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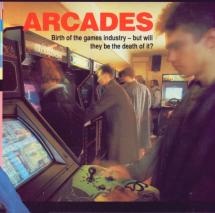


## GRAPHICS

Quantum Quest - 4000 colours on the ST

## ARCADES

Birth of the games industry - but will they be the death of it?



## SOFTWARE BUYER'S GUIDE

The best 50 games money can buy reviewed in the ACE Pink Pages.

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## BRAINSTORM

We rate the games for brains

## GAMES



**ECO**  
Coversi's Dream?



**BLACK LAMP**  
Beautiful Fantasy  
Title

## HUNTER'S MOON

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# ARCADE



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coming back for more.



the name  
the game

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Brainstorm, Ace.

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Quantum Point, Ace.

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Star Drive, Introgam, Ace.

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The original... and its complete line what else subscribe to ACE.

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# Selling the industry for 10p?

There's nothing so heart-stoppingly satisfying as a quick blast on a state-of-the-art arcade console. Whether you're punching the pads in *Streetfighter* or leaning into the bends in *Super Hang On*, it's an experience that *Pong*-sters could never have imagined even in their wildest dreams.

But the challenge and involvement of a truly original, complex, well-designed computer game can be even more satisfying. The intricacies of *Sentinel*, the wit of *Infocom*, and the pleasing perplexities of *Xor* are typical examples. Games like these give the home computer industry a unique quality and a future full of satisfied gamers.

However the 10p-a-go design concept of arcade games spills over all too often into computer entertainment and when the big league companies seem to concentrate so strongly on arcade licenses and game formats we've a good reason to start feeling uneasy. The success of this magazine in itself is a sure sign that people want **more** in their games - more originality, more long-term challenge, and a greater awareness of the fact that not all games players are under five years old.

We don't want to lose the fun and frolic of the arcade scene, but if the industry isn't to remain confined to the 'kiddy market' then it **must** become more aware of the needs of the more sophisticated player.

### • The ACE Team

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PRESENTS

# TERRAMEX

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**N**or content with having women ripped apart by Jack the Ripper, the company are now releasing a game in which they're torn to shreds by a werewolf. And, of course, there'll be the dog food you'll provide it.

All this plus *Headlines* — the company's PR agency — in rather a tight spot. Naturally they're anxious to discredit CRL from any list of custom or game-oriented, but the company's release policy seems to be making things rather difficult for them.

"It's obvious," claimed Mads. "Just speaking for *Headlines*, the paragraphs in any sense. There's a little bit more. Naturally

## CRL DO THE DIRTY...

does. He really..." but the writer helpfully admits that the main character is more than a little "leaky on the inside" (as the film *Company of Wolves* put it) and has a tendency — not long deferred — to tear ladies to pieces.

The game (which we can't even bring ourselves to name) is written by Matt Price. Shouldn't he really have learnt from the advance publicity generated by CRL's last release? Apparently not — "It's a bit archaic, not a terribly progressive sort of person" admits Mads. Presumably this means it isn't a very progressive

sort of game, either.

So what's to be done, if anything? Electronic Arts, who distribute CRL's products, are quite clear that they "cannot adopt any editorial stance towards the product with we are supplied with." But if readers started refusing to stock them, then things might change. "If that looked as if it was the case, we'd have to reconsider," said a spokesperson for EA. The moral's obvious, then — if you don't read these games on the shelves, don't buy them, and then the shops won't stock them...

## NINTENDO DROP MATTEL?

**I**n a shake-up around Mattel — the toy company responsible for the marketing of Nintendo games consoles in the UK — have dropped the product.

"Essentially we are a toy company and we have other brands we have to support," declared Mattel from speaking for Mattel, Nintendo and Mattel are parting company. Industry sources, however, suggest that the move follows pressure from Nintendo, who were reportedly unhappy with Mattel's performance with the product.

Naturally this has been vigorously denied by Mattel, but whatever the form of the situation, the outcome is far from being a setback for the machine, which has sold nearly 2 million units in Japan alone and outside its nearest competitor in the US by a staggering 600%.

