATA 18,209,10,71,209,14
300 DATA 48,209,20,81,209,11

MARC DONNELLY, Gooles.

RE-BOUNDER

Infinite lives on the C64

Type it in the jobs, save it, then load the game.

10 OSMA 88 (SCREENS)
15 OSMA ACE Dec 87
20 PRINT CHR (81) ST
30 FOR I=1 TO 8000 TO
40 IFS 14850
50 DATA 50,44,
247,32,188,245,108,19,141

60 DATA 134,9,189,88,141,138,9,79,18
70 DATA 8,189,76,141,48,1,189,27,141
80 DATA 46,1,189,76,141,47,3,76,0,1,189
90 DATA 49,32,63,1,162,0,189,58,58,187
000 DATA 0,4,202,204,32,208,249,76,0
110 DATA 4,569,51,32,63,1,189,62,62
120 DATA
130 DATA 63,1,189,254,141,36,145,141,37
140 DATA
150 DATA 145,141,38,145,70,50,328,0,0,0

MR B GADD,
Chalfham

GRAND PRIX SIMULATOR

Cheer for the Amstrad

On the Title Screen, Type in TRACE then the letter of the track you wish to start on.

JASON YATES, Birmingham

LAZER FORCE

Choosing levels on the C64

When Lazer Force has loaded, switch to the demonstration mode. When the DEMO is finished, hold down the Commodore key, and the keys 1 and 2 simultaneously. You will now be free to go straight on to a high level with a live. This will not work, however, until the program demonstrates a level higher than level 3.

PAUL LAMARQUE,
Birmingham.

STAR PAWS

Unlimited food on the C64

1 Fall 1 = 10497 TO 10500:PEAO A:
POKE 1,A:G=0:G=Rest 1
2 Fall 1 = 812 TO 819:Read A:POKE LA:
C=C+A:NEXT I:IF C=255 THEN G=5
10505
5 PRINT "ERROR IN DATA"
6 DATA 169,0,141,8,84,
75,1,42,148,187,188,0,182,1,148,
92,188,288,32,148,288,32,
7 DATA
218,255,76,215,8,76,32,8,188,84,1,
41,188,23,78,0,16

R.MANDEL, W Finesbury.

CLEAN UP SERVICE...

C64 - infinite lives

Enter and RUN this listing for infinite lives for both players.

1 POKE 8=568 TO 584:READ A:POKE LA:
NEXT:POKE 107,128,205,205
2 DATA 167,58,141,82,189,2,141,
41,3,30,80,200
3 DATA 169,20,141,207,190,168,155,141,
280,141,76,68,68

THE MASTER HACKER,
Clywed

GAUNTLET

51 - infinite health

Load 51 items, then type in and save the listing, insert your Gauntlet disk it with write-protect off and type F5/A5. Follow the on-screen prompts from then on.

RICHARD MORRIS: Tweed

```

100  data 01,00,00,00,01,01,00,00,00
101  data 01,01,00,00,00,00,00,00,00
102  data 01,00,00,00,00,00,00,00,00
103  data 00,00,00,00,00,00,00,00,00
104  data 00,00,00,00,00,00,00,00,00
105  data 00,00,00,00,00,00,00,00,00
106  data 00,00,00,00,00,00,00,00,00
107  data 00,00,00,00,00,00,00,00,00
108  data 00,00,00,00,00,00,00,00,00
109  data 00,00,00,00,00,00,00,00,00
110  data 00,00,00,00,00,00,00,00,00
111  data 00,00,00,00,00,00,00,00,00
112  data 00,00,00,00,00,00,00,00,00
113  data 00,00,00,00,00,00,00,00,00
114  data 00,00,00,00,00,00,00,00,00
115  data 00,00,00,00,00,00,00,00,00
116  data 00,00,00,00,00,00,00,00,00
117  data 00,00,00,00,00,00,00,00,00
118  data 00,00,00,00,00,00,00,00,00
119  data 00,00,00,00,00,00,00,00,00
120  data 00,00,00,00,00,00,00,00,00
121  data 00,00,00,00,00,00,00,00,00
122  data 00,00,00,00,00,00,00,00,00
123  data 00,00,00,00,00,00,00,00,00
124  data 00,00,00,00,00,00,00,00,00
125  data 00,00,00,00,00,00,00,00,00
126  data 00,00,00,00,00,00,00,00,00
127  data 00,00,00,00,00,00,00,00,00
128  data 00,00,00,00,00,00,00,00,00
129  data 00,00,00,00,00,00,00,00,00
130  data 00,00,00,00,00,00,00,00,00
131  data 00,00,00,00,00,00,00,00,00
132  data 00,00,00,00,00,00,00,00,00
133  data 00,00,00,00,00,00,00,00,00
134  data 00,00,00,00,00,00,00,00,00
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195  data 00,00,00,00,00,00,00,00,00
196  data 00,00,00,00,00,00,00,00,00
197  data 00,00,00,00,00,00,00,00,00
198  data 00,00,00,00,00,00,00,00,00
199  data 00,00,00,00,00,00,00,00,00
200  data 00,00,00,00,00,00,00,00,00

```



QUEDEX

C64

Enter and run the listing for infinite units (after releasing bonus, press F6 to access the bonus screen)

```

1 FOR B=528 TO 544: READ A: POKE B,A
NEXT POKE 151,128: POKE 152
B DATA 109,20,041,05,1,509,2,101,05,
1,0,0,0,0,0,0
B LSP, 1,141, 200, 1,00,100,100, 141,
0,40,0,0,0,0,0

```

THE MASTER HACKER,
Chrysd.

ANARCHY

C64

Knock out the spriter to sprite collision detection with this little routine. Enter and F5/A5 the listing before LOADING the game.

```

1 POKE 8-129 TO 280: READ A: POKE B,A
NEXT POKE 157,128: POKE 158
B DATA 12,50, 340,100,1
141,20, 4,90, 200,
300, 00, 10,100,100

```



THE MASTER HACKER,
Chrysd.

HOT TIPS... HOT PRIZES!

Every month the amazingly generous people who run the Tricks 'n' Tactics section here at ACE give away software - mostly tiny Tans, Dubs or Harry, but in deserving cases, that means those people who have done a service to their fellow gamers players, by providing a tip, a map or a game that has helped others to ever greater achievements.

This month Jefferson Thomas picks up *Benelux*, *Belshazz*, *Driller*, *Dark Knight*, *Phantom Club* and *Reluctus* for his Spectrum. Why? Because in Indiana Jones' trap is the tip of the month, that's why. But there's more to come: Warren Carr receives *Reluctus* for his C64, Mike Harcourt gets *Levelizer* for his Amiga, Chris Shaw wins *Driller*, B. Good gets a C64 *Reluctus* and Mark Donnelly gets *Driller* for his Spectrum.

So what are you waiting for? With prizes like these you'd have to be STUPID STUPID STUPID not to share your knowledge with the rest of us. The address to send your mailshots is at

TRICKS 'N' TACTICS
4 QUEEN STREET
BATH
BA1 1EJ

and don't forget to state clearly your name, address and computer.

Worked

Don't know which games to tip, map or prize? We reckon that the following games are going to cause quite a few problems: *Death Fighter*, *State of War*, *Reluctus*, *Benelux*, *Driller*, *Buggy Boy*.

Arcades

Don't go tip either this month a *Wild Bowling*, who gets *Driller* for his Spectrum in return for his expert *Spy Hunter* tips. Where are the rest of you? Don't be shy - we love to hear from you. And what about some tips on *Benelux*?

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IN THE ARCADES

A bumper set of tips on Spy Hunter wins WILL DOWNING OF DAVENTRY this month's arcade tip prize; if you think you can come up with anything as good, get it down on paper and send it in NOW!

SPY HUNTER

The road features six sections, without sequences that can be memorized. The non-repeating overpasses, however, change color in regular patterns. Two territories have different features; their own weapons are one size or roughly equal length. Toward the end, the road falls into a dual carriageway.

Territories:

- 1 Light green - steep curves just before boxcous; dual dual carriageway.
- 2 Yellow - steep curve between bridges; dual dual carriageway.
- 3 Grey - mostly straight and wide; long dual carriageway.
- 4 Brown - steep curves before and after bridge; short dual carriageway.
- 5 Red-green - straight and wide; long dual carriageway.

	I	II	III
1	A/C	5	3
2	A	3	4
3	B	1	4
4	C	1	1
5	A	2	3

- I** - Weapon
II - Take left carriageway.
III - Take right carriageway

Weapons
A - Oil Slick
B - Smoke Screen

Tips

1. At the end of the three runtimes, you have reached a third territory without losing any men or destroying any civilian vehicles; you will probably win two extra lives.

2. While driving down a dual carriageway, pass the **WARRANT VAN** at red and dual

it catch up and overtake. When the road expands, move over to the left verge (the van will follow) and accelerate again. You proceed cautiously while travelling in the van, so the means an easy 100-700 extra points (not to mention your weapons topped up).

3. Use oil-slick sparingly: one quick squirt is enough to send an enemy agent sliding out of control.

4. Only shoot enemies when the helicopter is about to drop a bomb; that enemy agents come to a dead stop, so be ready to overtake or shoot.

5. Switchbacks will not spend their deadly spines on curves. Sometimes, the enemy agents unwittingly destroy each other. Any-thing explodes on contact with the Switch-back's spines, and it loses the spines on the road side.