That's because Mattel were never able to offer the software support the system needs to be successful. You can still only play 27 games on your Nintendo — the same 27 that were available when the product was launched. There are some stupendous pieces of software in Japan but the UK machine has a special chip in it that needs its program not specifically coded for the UK market. The only hope is to persuade Nintendo to



Japan to convert 3284 for us poor old Britains.

Nintendo's departure leaves the field open to M&S UK, a new company set up to promote the Nintendo with heavy TV advertising campaigns. It's run by the same people who took the machine to the top of the pole in America and will concentrate exclusively on supporting the system. It should also be able to get its hands on some of the red-hot

games software everybody's playing in Japan and the US, but which has never appeared over here. "They've done it in America and now they'll do it here. They going to wipe the floor



Super Mario Bros. — the game that should be a million dollars.

with Sega," said a tuffen Michael Irwin. "Certainly the machine that boasts one of the best console games of all times, *Super Mario Brothers*, deserves special attention.

# A C E N E W S

## SMART EGGS OR HUMPTY-DUMPTY?

**C**an Brian Egg Software's new budget label, *Humpty-Dumpty*, survive?

The label is a collaboration between the Eggs (previously a development house for Macintosh) and Microsoft International (responsible for the Top Ten budget range), which is intriguing about the company is that they plan a 3000 mix of graphic adventures and arcade or strategy releases.

Adventures don't sell so well so arcade

games, so can a budget label that relies on them for half its catalogue really make money? "That's a pertinent point," admitted Nigel Brooks of Smart Egg. "One of our previous titles, *Rip's Revenge* for Macintosh, sold as well as any of the other titles, but that was an exception and of course we won't have such a high turnover as they do." So what about the vital question of financing cash? "We'll try it out for the next three months and see how it goes," said

Nigel, suggesting that if the adventures don't cut the mustard then they might reconsider and issue a higher proportion of shoot-'em-ups and strategy.

That might be difficult, because although the company — who will rely to a large extent on submitted products to maintain a budget-style high output — have received 73 games for evaluation, 9 out of 10 of them are adventures. However, they're optimistically confident about the future and it's certainly refreshing to see a company that doesn't rely entirely on forcing ideas to wall, even if death. Let's hope *Humpty* stays on the wall.



### Stop Press!

Just as we went to press, we received details of a new range of "computer-based comics" from Infocom, of all people. For further details of *Luna Macintosh* and the battle against the *Shogun*, see page 63.

## LOGOTRON GO FOR ACE

**F**or advanced computer entertainment, that is. The company that brought you *ACR* have taken an ex-Tescomsoft supreme Harrier flight in a special bid to attack the "more mature" market.

"We believe a market of more discerning buyers already exists," declared Wright, "and we want to tap



Robert Wright, CEO, ACE.

in a position to exploit new game opportunities that may arise from technological quantum leaps like ray tracing and CD-ROM. We're avoiding emphasis on 3-D or machines or hardware, and aiming for a market that's more mature, more profitable, and that more spending power."

This policy also dictates keeping company overheads as low as possible, so that the company aren't forced to release much hoped titles in rapid succession but can concentrate on fewer (and therefore hopefully better) games.

*ACR*, got an ACE rating of 5/5. Just hope the rest aren't just as good. Meanwhile it's nice to hear of a company that thinks war's mature and "blasting," but "predictable?" No, 5/5!

## GAME OVER FOR EURO-CODERS

**I**magine you're a successful programmer, in the prime of your games-writing life at the age of 18. You've just released a game that got an ACE rating of over 500, and is selling very nicely. You're looking forward to a couple more big releases in the next 12 months.

Hang on a minute, though. Aren't you forgetting something? There's a small matter of your military service to consider. For the next 12 months, instead of coding through the nights, you'll be yomping through the forests, cleaning toilets and peeing into buckets as your contribution to the

nation's security. Couldn't happen here? No, it couldn't, because we haven't had National Service in this country for over 25 years. But it's happening right now to programmers all over Europe. In particular it's happening to poor Steeve Patacusa, programmer of the 500-rated game *Quaker*.

Despite his Greek name Stevie holds Finnish nationality, and just about the time you read this will be starting an 18 or 21 month stint in the military. How will it affect him?