6. The Mad Bomber destroys whatever he hits on-ly on the water.

7. Barrel Bumpers roll straight into each other's barrels.

8. Weapons Van are impervious to all enemy weapons - but vulnerable to you, so don't shoot or stick them.

9. On the water, your steering is as loose as an icy road, but steady, because Barrel Bumpers drop bombs when directly in your path and Doctor Topedo can only fire if some distance behind you. It also shoots backwards so, if you have no bay oil-slick, slow down and let it overtake, then shoot it quickly. No more than two enemy boats will menace you at the same time, except when you first join the crew on rocky as but may come off you. If you miss the boxcous, look into the road, beside of an island in the middle of the river, pass it carefully on the right or slip over it at high speed.

10. If you get from an icy road to the water, stay there and bypass the boxcous. Shortly after the island, the boat underpins on inlets; then look back to green - with side roads.

11. Watch out for civilian vehicles in front of the van; it will overtake to avoid them, which may cause you to crash.

12. Bugs - when you cut into back out of the way on the right-hand verge, you can drive straight forward - through trees, across water and over broken bridges - without any trouble, and reach the road at any time. This is best used at high-speed, and is good for beating a close switch at dead but don't forget to slow back down against the points are scored for tem-

pling in the way and The Bomber comes sweeping up the opposite verge and starts shooting at you when level (about a dozen shots are total). Watch out for the road-narrowing in the right and forcing you back onto the barrier - from it no turning back after reaching the road.

13. If the helicopter bombs you while driving cross-country, the game resets itself and restores your credit. A bonus derived from this is the elimination of The Bomber and Doctor Topedo, that looking things a little more to you.

14. When it is night green territory (see table), keep well in front of the weapons van until the steep curves. Allow it to overtake you on the stretch east, on the road straightens out again, the warning **BRIDGE OUT - DETOUR ON LEFT** appears. Quickly drive into the van and you will be carried onto the bridge-vege. When you re-appear, stay still and wait. When the Bomber starts up alongside, drive slowly away and keep to the left verge. You will be shot at but fearlessly do not worry if you approach the broken gap because, as long as you keep to the verge, you will pass safely across. The Bomber, however, comes to a halt on the gap and gets left behind. That should be the last you see of it - and Doctor Topedo.

ROAD BLASTER

1. The green and red features are extra fuel.

2. When you reach the first lot of mines stay in the middle lane.

3. To increase your reserve fuel, fire at each orange car at intervals once. The screen-as your multiplier by one every time. Once the screen has, you will get more score, which will eventually increase your fuel reserve.

4. Paper can-on-struction.

5. To catch the special weapons, wait till the jet has over. Move over to the middle lane and the will guarantee a special weapon.

6. When you catch the nitro-mine bumper do not use it straight away.

7. The special weapons are limited. You get about 50 rounds of 82 canon, three atomic-code burners, three Cruise missiles and a shield which lasts about five seconds.

8. If you have tanks at the side of the road, stay in the case you see it and you will not be blown to oblivion.

Gordon Winn, Exeter

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1998	10.00	7.00	A11008
1999	10.00	7.00	A11009
2000	10.00	7.00	A11010

S.D.I

Strategic

Strategic Defence Initiative: action plus strategy.

Year	MS	MS Price	MS Code
1997	29.00	24.00	A11007
1998	29.00	24.00	A11008

DEFENDER OF THE CROWN

Strategic and Combat

Strategy and combat. Defend by yourself, you would not believe!

Year	MS	MS Price	MS Code
1994	14.00	11.00	A11001
1995	14.00	11.00	A11002

ARKANOID

Games

Really enjoyable. Breakout clone with 57 levels.

Year	MS	MS Price	MS Code
1990	7.00	6.00	A11000
1991	7.00	6.00	A11001
1992	7.00	6.00	A11002
1993	7.00	6.00	A11003
1994	7.00	6.00	A11004
1995	7.00	6.00	A11005
1996	7.00	6.00	A11006
1997	7.00	6.00	A11007



STAR GAMES 2

Games

A compilation of superb titles including Star Wars, Etrian, Knight Games, Highway Encounter, and Trail Blazer. Stunning value.

Year	MS	MS Price	MS Code
1990	7.00	6.00	A11000
1991	7.00	6.00	A11001
1992	7.00	6.00	A11002
1993	7.00	6.00	A11003
1994	7.00	6.00	A11004
1995	7.00	6.00	A11005
1996	7.00	6.00	A11006
1997	7.00	6.00	A11007



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2. We have tried to list only those versions of software which are available **PC/M**.
3. All prices include VAT, postage and packing.
4. You will normally receive software within 7 days of ordering. But please allow 2-3 weeks in case of temporary shortages.

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ACE PINK PAGES

In these Pink Pages are the first of our regular Buyers Guides to home computer hardware and software. The guide is intended to give you the information you need to buy the right hardware and software at the right price. We've listed details of 12 basic machines and their various models, plus consoles; and in the software section we've given the lowdown on 50 games we recommend.

Each month we'll be updating the information to keep you informed of the swings and roundabouts of prices and availability. We'll also be spotlighting a particular area; look out next month for a guide to peripherals.

We've also got the first of our Reader to Reader pages; in here you'll be able to place your own small ads - free, gratis and for nothing. Is there a better place to sell your machine when you want to upgrade? In Reader to Reader you'll also find Adventure Helpline (a boon to all those stuck in a dark room with a goblin).

We hope the ACE Pink Pages will prove a valuable reference guide to anyone making a computer hardware or software purchase, and to those seeking help from or contact with other readers. They're your pages; so please write in and make use of them.

The ACE buyers' guide is essential reading for anyone who is considering buying a new computer, whether it will be your first ever foray into the micro market, or you hope to upgrade your current system. We've compiled a list of features and specifications for all the models suitable for home use in the shops. Graphics, sound, software availability, prices, bargains, it's all here.

Before buying

Even if a new computer is only a dream at the moment, the 'buyers' guide will make it clear just what's on offer, and help you decide which system is best for you. But before you rush out to the shops there are two things you need to consider carefully.

Firstly, how much you can afford to spend, whether it's in cash, by purchase, or gratis money. Remember to leave yourself a bit of money/credit over for software, and if possible, for peripherals. It may only be a couple of months before you decide you can't cope any

longer without a disk drive, or a monitor.

Secondly - and just as important - what do you want to use the computer for? Are you really going to learn to program? Do you sincerely want to put your home accounts on computer, or produce the company newsletter? Do you want a 'serious' micro, a games micro, or something that combines a bit of both? Think carefully about these points before you top yourself making worse than being lumbered with a machine that doesn't really suit your purposes.

The ACE Buyers' Guide can't make your mind up for you, but we can give you the facts that will allow you to make a sensible decision.

Where to buy

Basically, you have four choices:

- the high street chain store - Deans, Comp. Boots, etc.
- the independent computer specialist shop
- a mail order company

Second hand.

In the high street stores you should get a fair price for your machine; you should also be able to take it away with you immediately. Furthermore, many stores offer attractive 'bundles', giving you lots of extra goodies with the basic machine. But the salesperson behind the counter won't necessarily be very knowledgeable about the systems you wish to choose between. Also, it is not always possible to have an in-depth demonstration of the various machines on display.

In an independent specialist shop, the salesperson could well know the machines better and be able to demonstrate them more fully, but you might have to pay slightly more for the system.

If you buy on mail order, you can't, of course, have the machine immediately and you can't have a demo of it, but you might come across a cheaper price. If you enter your money through the post, make

sure you know exactly what computer parts you are getting before you send off your money, send a covering letter with any money and keep copies of those letters, and keep a note of the cheque/PO number. If possible, stick to a mail order company you know and trust.

Buying a more second hand has advantages other than price. Frequently, the previous owner will be selling software and possibly some peripherals with the machine, so you can start up with a more complete system. Obviously, however, software and add-ons being sold with the machine will bump up the asking price. So check the price of the individual components first - they may not be the bargain they seem! Second hand micro can be found on offer in the specialist computer magazines, usually in a classified advertising section towards the back. It's a good idea to try to find from someone who has reasonably near you, so that you can see the machine before you part with your money, and have a demonstration.

Again, before you play, check what you're getting for your money, and even if you're buying from your best friend, it would be no bad thing to put them in writing what you'll play for what. Remember that you run the same risk buying second-hand computers as second-hand cars: you may end up with a duffer.

Setting up

Apart from the computer itself, there will be plenty of other items you need to buy in order to get your system up and running. These can't all be easily forgotten in the excitement of buying the computer, so go through this checklist now - you don't want to spend all Christmas waiting for the shops to open before you can load up your favourite game.

■ **Plugs:** Most mice don't come complete with them, but do they drive tape decks, monitors...

■ **Power:** Check that the plug fits the right hole in a (normally 3 amp) before you get it home.

■ **Leads:** Yes, the mice may well work with the television, but is the correct lead in the packaging or do you need to buy it separately?

■ **Adapter/routing socket:** If the number of plugs needed seems to more than one, are you sure that your power points can cope? An adapter will almost certainly be

essential, and a trailing socket (one with three or four plug sockets on it) is a good idea, because there is a Murphy's Law of computing which states that a mouse will always use more power sockets than you expect.

■ **Y splitter:** Only handy if you're going to use the mouse with the television. A Y splitter is a box which fits into the TV socket (on the TV itself) and will take both the TV input lead and the computer lead. This can then switch between one and the other fairly easily, rather than fumbling blindly behind the television for that 'oh, that's what you want to watch' button.

Where to set up

Custom-made multiply-task computer desks are far the unbearably efficient option. Basically, don't set the machine up so that the screen faces a window (you won't get to see much if you do). Remember that cables between keyboard/monitor/tape deck/disk drive are usually too short to be more than six inches away from each other, and that if the keyboard ends up sitting on the floor the cat will decide it's an ideal sleeping spot. Don't spit coffee (or indeed, anything) straight over any of the units, particularly not the keyboard. Don't stare straight near your disks or the drive, and if

you smoke, don't drop ash over any of it.

Categories

We've tried to include details of all the relevant features of the machines on the market, divided into particular categories.

■ **Memory:** This refers to the total amount of Random Access Memory (RAM), not the amount left free to the user.

■ **Packaging:** It's worth checking the details here against the price. A more than appears expensive may come neatly packaged with a monitor, tape deck or disk drive.

■ **Disks:** Does the machine use disks? If so, how much do they hold and how much do they cost? Is the disk drive built-in or external? Are add-on drives available? Is much software available on disk?

■ **RAM:** All recommended retail prices we've quoted include RAM.

■ **Display:** Many home-games machines are easily hooked up to a television, and this can be the most convenient and least expensive option. However, all computers (except the games consoles) can be connected to a dedicated monitor, which will give you a nearer picture, and save household arguments if you plan to use the family TV.

■ **Graphics:** Resolution indicates the quality of screen display possi-

ble (the higher the figure the better). Pixels are refers to the total number of colours available on the machine. Colours is the number that can be used on screen at any one time. Spots and Spelling refer to built-in hardware features (particularly useful for games) rather than effects that can be programmed in.

■ **Sound:** Tells you what kind of chip the computer uses (0-20000000), what the speaker quality is like, and whether it can be used with the best standard for linking computers and musical instruments.

■ **Hardware:** All you know what the keyboard is like - can you use it for serious purposes? Tells you if it's possible to use a control or a mouse, and lists the ports in to which expansion devices can be plugged.

■ **Software:** Gives you the breakdown on the amount and quality of software available for the machine at the moment in the various categories, and also makes a prediction about the level of future support.

■ **Buying tips:** Guidelines on what the bargains might be and where they might be found up. Plus information on your rights under quarantine and what to do if the machine breaks down (Kiaf help).

Hardware

Acom Archimedes

Models: Archimedes 305, 310 and 310M

Package: Keyboard, mouse and drive, keyboard, mouse, drive plus monitor (colour or mono), 310M - M denotes inclusion of PC emulator

Memory: 305 312K, 310 1Mb

Processor: Aztec ARM

Recommended Retail Price

305 w/ monitor	£821.00
305 mono monitor	£859.10
305 colour monitor	£1021.00
310 w/ monitor	£889.00
310 mono monitor	£240.50
310 colour monitor	£1119.00
310M w/ monitor	£936.00
310M mono	£1015.50
310M colour	£1188.00

Disks

Format: 210 inch

Approx. 35MB Capacity Software Available on disks: Yes

Build: Yes

Performance Good and fast

Graphics

Resolution: either 320x200 or 640x400
(320x200 is standard on most monitors)

Palette: 4096

Colours: from mono up to 262 (3000000) or 16 million (2)

Display: Yes

Monitor output: mono - composite video colour - RGB, RGB monitors (exchange bought over factory)

Options: Apple keyboard, 14 inch medium resolution colour, 17 inch high res, more

Performance Good

Spots Spelling Speed Fast

Sound

Sound chip: Custom chip

Speaker quality: Good

RAM: Yes

Mouse output: Yes

Options: 10 1/2 drive port

Performance Excellent, one other in this category

In brief...

The Archimedes is at the cutting edge of micro technology. As such it is not cheap, nor does it have the software base of long-standing machines. It's very exciting, but one to leave to the real enthusiasts for the time being.

Hardware

MSB/GARD 100 kbps programmer

Amstrad CPC

Models: CPC 464, CPC 664, CPC 6128

Package: Keyboard, monitor (most or colour) plus built-in tape/ disk, plus software (usually 12 games), joystick. CPC 664 is no longer manufactured but may be available on special offer from retailers in different packaging/configurations.

Memory: 64K/128K/256K
112K 128K

Processor: Zilog Z80

Recommended Retail Price

464 mono	£199.99
464 colour	£299.99
664 monochrome	£299.99
6128 mono	£299.99
6128 colour	£399.99

Disks

Format: 5 1/4 inch floppies
Capacity: 180K formatted per side
Performance: Although disk systems may be harder to find in stores than tape they are faster to find in stores than tape.
Price: about £3.00
Add-on drives: Amstrad CDD-1 first drive for CPC664, Amstrad PG-1 or third party drives for any CPC.

Build-in: 464 no
664 £129.99

• **Performance:** Portable and quick

Graphics

Resolution:	mode 1 320x200	320x200
	mode 2 640x400	640x400
	mode 3 640x400	640x400

Palette:	mode 1 4
Colours:	mode 2 7
	mode 3 16

Display: TV Yes

Monitor supplied: Yes

Options: Cords with Amstrad's own model external power supply to use any independent monitor.

• **Performance:** None
Scrolling: Vertical (smooth) and horizontal (very rough)
Speed: Average to slow



Sound

Sound chip:	AY-3-8912
Speaker quality:	Adequate
Stereo output:	Yes, need extra bits
Effects:	No
Channels:	2

• **Performance:** Has 8 channels, but is basically set for the Spectrum. It - but it does have stereo output, if a little sub-par.

In brief...

The Amstrad CPC family is a value-for-money and versatile breed. You get everything you need and the whole business needs just one plug. They'll do everything service as games machines, but they are also able to turn their hands to more serious matters.

Hardware

KEYBOARD: 14 control (plus) keys with built-in 12000 keyboard. Supports built-in cursor and reduplicate numeric keypad. Very useful for word-processing etc.

SYSTEM MOUSE: Standard 9-pin D-type. Third party mouse devices are available.

Software

EXISTING BASE: Good, even if not as large as Spectrum or C64.

CURRENT RELEASES: Reasonably, most major Spectrum and C64 titles are software.

GAMES: Good, but some converted titles run slower than the Spectrum or C64 original alternatives. Oh, but frequent converting withdrawing support for the format.

GRAPHICS: Good selection of titles.

MUSIC: Reasonable number of titles, but poor in comparison with C64.

SOFTWARE FORMAT: 464 tape, 6128 floppy, 664 5 1/4 inch floppy. 664, using built-in disk drive.

SOFTWARE QUALITY: Tape loading is reasonably quick and reliable, disk loading fast and stable.

PERSPECTIVE: Uncertain. After some mixed sales of CPC software titles converted, but there should still be a reasonable amount of games and utilities around.

Buylines

BEST BUY PRICE: Curry's is offering £20 off bank and memo versions of the 664 in cash exchange for an old computer. Savings from about £199 to £169.99. You could also try for a CPC 664 for around £90.00, but these are becoming increasingly rare. If the extra memory of the 6128 is not important, the CPC664 can represent a bargain if you can find one.

SECOND-HAND AVAILABILITY: Very good. Often plenty on offer in classified ads sections of national magazines.

WARRANTY: One year's guarantee (fully machines, return to dealer. 664 statutory rights only).

Amstrad PCW

Disks

Model: 6256, 6512, 6512 Ai
Format: disks
Capacity: 2 inch floppies
180K formatted per side
6512 (drive B) 95K/120K
Format: 5 1/4 inch double sided
Capacity: 180K formatted
Price of Disk: about £3.00
Add-on drives: from third party companies only, more £25 with option.

Add-on drives: have been produced to take 128K multi disks, so that standard 664K files in CP/M format can be transferred to the PCW machines.

• **Performance:**

Reasonable, reasonably fast and quiet, in addition the floppies reserve some of their memory for use as a RAM drive, with obvious benefits in speed.

Graphics

Display: No
Monitor: Included monochrome only giving 85 colourised dots.

Resolution:	720x384
Palette:	green and black
Colours:	black and white

Models: PCW6256
PCW6512
PCW 6512

Package: 6256 - keyboard, monitor with built-in single disk drive, dot matrix printer, Laserprint II word processing software, CP/M operating system, DR Logo.

6512 - as 6256 above but with two built-in drives.
6512 - retailed keyboard, monitor with single built-in

disk drive, dot matrix printer, Laserprint II word processing software.

Memory:
6256 256K
6512 512K
6512 512K

Processor: Zilog Z80

Recommended Retail Price:
PCW 6256 £349.95
PCW 6512 £459.95
PCW 6512 £379.95

Performance **5.4****Sound**

Sound chip none or built
Speaker output no
Channels two
 A performance leap only from third-party sound enhancement modules available.

In brief...

The PCW range was designed as a word processing machine rather than a general purpose computer. Nice word processing software was produced after sales took off. Not recommended as a games machine.

Hardware

KEYBOARD: Includes extra keys for word processing functions. Keyboard in 1992 is substantially improved version.



JOYSTICK/MOUSE: Not supported. Joysticks and mice can be attached via a separately bought interface.

PORTS: One expansion port takes RS232C serial and Centronics Parallel interface 4 - color port for bundled printer.

SPAREPARTS FACTOR: Low. Only one plug needed. Cable from keyboard to monitor free cables from monitor to bundled printer.

Disk drives are set "horizontally" in monitor casing to right of screen.

Event monitor to printer cable means printer must be placed to left of monitor. Monitor to keyboard cable means keyboard sits naturally 45 degrees to a box in front of monitor.

Software

STARTING BASE: not wide but generally programs of good quality. Applies to educational/instr. type matters.