"I really don't know what's going to happen. The 84 would seem to be completely different when I get out." He doesn't think he'll get much work done while here in "It's an all-day job - writing, typing, cleaning toilets." In the whole period of his service, he'll get a mere three weeks leave.

It all makes you wonder what would have happened to some of our best-selling games if we still had National Service here. In David Braben had been squandering instead of programming these might never have been an *Elite*; if Richard and David Darling had been peeing between their thighs in *Core Meander*; if Paul Wickson had to spend a year writing tea to the Captain what would become of *Knights*? Think, God! They stole their National Service.



Quaker is certainly selling better than the last Steeve Patacusa has coded in Finland.

## PIRATE CLAPPED

**T**hings are rolling up in the end against pirates - the first pirate sentence for the pirate has just been passed. The pirate sent in the log is one Garfield William Marston, a German living in Tampere.

Marston got 12 months penitence after pleading guilty to charges of piracy, copyright infringement and illegally importing software in to the UK. He wasn't to buy the pirated disks in Hong Kong where they are freely, if illegally available and the manuals in Taiwan. He then shipped the stuff over here and advertised his wares in the computer press, at a price slightly - but not outrageously - lower than other shops.

He wasn't caught until a purchaser realised that the heavy-weight database package he'd bought wasn't all it seemed. He contacted the manufacturers, Ashton Tate. Enter FAST - the

Federation Against Software Theft, the organisation set up by the computer industry to help wipe out piracy. FAST's co-ordinator Bob Hay went in to action, making sample purchases, followed up by a raid on the premises in the company of the Regional Crime Squad.

Marston was caught here in sight; I took the FAST team two days to sift through the 200 pirated titles in the shop. Not only did they get the software, but they also found he was printing notices, so if you suspect that the title allegator on the next shop you buy looks a little odd, maybe it came from Tampere...

### LIBRARIES

Marston's software business centred entirely on business software. But what are FAST doing about games piracy? Bob Hay says that his level does not cover individuals: "It's not deal with one

## Snippets... Up and coming titles for your micros.

Except where stated, the games listed below should be available as you-read this.

### September

*Autumn*  
004  
£9.95 or £14.95 dk  
Spectrum  
£9.95 dk

*Autumn*  
£9.95 or £14.95 dk  
The computer version of the board game where the players compete to construct a line from one side of the board to the other. Hailed in some quarters as the first new strategy game since Chess or Backgammon, September should be available now.

### Thursdayscross

004  
£9.95 or £13.95 dk  
From the man who brought us the computer version of *The Body*

## I COST £75000 - FLY ME

**I**f you want to get the feel of racing around Wellington in a Super X doing in a shade the twenty from your home, look out for the new Super X simulator. This £75,000 game includes a point-of-view video synchronized to the rocking cabinet, large enough to seat 14 people. Those who've experienced it say it was lighty.

The machine has what its developers call "tactile control," so that it can be set to give Grumpy a gentle rum-um (Simulation) or the youngsters a rather rough ride.

Speaking for the company,

David White tells us that even at £75,000 sales are brisk, and fans confident that pretty soon will be seeing a Super X machine in just about every arcade and shopping centre in the land. One of the legs is to be installed with the Air Museum in New Zealand, where it's hoped to run simulations of Harrier flights.

At the moment, you just get in the cabinet and receive the experience, but the company does hope to introduce an element of interactivity in the future - there are no plans as yet for the development, however.



So who's been making the big bucks? Who — not to put too fine a point on it — is making money hand over fist? An easy answer was provided by the news early in January that US Gold had sold a staggering 200,000 copies of *Out Run*.

That game was undoubtedly the biggest 8-bit seller of '87, so it's not surprising to learn that the US Gold group is the most successful purveyor of home computer software in the UK. In the few years since it was established, the company has grown from making a net profit of £175,000 on a turnover of £3,000,000 in 1984, to a net profit of £1,020,000 on a turnover of £20 million in 1987.

That's pretty good going, by any standards, but not everyone makes it to the top. Issues went out of business just in time for Christmas, Microgen disappeared when distributor CSD went bust and Software Projects cut their revenues down to the bone. It looks like the smaller independent software houses are either going to

# SOFTWARE HOUSES '88 - BIG BUCKS OR BIG BUST?



Oh no... 8-BITS DEAD!

the wall, or being absorbed into larger groups as 'development houses'.