CURRENT RELEASES: very low

PROMISES: would be poor but for launch of 1992. Revised will depend on new machine's popularity.

GAMES: Arcade titles are very scarce and of course mainstream only. Adventures and strategy more numerous, but again the range is small. A number of instruction titles available under Omni run package for future releases uncertain.

SOFTWARE: very lean but some low- and CMO-type software available.

MUSIC: none - machines not configured as such.
SOFTWARE FORMAT: Disk only. Good for small business applications.

Buylines

MAINTENANCE: One year's guarantee. Faulty machines return to dealer.

BEST BUY PRICE: 4, above. Generally not well below RRP.

SECOND HAND AVAILABILITY: **PROMISES:** for 1991 and 1992, good. 1992 too new for second hand market as yet.

Apple Macintosh

Models:	Macintosh SE Macintosh II
Postage:	Monitor with built-in ops and disk drive, separate keyboard
Memory:	1Mb
Processor:	SE Motorola 68080 II Motorola 68020
Recommended Retail Price:	SE £2,394.25 upwards II £4,328.75 upwards

Disks

Format:	5.25in AmundD5.0
Capacity:	800k
Software:	400k disk
Access drive:	two
Substit:	yes

Performance: Fast and stable, but watch out for OS software that hasn't been thoroughly tested.

Graphics

Resolution:	SE 640x480 II - 640x480
Palette:	SE - black, white and grey shades. II - black, white and grey shades, with colour monitor - 14 million

Colours with colour monitor - 14 to 16M

Display:	15"	no
Monitor output:	integral monitor	no
Monitor supplied:	built in	no
Options:	SE use dedicated monitor only. Apple II use Macintosh or AppleColor II for RGB	no

Performance

Speed:	None
Scalability:	None
Speed:	Reasonably fast

Sound

Sound chip:	Apple ALC
Speaker quality:	Good
Speaker output:	no
SE:	no
II:	yes
III:	Third party interfaces available. Discrete

Performance

Good:	Good
--------------	------

Hardware

KEYBOARD: Supplied 41 keys including function keys and numeric keypad. Optional extra is the Apple Extended keyboard, with 101 keys.

JOYSTICK/MOUSE: Joystick not supported. High quality free-rotate mouse supplied with monitor.

PORTS:

SE:	Apple Desktop Bus connector 4 - RS232C serial 8 - External disk drive 8 - RS232C Turbo-Dis expansion port
II:	SE 15 connector 4 - External disk amplifier

SE 15 connector serial 8 - RS232C 7

Software

STARTING BASE: Wide range of software exists in virtually all fields except games.

CURRENT RELEASES: adequate, breadth of US apps and in the business or CD-ROM.

GAMES: very few arcade games, but adventures are more plentiful.

GRAPHICS: lots of interesting software for those embracing DTP publishing.

MUSIC: very well supported for MIDI software - fairly expensive stuff.

SOFTWARE FORMAT: all software shipped on disk.

SOFTWARE LOADING: Quick and reliable.

PROMISES: Excellent, materials in business and DTP.

Buylines

BEST BUY PRICE: There will exist all a discounted market in Europe, plus

In brief...

A very expensive up-market machine for those keen on desk top publishing, strip systems, and up-market software. If you can afford it, great - but remember that software is very expensive. Games are finally invited to coo-driven adventures (like arcade action software available). Good for MIDI musicians, but be prepared to play through the noise.

generally been to pay for the noise.

SECOND HAND AVAILABILITY: Reasonable, but not really cheap. Check email ads in specialist magazines.

MAINTENANCE: One year's guarantee. Apple offers AppleCare - "insurance" you take out to cover cost of repairs after guarantee has lapsed.



Atari ST

Models: Atari520STXM,
1040ST Mega ST

Package: 520STFM and
1040STF keyboard with
built-in disk drive

Memory:
520STFM 128K
1040STF 1MB
Mega ST 2 or 4MB

Processor:
Motorola 68000

Recommended Retail

Price
520STFM £299.99
1040STF £399.99

Discs

Format: 5 1/4 inch
Capacity: 500K formatted
1.125MB direct
120K (500K direct)
Software: only supplied on disc
Price of Disk Drives: about £150
Add-on drives: £60
Built-in: £70

Performance: Fast and stable

Graphics

Resolution: High res. fully
medium res. fully
low res. 640x400
Palette: 512
Colours: monochrome in high res.,
4,000,000 in medium res.,
16 in low res.

Display: TV
520STFM: yes
Other models: via TV modulator
Monitor supplied: no
Optional external disk monitor, 16
monochrome or colour, 640x200 high
res. mode, 800x200 medium res.
colour

Performance: none
System: good without
Sound: good without
and horizontal

High resolution is only available
on some monitors; medium and
low resolutions are only available
on some monitors or TVs.

Sound

Sound chip: An 1.44K1
Stereo output: no
MIDI: optional, up to 100
Channels: 4
Performance: none
Software: average, cheap

Hardware

KEYBOARD: 30 keys including 10
function keys. Full sized keyboard
with numeric stick.

JOYSTICK/MOUSE: Joystick ports
are standard. Two-button mouse
supplied with machine.

POWER: 1000 or 1.5 pin DIN or
AC or DC or 1000 monitor or more
models. It has modems and it can
also do it. And it can do it. It can
do it. It can do it. It can do it. It
can do it. It can do it. It can do it.

In brief...

Excellent as a general
purpose home machine for
games, small busi-
ness, and productivity -
it's also the number one
choice for MIDI musicians.
The ST's price could still
give it the edge for artists
over the Amiga.

Software

EDITING HARD: Though on the
low side by IBM or PC standards,
the number of ST titles makes it the
best supported of the new machines.

CURRENT RELEASES: Most major
software houses' output has moved
to ST now, and several smaller houses
are appearing on ST titles.

PROMISES: Very large indeed.

Could soon rival Spectrum and C64
for number of new releases.

GAMES: Range of arcade titles and
fant and adventures, though few
are generally of very high quality.

GRAPHICS: Impressive, will convert
100-150 packages on the market.

MUSIC: Excellent. Many companies
producing sound editors, samplers,
synths etc.

SOFTWARE FORMAT: Disk only.

SOFTWARE LOADING: A 500K
disk can't hold a really large ST pro-
gram, so install files as loading
necessary common. The soft-
ware's menu system isn't yet
refined, especially where you've got
to swap discs during play.

Buylines

SAFETYNET: One year's guaran-
tee (return to dealer if faulty).

BEST BUY PRICE: You won't get
much under the £300, but for its
own bundle. With deals for instance,
in getting the machine together with
500K worth of software.

SECOND HAND AVAILABILITY:
You look in classified ads or major
papers.

The ST is an attractive looking
machine with standard floppy
drives above primary styled slots.
It was one of the first machines to
include a disk drive in the side of
the console - this design is now
also taken up by other machine
makers.

MEGABYTE

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joysticks and controllers and giving out prizes to the
sharp shooters.

Try six scores of the day with the goodies. If you are
not an ace on the joystick come along anyway you
could win one of twenty spot prizes of software for your
computer just for being there. Enter the Quiz
Competition, test your knowledge and win a prize.
We'll see you there on Saturday the 12th and Sunday
the 13th of December.

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Atari XL/XE

Models:	Atari 800XL (No longer manufactured), Atari 130XE, Atari 130XE	includes keyboard, tape deck, joystick, software (5 games)
Package:	800XL, retailer's own - look for keyboard, plus tape deck, joystick and software 850E Atari Starter Pack includes keyboard, tape deck, joystick, software (10 games) 130XE Atari Starter Pack	Memory: 800XL 64K 850E 64K 130XE 128K
		Processor: 6502
		Recommended Retail Price
		800XL none
		850E £129.99
		130XE £159.99

Disks

Format:	5.25 inch
Price:	Around £1.00
Capacity:	200K formatted
Software:	Most titles available on disk
Additional drives:	Yes
Built-in:	No

Performance Good

Graphics

Resolution:	640x192
Palette:	128
Colours:	128

Display Yes

Monitor output Composite video Yes

Options No other add-on components manufactured. Use TV or monitor with composite video output

Performance:	
Graphics	4
Sound	4
Speed	Average

Sound

Sound chip:	Non-custom chip
Speaker quality:	Quiet thru TV
Sound output:	Yes
MIDI:	Not supported. Third party interfaces available
Channels:	4
Performance:	Good

Hardware

Keyboard 65 keys including some

special function keys for BASIC commands

JOYSTICK/MOUSE: Standard joystick ports, mouse not standard

PORTS: Four slots: 1 joystick, 1 video connector, 1 monitor

In Brief...

Once the choice of the dedicated arcade games player, these machines pioneered the use of sprites and quality sound. In their later configurations they remain attractive purchases for the wealth of existing software. But support is fading very rapidly and the outlook is grim.

Software

EXISTING BASE: Good but falling in the 50s.

CURRENT RELEASES: Thin on the ground, mostly budget.

GAMES: Arcade range is of high quality. Adventure game's missing.

GRAPHICS: Some good programs of the moment.

SOFTWARE FORMAT: tape or disk. Disk use quick, but tape software can be a nightmare.

MS-DOS: Not supported in this era.

PROMISES: Not relevant now that attention is focused on Atari 5's.

Buylines

BEST BUY PRICE:
800XL (strip board) - machines are rare
850E
850E (disks) offering the Starter Pack at £19.99
130XE (generally at £99)

SECOND HAND AVAILABILITY: Good in few second-hand outlets.

WARRANTY: One year's guarantee. Return to dealer if faulty.



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Commodore 64/128

Models: C64, 128, 128C

Package: C64 and 128 keyboard plus C24 tape recorder, plus accessories (according to individual dealers). C128C keyboard plus disk drive.

Memory: C64, 64K; C128, 128K; C128C, 128K.

Processor: C64, 6510; 128/128C, 6502 plus Z80 for use in CPM mode.

Recommended Retail Price: C64, £159.99-C179.99* C128 £199.99 standard; £229.99 with C24; £249.99 with C24 + software C128C £269.99

* according to individual dealers' packages.

Disks

Two disk drives are optionally available - the C1241 and the more recent C1242.

Format	5 1/4 inch
Price	£1.00 (each in bulk)
Capacity	
124	100K formatted
127	200K formatted
Software	Most titles available on disk.
MS-DOS files	Yes, including
	Microsoft-works with improved performance.

Buttons

C128C only
Performance:
 Commodore 1341 drive is noticeably fast and noisy. MS-DOS makes substantial improvements.

Graphics

Resolution		320x200
Color	C64	80x250
	C128/128C	as 64 or 64 mode, plus 40x200, 60 x 120, 80 x 200, 200 x 100, 200 x 200
Palette		16
Options		3

Each individual screen shows video hardware on Commodore 64/128 computers in their 15-pin port space.

Display TV	Yes
Monitor output	No
Composite video	No
RGB/1280	RGB for 128-column display
Monitor supplied	No
Monitor options	
C1000A	12 in 40-line screen
C1001	12 in 80-line screen
C1084	12 in 80-line screen

- Performance:**
 - Graphics
 - Scrolling
 - Speed
- Graphics scrolling and speed, scroll efficiency.
- Vertical movement.
- Graphics scrolling and speed, scroll efficiency.

Hardware options and scrolling are provided with a scrolling and cursor for Commodore graphics. They also retain data temporarily in programming or operational mode. Although each computer has three screen 32 column mode in its ability to do so.

Sound

Sound chip	MSD 1 multi-channel chip
Speaker output	Output from monitor
Beep output	No
Channels	3
MSD	Yes, but many third party alternatives available.

Performance:
 Very sophisticated for the price. The Commodore 64 should be the most popular budget-price computer for both MS-DOS and programming on its hardware.

Hardware

KEYBOARD: Flashed plastic keys with built-in built-in feedback, plus function keys. Cover key arrangement very odd and weird.

JOYCE HUGHES, President for UK

In brief...

The 64 is an excellent games machine. The 128 and 128C can be configured for business use using the CPM standard and going across to a vast range of business and utility software. 64 is a particularly difficult machine to learn programming on due to outdated BASIC.

standard systems. Must not supply Commodore 128C model available, plus third party manufactured models.

PORTS: 2 parallel expansion kit can take 4 conventional serial or composite video (C64) RGB (128, 128C) in TV or laser port.



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500 5000 128 FUP - comes with 16Kbit version and separate disk.

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AtariWare - comes with free trial 64K. To come with 16Kbit version disk including 128K version and the whole game database. 128K version to get the game to drive it additional disk from the whole game database. (not buying disk and separate).

Software

ENTERTAINMENT: *Excursion One* (rated by the Spectrum, but in more recent Commodore versions of programs are better).

CURRENT RELEASES: *EM* (coming out).

SHARE: *Archie* (also available in more adventures - good value).

GRAPHICS: Good attention to quality of graphics means that programs can be reasonably sophisticated.

BASIC: Good wide range of sound versions from computers. Many 6502 versions available.

SOFTWARE FORMAT: C64/128 - tape 0.90; 1600-internal dedicated tape deck £275 or 0.90; disk - £1350 - tape from £250 to 0.90; 1600-internal disk drive.

All Commodore machines require the Commodore C24 Key Unit for healthy operation. Software from third party developers are available to ensure a complete machine is available to be used with the software. But this arrangement may not be suitable.

SOFTWARE LOADERS: None as always on cassette and disk loading but on tape it should be that it provides of dedicated drive. Most software produced with fast loaders available.

PROMPTS: Supply will eventually rise, but Commodore games may well last longer than Spectrum, due to short probability of games from US.

Buylines

BEST BUY PRICE: Get your C64, starting back to before the software can be picked up for around £199-£150 (including, with Commodore's policy of giving the Action Order that cost "nothing", it's a case of getting the best you can get).

SECOND HAND VIABILITY: Good for all models. Check small ads in various magazines.

MAINTENANCE: Under guarantee - take machine back to dealer. Should get straight replacement within 30 days of purchase (at dealer's discretion). No guarantee - use independent repair company.



Normally fitted as upgrade to basic machine, but comes as standard on some PCs (eg Amstrad PC1512).

Build-in **Yes**
 Performance: **Excellent** and pretty fast hard disks, of course, are even faster.

Graphics

Graphics are not regarded as standard on PC machines, although increasingly most all machines are sold with the necessary add-on boards already installed. There are three common standards, VGA, EGA, and Hercules.

EGA (Enhanced Graphics Adapter)
 Resolution: 640x480 medium to low
 Points: 16 different colour schemes available in 640x480
 Colours: 64 in 640x480, more in high-res. CGA is the most common PC display standard for colour systems.

EGA (Enhanced Graphics Adapter)
 Best VGA graphics modes, also high-res. modes as follows:
 Resolution: 640x480
 Points: 16
 Colours: 16

Resolution **720x480** (Mono only)
Colours **Characteristics on some PCs**

These are the three most common display standards, exceeding between them for almost all things. Plus, currently in production, but other options do exist. Buying second hand you may well encounter machines with unusual or last-only displays.

Display **No**
TV **Normally 1500**
Monitor output **With most packages**
Options **Cathodray monitors are usually supplied or available for machines. Generally, any RGB should do.**

Sound

Soundchip **None or built-in, need direct speaker connection**

IBM & compatibles

Disks

Format **Mostly 5 1/4 inch**
Some very rare models use 3 1/2 inch

Price: **5 1/4 inch £1.50 for 5.25**
around £3.50 for 5 1/4
Capacity: **Most are always 360K formatted**
Software: **£4 on disk**
Additional disks: **1/2**

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Model: 66M's PG is the original. The many clones include Amstrad's PC 1512 and 1640 series, Tandy's 1000EX, Spectrum Bardwell 32, etc. The specifications given below will generally apply to most 66M compatibles unless particular notes are made. If you are thinking of buying a PC or compatible check all the latest details with dealers first.

Package: Depends on manufacturer. Amstrad supply a machine with monitor, with or without hard disk. You can buy the bare bones or the whole works.

Memory: usually 64K-640K

Processor: Intel 6582, 6580 or variants

Recommended Retail Price: From around £480.00 for the cheaper basic clones to £1500 for top-of-the-range clones (with hard disk, colour monitor etc.) 66M machines themselves are considerably more expensive.

Not really a machine for the musician in view of the more recent competition from those that offer support and/or the market Apple/Macintosh.

Specs quality: Generally poor
Value: No
MSRP: Many prices infeasible
Performance:

Hardware

KEYBOARD: All models use wired plastic keys with rubber letter feedback and include function keys and expansion button requests. A wide variety of third party keyboards is available.

JOYSTICK/MOUSE: Two different joystick standards exist. 66M packages are standard (also Apple) the more for games playing. Most games require one 66M or both, but Amstrad can now be added on to use 66M joystick. Mouse made by Amstrad include mouse package. Many more are available for mouse use.

PORTS: Serial, Expect, Centronics parallel, PS/2, expansion port with dual machines - but some of these are optional.

Software

EXISTING BASE: vast

CURRENT RELEASES: still pouring out with prices much dropping as well.

GAMES: Cheaper machines has meant the more and more games are being released on the PC - both arcade and adventure. CGA graphics standard use to be predominant, but an increasing number of CGA games with superior graphics are appearing. PC only money printed as a machine with games printed.

SOFTWARE: Many sophisticated packages for business, presentation graphics not too much for the price.

In brief...

Superb value if you want an all-round machine, but the PC still betrays its business origins. Increasing number of games software releases, but fear of these are of the coin-op arcade variety. Definitely not to be considered if entertainment is your first priority.

NOTE: Fine selection of software packages available, more than could be expected.

PROMISES: Short delays as long as there are PCs in shops.

Buylines

BEST BUY PRICE: All more packages (such as the Amstrad) represent good value but if you intend that you'll buy even better bargains can be had from discount stores. If you don't know what you're doing go for a reputable brand.

SECOND HAND AVAILABILITY: PCs are often to be found at a surplus of complete and office parks, or through magazine ads.

MAINTENANCE: Return to dealer if faulty, but a maintenance contract - often surprisingly cheap - can guarantee your piece of mind.

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Commodore 64 PSU repairable	26.00
Spectrum Power supply unit	5.00

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MSX

Disks

Format: Mostly 5 1/4 inch, a few 5 1/8 inch (prices indicated)
Capacity: 300K (marked 2 1/2)
Software: mostly available on tape
Price of Blank Disks: about £3.00
Add-on drives: 490
Build-in: 70
 a) Performance reasonable 650
 disk-drive units (not hardware) to be very expensive

Graphics

Resolution	320x 200	250x 150
Palette	40/64/8	4/8
Colour	MSX 1 = 16 MSX 2 = 256	
Display		256x 192
TV	yes	
Monitor output (compatible video)		
Monitor options (some manufacturers produce dedicated models)		
Monitor supplied	no	
a) Performance good	yes	
Speakers	yes	
Sound	no	

Sound

Sound chip: 64K (MSX2)
Speaker quality: output through TV
Monitor output: can be connected to composite video system
MSX 2: TV/100MHz interface available
Channels: 2
 a) Performance good
Yamaha COM: not designed with musical

In brief...

Main strength of MSX is in its implementation of arcade games. There is a very active user group that partially compensates for lack of industry support. Despite the attractive discounting of some models, the purchase of an MSX machine involves a high degree of risk with regard to future support and software releases.

Hardware

KEYBOARD: Generally standard (used plastic keys)
JOYSTICK/MOUSE: Standard joystick only. Third party mice available.

PORTS: Expansion slot. Joystick port in monitor support 16" TV. In audio it tape deck. Commodore printer interface.

Software

EXISTING BASE: reasonable, with a number of Japanese cartridges available. Stockists may have hard to find.
CURRENT RELEASES: very few. Most budget or imported.
PROSPECTS: poor. Little there is no shortage of software worldwide, but all UK software houses include MSX in their plans.
GAMES: some good arcade titles well implemented, but adventures are few and far between.
GRAPHICS: not much on the market.
MSX: Yamaha's new discontinued LCD will be popular for musical applications. Most users use a number of packages available.

Software

SOFTWARE FORMATS: tape, disk or pre-programmed game cartridge with tape programmer
BUYLINES: One year's guarantee. Return to dealer friendly.
RENT BUY PRICE: MSX 1 can be purchased for as little as £200 (three days). MSX 2 is scarce, but should cost between £300-£350.
SECOND-HAND AVAILABILITY: Check prices only in computer pages.

MSX is not a computer as such, but a standard design incorporated into a number of computers manufactured by a number of (mostly) Japanese companies.

Models:

MSX 1, launched 1985, no longer manufactured, some models still available at knock-down prices. MSX 2 is current version but machines not widely available in UK.

Peripherals: Generally keyboard only. Some MSX 1 models can be found with tape deck and software.

Memory: MSX 1 - 32K-64K; MSX 2 - 128K

Processor: Zilog Z80

Recommended Retail Price Range for MSX1, MSX2 - £150 plus.

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Sinclair Spectrum

Models: Plus (48K and 128K), Plus 2, Plus 3

Package: Keyboard and built-in tape deck, plus joystick, selection of software.

Memory:
Plus 48K or 128K
Plus 2 128K
Plus 3 128K

Processor: Zilog Z80

Recommended Retail Price:
Plus 48K, 128K: shop around
Plus 2 £139.00
Plus 3 £169.00

Disks

Plus 2 (8MB)
Format: Track Register
Price: around £3.00
Capacity: 180K (formatted per side)
Software: £1.00 (no per extra discs)
Built-in: No
Performance: Yes

Generally fast and stable. Some late-era software compatibility problems may arise with occasional problems — but they haven't bothered yet.

Graphics

Resolution: 256x128
Frames: 2
Colors: 2
Only 12 colors can be used within any 64K pixel square. Limited graphics potential.
Display:
TV: Yes
Monitor output: 600
Monitor supplied: No
Options: Not included. Amstrad/Orion monitor but any will suit.

• **Hardware:** None
Software: None
Speed: Average
Special: decent programming. The Spectrum's display will compare unfavourably with both the Amstrad and Commodore machines.

Sound

Sound chip: Yes (1 chip)
Speaker quality: Plus: average
Plus 2 and 3: better
Channels: 2
ADC: Plus 2: no
Plus 2 and 3: yes
(not standard on both)

• **Performance:** Poor — would be less noisy had the Spectrum's strong point, and low

In brief...

The Spectrum is primarily a games machine and should be bought only as such. It is unsuitable for business use, with low memory capacity and only a 32 column screen display. For productivity (ie, graphics and music type applications) use, it is not nearly sophisticated enough for serious projects. Useful for but serious users will want to upgrade before too long.

Spectrum software offers water proof effect in this area.

Hardware

KEYBOARD: The Spectrum Plus keyboard are made of hard plastic and are the wrong, with a squiggle bar and a fan delay to tell off if you hold the machine upside down. The Plus 2 keyboard has a soft-touch plastic key, better the other model, it can be used more easily for wordprocessing.

JOYSTICK/STICK: Not standard on all models. Suitable alternatives widely available. Competitive systems included in Plus 2 and 3 packaging. Third party ones available but require compatible software use.

POWER: 6 pins on 1000mA/0.1A/250V

monitor 0. Audio 0. Network 0 Input 0 Expansion 0 TV 0

Software

SOFTWARE: None. (See our review)

COMPATIBILITY: Many more soft ware titles are continuing to appear on the popularity of these titles on the Spectrum.

CARDS: A huge number of cards are being marketed for expansion. While many of these are, many others are.

GRAPHICS: Fair selection, some of which requires better graphics performance from the machine than you would expect from the specification.

MUSIC: A range of MIDI interfaces available, plus Orchestral Spectrum Disk (see).

SOFTWARE FORMATS: Plus — tape using external tape deck. Plus 2 — tape using built-in tape deck. Plus 3 — tape using external hardware not supplied and requiring built-in disk drive.

RAM: Third party external disk drives are available for the Plus 2 but no software available has been implemented. Disk will work for these models in standard key-board.

PROMISES: Some releases will undoubtedly get there in contrast to the strength of the 16 bit machines and limited games. The user base will however, be far from a great number of years yet.

Buylines

BEST BUY PRICE: Plus can rise to £2000 (see directly), at the larger market. Suggested. Try to find a shop selling official

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costs at around £30. Cynix is offering Plan 26 at £2000 as part exchange for an old computer.

SECOND-HAND AVAILABILITY: Good. Check your own vintage requirements. The original Model 68000 can still be found occasionally if you're not interested in fancy games and just want the original hardware. It could represent a great investment, because that you get the 68000—the true and robust way of integrating these two processors.

Nintendo

Nintendo Entertainment System

Package:

Standard version console, plus game controllers, plus 1 game (Super Mario Brothers)

Deluxe version—console, game controller, light gun, PCBs robot, two games

Recommended Retail Price

Standard model	£99
Deluxe model	£159

Disks

A disk system is available in Japan using proprietary non-standard Nintendo disks. The format provides greater memory capacity and enhanced protection of certain software in a Super Mario disk. The system is not available in the UK at present.

Graphics

Display	yes
Monitor options	not yet supported
Resolution	256x240
Palette	64

Sound

Channels	4
Maintenance	includes speech synthesiser

Hardware

Ports: 4 RF, 7x video in audio 4 game controller slots in cartridge slot

MAINTENANCE: Manufacturer's guarantee.

Additions of light gun and robot make this a particularly interesting for younger children. And a free controller recommended as games console only.

Software

EXISTING BASE: Huge UK Atari equivalent releases. Some

PERSPECTIVE: Good, but take of impact will depend on machine's age.

series (RF mode), which can split action for using contemporary software.

MAINTENANCE: All limited-edged Systems have a year's guarantee. If they go wrong within the guarantee period, take the machine back to the dealer. Super Mario Bros and Plan 26, though which sold it to you. Are you interested in the original hardware? Plan 26, though which sold it to you. Are you interested in the original hardware? Plan 26, though which sold it to you.

ability in UK. Because of the Year 10 Found convention, the Japanese software is likely to remain popular.

PACKAGE: good range of arcade-style software. Some arcade adventures.

GRAPHICS: not so yet

MUSIC: none

SOFTWARE FORMAT:

console	no
cartridge	yes
robot card	yes
disk	not yet available in UK

Buylines

BEST BUY PRICE: As first

SECOND HAND: Not so yet.

MAINTENANCE: Manufacturer's guarantee and warranty rights if you choose not.

In brief...

A reasonable buy if it is console is what you want. Interesting, too, because we may see more add-ons from Japan that give it extra power. However, at the moment, nearly all software is Japanese in origin and this is not to everyone's taste. It remains to be seen if it will receive any third-party support.

Sega Master System

Package: console, plus light gun, game controller and 1 game (Hang On)

Software format:

cartridge	no
cartridge	yes
robot card	yes

Recommended Retail Price £99

Disks

Not available.

Graphics

Resolution	256x240
Palette	64
Display	yes
Monitor options	no

Sound

Channels	4
Maintenance	Good sound effects in most games.

In brief...

Japanese software base not as good as Nintendo's, but what counts is how many titles reach UK. Mastertronic have given strong support to machines, so prospects are reasonable.

Hardware

PACKAGE: 7 game controller in cartridge slot.
MAINTENANCE: Not designed for future expansion, but a free computer recommended as games console only.

Software

EXISTING BASE: large

EQUIPMENT RELEASED: not supported by UK distributor Mastertronic.

PERSPECTIVE: good if support by Tomy and Atari company Sega continues.

PACKAGE: wide selection of arcade titles, generally considered to be of high quality. No adventures. Bulk of releases currently confined to conversions of Sega home-games.

GRAPHICS: none

MUSIC: none

Buylines

BEST BUY PRICE: As first

MAINTENANCE: One year's guarantee. Back to dealer if faulty.

Atari consoles

Disks

60 only, see last XL format

Graphics

Resolution	400x200 (Atari 1050) or 640x400 (Atari 1300) or 640x400 (Atari 1300) or 640x400 (Atari 1300)
Palette	16
Display	yes
TV	yes
Monitor options	yes
Options	With Games System only

Hardware

KEYBOARD: Only seen with the XL Games System. Of only good quality.

JOYSTICK BOARD: All machines take standard Atari joystick.

Models: Atari 2600

Atari XE Video Game Console
Atari XE Game System

Package:

2600: console plus software
XE GS: console, software
XE GS: console, joystick, additional keyboard, light gun, software (2 games)

Recommended Retail Price

2600	£49.99
XE: GC	£79.99
XE: GS	£119.99

PACKAGE: 2600 game controller, 7x cartridge slot in XE GS, with extra in-built keyboard in XE GS as above.

Software

EXISTING BASE: vast. Systems are compatible with all of our Atari console games.

CURRENT RELEASES: Software is still in production, but not in the same volume as a couple of years ago.

GAME: Excellent arcade games abound, many adventures.

In brief...

The Atari range of consoles represents good value in terms of price and volume of software available. But note that the 2600 is strictly a games console while the XE GS and XE GS can both be upgraded to be used as computers.

PACKAGE: very few

MUSIC: fairly only

SOFTWARE FORMAT: XE GS—cartridge only, XE GS and XE GS—cartridge, tape or disk if converted.

PERSPECTIVE: Not much better than reasonable. Much depends on state of the machine.

Buylines

BEST BUY PRICE: Atari 2600 or XE GS for speech/speech. Console and System-Stack by variations in package. Atari 2600, otherwise, as first.

SECOND-HAND AVAILABILITY: Good, but a complete requirement.

MAINTENANCE: Manufacturer's guarantee. Any problems—return to dealer.

SOFTWARE BUYERS GUIDE

There's not much point in buying a computer without getting some software to run on it. And since this is the festive season we're presenting you with our selection of 50 games that should keep you warm with excitement this winter.

There's something here for everybody, from the megalomaniacal strategy of *Balance of Power* to the sheer arcade playability of *Bubble Bobble*.

Have fun!

AIRBALL

Microsoft ■ IBM XT ■ £24.95

Multi-colored three-dimensional arcade adventure that uses something to the 3D-style but is years ahead in terms of graphics detail and presentation. You do the initial in-game, must register numbers and names full of various obstacles — all sporting instant death. An outstanding rendition of a popular genre.

ARKANOID

Atari ■ Spectrum CT185 ■ C64 £3.95 ■ £2.95 ■ Amstrad £3.95, £1.95 ■ Atari XL/50 £3.95 ■ Amstrad £1.95 ■ £2.95 ■ £2.95 ■ £2.95 ■ £2.95

Conversion from Arkanoid the coin-op, it is but the best version of the classic. Simple in concept the player controls a ball at the base of the screen, hitting it left and right. The object is to keep a small ball in play, bouncing it off



the ball to destroy formations of bricks in the top half of the screen. Eliminate all the bricks and move on to the next of 20 screens. Clear extra features contribute to the add-on. As a bonus coin-op conversion, Arkanoid comes out top for a different stack on the same theme and many other music, the Amstrad version also builds up the difficulty levels from gradually.

BALANCE OF POWER

Microgame Museum ■ Amiga £24.95 ■ Atari ST £28.95 ■ IBM XT £28.95 ■ Mac £24.95

Definitive strategy game for 16-biters. The player takes the role of one of the superpowers, while either the computer or a friend takes the other. This is a case of trying to win friends and influence people on a global scale. You can be achieved in a number of ways including

supplying arms or financial aid to various leaders in the hope of lapping a government which is not loyal to the great American or Russian dream (depending on which side you're playing). It's complex, lengthy and it's difficult to play in one session because, although swift the game is lengthy in the device world of graphics.

BOULDERDASH

Pink Leisure Corporation ■ Spectrum £2.95 ■ C64 £2.95 ■ Amstrad £2.95

A game that has everything — instant action, long-term challenge, frantic excitement as the clock ticks down, and extremely tricky puzzles. You must collect gems hidden in caverns, digging away walls and boulders to get to them. Boulder Dash also features you remove damage while the walls are often hidden by seemingly impenetrable walls. Complex but generous, Boulder Dash is a classic you can't afford to miss in your collection.

BOUNDER

Creative Graphics ■ Spectrum £1.95 ■ C64 £2.95 ■ £1.95 ■ Amstrad £1.95 ■ £1.95

A great arcade bounce-up, and why wouldn't it? You guide a ball as it bounces from one platform to another, high above the various winding level stages (and all marked squares) and you can play with a partner or gain a mystery bonus. It's in a gap or bit over of the game's main feature, however, and



you'll find a little bonus learning experience at the end of each level help you the game, and these tough gems really help you coming back for more. Bright, witty graphics, great music — and to be done.

BUBBLE DOBBLE

Atari ■ Spectrum CT185 ■ C64 £2.95 ■ £1.95 ■ Amstrad £3.95 ■ £1.95 ■ £2.95

Playability is the essence of the best game coin-op conversion. You and a friend play bubble-busting dimensions, bursting through 100 more and additional screens, fighting off the "bubbles" by manipulating them in your bubbles to beat them into play fast. More power!

BALANCE OF POWER



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and virtual screens look as you reach the more difficult later screens. Endlessly good fun, it's a little on the boring side. Can also be played as one player against the computer.

CHESS MASTER 2000

Electronic Arts • C64 £18.95
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£24.95 • IBM PC £24.95
Strengthen chess game in the Amiga, with excellent graphics, 2D or 3D view point, 13 levels of difficulty and all the playing options you could wish for. Plus exciting play options with chess.



COLOSSUS CHESS 4

CCC • Spectrum £7.95 • C64 £15.95
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• Atari £14 • £5.95 C14 £16
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DECATHLON

Frontier • Spectrum £7.95 • C64 £7.95 • Amstrad £7.95
Enhancing but maintaining, Decathlon is the ultimate graphics challenge test as you run, jump and throw your 8-bit gold medals and world records. Track any option, provided you wish competition and the arena of a computer.

ELITE

Frontier • Spectrum £14.95 • C64 £14.95 • F14 £15 • Amstrad £12.95
C14 £16 • BBC £12.95 • £14.95
(available from Spectrum)

Get the best space trading game. Elite set a standard for other computers to follow. One of the most space games to ever enter graphics. It's a relaxing and fast

ing after set across several galaxies, with plenty of variety in the gameplay. You can trade legal goods in relatively safe systems, or run the gauntlet of pirates in the galaxies danger zones with your nose full of contraband. Elite was there's a real fire in your 8-bit delighting watching a look at your 8-bit treasures.



EXOLON

Frontier • Spectrum £7.95 • C64 £12.95 • £12.95 • Amstrad £12.95
£14.95

Graphically superb, fantastically exciting shoot-em-up in which you run, look and jump your way along a planets surface. Stunning levels of alien defences. A gun and a missile launcher are used to blast the foe, but if things are still too tough then you can get an extension for anti-collisions and be given.

FLIGHT SIMULATOR 2

Soft Logic • Amiga £7 £14.95 • Amiga £14.95 • IBM PC £14.95



The remarkable gathering of light aircraft, flight sim 2 is the standard by which all others are judged, although it sports a ultra events or top of the US menu, it's difficult to get lost in the UK. If you have the technology, this is an essential purchase.

HEAD OVER HEELS

Head • Spectrum £7.95 • C64 £8.95 • Amiga £12.95
C14 £16 • BBC £12.95 • IBM PC £12.95

3D exploration reaches its peak with this huge intricate landscape. You play the characters - Head and Heels - as you search for the pieces that will free the galaxy. The pieces can get very difficult indeed, and you'll often have to spin round and round, and use your different capabilities. The game's 3D location



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menus that can be called up. They have different characteristics, and then instead of items that are expected in your kitchen. Played against a very tough time test. (Shutout) requires the player to react really under pressure and stretch as tactical abilities is vital.

SHANGHAI

Atari ST 200K £12.95 ■ Atari 1040 £12.95 ■ Amiga 500 £14.95 ■ IBM PC £14.95



Thoroughly addictive patience style game played with representations of 100-1000 tiles. The 144 pieces are divided in a rough pyramid shape, and the player must remove exact matching sets of these tiles which are free, i.e. which can be taken from the pyramid without disturbing any other tiles. The object is to remove all tiles. Optional features include two player, fourmen and time limits. All versions are extremely playable, but the stunning graphics on the Amiga version ensure that it will get loaded as often as any other.

SKULLDIGNITY

Amiga ■ Atari ST £14.95

Skuldignity - One the greatest puzzles the original on this particular machine. Again (see Skuldignity above) you're trying for diamonds in caverns over 100 different versions - with a time limit for each cavern. Skuldignity comes as possibly, better version to begin with and a choice of playing point and in understanding two player option.

SORCERY

Amiga ■ Amstrad £19.95 ■ IBM £19.95

As near to perfect perfection as you're likely to get. The subtle adventure is to



about of the gameplay side either. As a success on the side of good you have to find the landscape - dungeons, waterfalls, ponds (bathrooms, etc) - free your imprisoned companions. Don't mind around you'll find weapons to dispose of enemies and keys to help you explore further, but you'll have to pay them as carefully. Good to listen, and great to play.

SPINDIZZY

Amiga 500K ■ Spectrum £19.95 ■ IBM £19.95 ■ Atari 1040 ■ Amstrad £19.95 ■ £14.95

Technician stuff, when your spinning top over rough obstacles and collect levels against a flexible time limit. The game landscape is a vast system of corridors, ramps, beams, and rumpuses surrounded by lethal traps - and NO safety nets. There are four obstacles to activate the entrance gates, but trapping them in the right order can be faster than it looks. A few bad guys and a lot of nice touches, but the exploration is the thing.



SPY v SPY

Amiga ■ Spectrum £19.95 ■ IBM £19.95 ■ Atari 1040 ■ Amstrad £19.95

It's the speed from BAC requires up to their own track. The action items placed in an environment where the speed necessary to find a variety of objects, but there is a lag and message in an airplane. Each spy has a variety of traps for the car set in order to delay the other's progress, but for control that they don't lose.

STARGLIDER

Amiga ■ Spectrum £19.95 ■ IBM £19.95



- C64 £14.95 ● C17 £16 ● Amiga £14.95 ● Spectrum £14.95 ● Atari ST £14.95 ● Mega £14.95 ● IBM PC £14.95

Stargate is a short set-up turn strategy game featuring order graphics at their very best. The screen is essentially your view from the cockpit, your objective is to destroy the 'interceptor', flying in the target lanes who have invaded your beloved Nevada. Standard issue screens but an outstanding game.

SUMMER GAMES

- C64 £14.95 ● C17 £16 ● Amiga £14.95 ● Spectrum £14.95 ● Atari ST £14.95 ● Mega £14.95 ● IBM PC £14.95

Days sporting simulations are at high quality but none have quite captured the popularity and scale of the original Summer Games and its immediate successor Summer Games 2. One to be played on late part of high jump, gymnastics, sprinting, long, shot, javelin, shooting, swimming, row, sail - and more - with lovely large graphics and smooth animation throughout. Control of your athlete can be complete or gradual in increments.



TAU CATHACADEMY

- C64 £14.95 ● Spectrum £14.95 ● C17 £16 ● Amiga £14.95 ● Atari ST £14.95 ● Mega £14.95 ● IBM PC £14.95

High simulation set-up and its sequel which are both excellent and well put together. The intention is that it is enjoyable as you set off on your flying mission on a space orbit to Academy you get to design your own space domain craft to suit.

THEATRE EUROPE

- C64 £14.95 ● Spectrum £14.95 ● C17 £16 ● Amiga £14.95 ● Atari ST £14.95 ● Mega £14.95 ● IBM PC £14.95

Get into the facts, the strategy



game shows the last 30 days fighting between the NATO countries and the Red Army. If you play in NATO supreme commander your objective is to prevent invasion of West Germany in all sorts if you play as Warsaw Pact your aim is to control West Germany. There are four basic phases to the game: movement, attack, embassy action. You will also be given the option to use tactical nuclear weapons in attacks. It is now cheaper than Theatre Europe in a gift. It comes frightening close to capturing the taste for Europe about the unfortunate happenings.

THINK!

- C64 £14.95 ● Spectrum £14.95 ● C17 £16 ● Amiga £14.95

Originally released by Houghton at 18 price, but now available for a fraction of that price. Think! is a family additive game played on a flat grid - where one or two players - in which you attempt to capture the opponent, horizontally, vertically or diagonally. A compelling puzzle which incorporates many additional features and details.

THRUST

- C64 £14.95 ● Spectrum £14.95 ● C17 £16 ● Amiga £14.95

Embarking on a mission to test the limits of what the physics make the best get the all available mail. They then through the remains of an enemy-held planet, you have to pick up fuel and destroy missiles get towards without crashing into the level walls. Tough enough so it is but then you've got to make the rescue journey with a heavy load hung under your craft. Well worth, very addictive.



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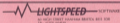
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All titles are available on CD-ROM, (see below page)



TOMAHAWK
Lightning Software ■ Spectrum £18.00 ■ Amiga £18.00 ■ C64 £18.00 ■ £14.95 ■ Atari £14.95

One of the all-time great flight simulators, Tomahawk also has a strong combat edge to it. Flying a US Army Apache helicopter is a complex business, and the game's realistic controls make no concessions to learner pilots. Choose one of the three combat missions and you can fly over already ground targets, while keeping a weather eye open for enemy aircraft. Landscapes, buildings and vehicles are all drawn in crisp vector graphics.

URIDIUM

Reaction ■ Spectrum £8.00 ■ C64 £8.00 ■ £12.95 ■ £8.00 ■ £5.95 ■ £4.95

The pace of resistance of warring steel armies, that the breakthrough and attacking steps while dodging around any large structures. Great metallic-looking backgrounds and the constant crashing you'll hear around the head and shoulders above the opposition. A game not to be missed, especially since the C64 version comes packaged with the excellent Parasol.

VULCAN

CCP ■ Spectrum £8.00 ■ Amiga £8.00

An elegant, simple and ingenious weapon, Vulcan scans the Tumbler campaign of 1942. It's huge playing area and a stark phase make the game an improvement over the same authors earlier work, *Invader* and *Secret Wars*. Vulcan is fast, efficient and simple to play, and its self-respecting elegance should be evident.



WIZBALL

Reaction ■ Spectrum £7.95 ■ Amiga £8.95 ■ £12.95 ■ £8.00 ■ £8.95 ■ £14.95

A compelling and original ball game in which you become the wizard and attempt to conquer the colour creatures who are out to eliminate the spiritball and render the landscape you well-still. Conquering the wizard is great fun and makes this one of the most playable games to have appeared in a long time.



ZODIAC

Logotron ■ Spectrum £7.95 ■ Amiga £8.95 ■ £14.95 ■ £8.00 ■ £8.95 ■ £14.95

Extremely tricky maze game involving the player controlling two shields, and conquering mazes through 15 mazes, which increase in complexity as you progress. Also a later stage, but not intended for in real often involving the mazes and just waiting to fall on you and bring your game to a premature end. Later still, the fish and chickens you the last of your enemies as bombs, handgrenades and darts. Only up to complete against you. Simply winning, simple graphics, the one requires planning to complete successfully.

ZODIAC

Reaction ■ Spectrum £7.95 ■ C64 £8.95 ■ £14.95 ■ Amiga £8.95 ■ £14.95

The game of the day, an icon-driven arcade adventure, in which you face your next with a rod, then along another the position in search of the pieces of the mighty Zodiak. Taster you realize it you're to survive long enough to come here to completing the fitting game. It takes a while to get into, but it becomes an engaging ball of well worth persevering.

THE BLITTER END...

Thanks for the melody...

Each is probably opening in his grave - World Music has come up with a program for the Amstrad that allows you to make in three-part harmony, ad infinitum. If any of their sound promising, just fit a key and it'll get them down on your printer in supplementary instruction form. Then all you have to do is add a copyright notice, put it to disk, post, wait for the millions to roll in, and no-one will ever know...

Programmer Brian James claims to have taken over seven years to develop MasterComposer. The program composes in any key and in different styles - pop, rock, jazz, calypso and more. It also programs dramatic machine intelligence... then MasterComposer demonstrates machine creativity: writes the words that comes with the package - Contact World Music, 75 Beach Road, Yverly, Devon, PL04 9BA, but at £29 for the 3.5" version (£39 for a stamped clear edition) it's not exactly going for a song...

❖ Better Blitter

Jos Sen, author of Painted vector graphics for Desktop, took time-off from the games scene to appear (but as yet without sequel) to phone us and point out a tiny-could COOPE in ACE issue 3. It appears that the Amiga blitter column in the Update/Share feature should have been: since the blitter is actually slow, giving it an altogether more impressive showing. OK, we'll come clean on the one it took... or... a typographical error.

❖ Blankety Blank

A handful of programmers have been having



results with their Amstrad disks of Gaudin! The disk in question had their Gaudin labels stuck on rather clumsily, and on closer inspection proved to have BlasterBlaster labels (as in The Adventure of...) underneath. So did the disks have the wrong game on them, you ask? No, actually, they were totally blank. Curiouser and curiouser...

❖ Thanks to...

The month the ACE team take their hats off to Tim Moore (editor, ST Solutions key) and many others for a great little ST trivia-hunt utility that should come in very handy indeed: Ian Barby for some little photos at what would have been Computer Week for their help with earlier issues; and Gailis Larsen of London without whom Amiga ACE would be impossible.

❖ PR problems

Many editors focused the PR companies to handle their publicity for them. And many PR companies handle more than one software house. Headlines, for instance, look after CPE and Manchester - among others.

So perhaps we shouldn't be too surprised that one day morning a press release came in telling us all about the latest CRL game - an Amiga-based Match. Or is this just the first stage in a massive amalgamation? We'll have a better idea when we get the next press release...

Say Louisa that it is our favorite publisher's job to be people who publish games having no idea. Say's been put down to the search for Bartley, unaffiliated sites of Bryan?

Next month...

- ❖ Clear up the post-Christmas blues with an affordable new Year dose of ACE! We'll be administering...
- ❖ CHOCORUP - could they not games?
- ❖ the complete business on GARE, DR, SPOK
- ❖ a review of the incredible SLAG-14 FATBOY for the ST
- ❖ a medical look-am-up of MIBAL reviews
- ❖ an interview with the President of Jap arcade game GAIKON
- ❖ pink pages expected to include PERK, DALL
- ❖ I remember 1.52K M03 at £7 by a major industry figure
- PLUS all the usual reviews, news, advertisements and letters.

❖ Funny photos

It's been half a year since ACE gave us some photos of women's month this month, it seems. In the red corner, some very unpleasant accusations of disembowelled woman slain by the Whitesnapper modernist (no names, no publicity, and in the blue corner, some lund dipped pits of the improbably named Tim Small, and in a last- or of peculiar tastes, in a corner all of it very new, however is this one of best-eyed ST owner headmistress Marianne Scarlet (right) outdoes at Jack the Ripper's resurgents in her Victorian garb.



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