## 8-BITS DEAD!

The gamebites have come about largely because of the uncertainty over the full-price 8-bit market. There's a general feeling that you and I are no longer willing to go into a shop every week and pay 10p for a Spectrum

or Int game (unless it's some mega-arcade bonanza, you'll spend £1.50 without batting an eyelid, but full-price just frightens us all).

Geoff Brewster of newly-formed budgeters Zapata (see box for more about them) puts it this way: 'There's a lot to be said for full-price software at Divines, but a lot of the time it's dead.' Herbert Wright of Logotron — publishers of 8088 — echoes this view in rather stanger terms: 'If you haven't got a license it's all dead. Unless you're budget, of course.'

## The Big Boys

Just who are the big boys in the UK software scene? CSD for home-grown houses (the US Gold group is by far the largest), its major shareholders Geoff and Anne Brown naturally have US Gold mail. GSI and major distributors Cambridge, but have fingers in other pies as substantial as Ocean and Masterline.

Ocean and Masterline are the most indigenous big boys, but the picture is slightly muddied here by Virgin's recent acquisition of 45% of Masterline — which probably puts Virgin up into the software big league.

Telestream — Rumbold and Fredson — are the other big players. After a shaky start they were reported to have just over £1,000,000 to buy Bayard and another large amount for Orion. They have now gained a large segment of the UK market.

Checkbook software development seems to pay off — especially if you've got a company as big as Intertec.

Telestream behind you. A dark horse are Code Masters; they haven't released any figures yet, but if the charts are anything to go by they are doing quite nicely, thank you. Not yet in the big league, but ones to watch. But the UK companies haven't got everything to themselves.

Advances came from several years ago and, after a shaky couple of years, are now performing well. Electronic Arts are big in the States and seem set to be big over here too. They're looking for more titles to handle and have recently signed an agreement which means their software will now be appearing in Budo — the single largest retailer of entertainment software in the country.

## US GOLD

No, they're not a rock band — but the US Gold group makes their name as a real connection with 'hard singer' Geoff Brown's prior existence as music teacher and part-time rock musician. Over four years on the company he started as the single biggest player in the UK games market, bringing us a host of state-of-the-art and over-up and fun bonanzas. The whole group comprises US Gold, GSI and Orion on the software side, and the software and hardware distributors Cambridge, who supply games to Budo and other retailers.





## BUDGET TAKES ITS BITE

According to Rachel Davies, of Mactronics — and if anyone ought to know, it should be her — budget software now accounts for 50% of the market. She has suspects that full-price 3-bit software is terminal decline.

The evidence for the success of budget software lies in the results of companies like Mactronics and their rivals Code Masters. Mactronics's profits of £1.2 million last year were 50% up on the previous year's — because of games software. Code Masters haven't released figures as yet, but you only have to look at the number of their games in the charts to see that they can't be doing too badly; the company's Bruce Davies says they sold 265,000 games in December '87.

Clearly, there's a whopping big market out there for budget games, and it's probably going to increase substantially in '88. But what of full-price software?

## ISBENTS GOOD

While everyone agrees that the days of the 16-bit 3-bit game are numbered, there is a widely-held belief that '88 is a growing market for full-price software. The machines are relatively new and customers aren't likely — for the time being, at least — to pay 15, 20 or even 25 quid for games.

And here might be the place where the small software house, even the lone individual, might make a comeback in the games industry. Herbert Phipps, again, on a recent Mail (see below): "It was the old ZX Microbit. All the small quid ones were there and I hope they survive. They bring much-needed originality to the industry." Agree to that, Mactronics, too, see 14 pp.



Some Zappell surrounded by the Zappell crew

## ZEPPELIN TAKE OFF?

Budget software already has 50% of the market, and that figure may well rise this year. A good time to start an 8-bit software house? Derek Brewer already thinks so, since that's what he's doing with Zappell.



The company plans to bring out four titles per month throughout the year across the popular formats, at a price of £2.95. Derek Brewer says they need to sell 10,000 games per month to break even, on the basis of the company receiving around £1.17 per game sold.

But to make a fortune? Zappell hope to sell 20,000 games per month and to have established a 5% share of the budget market by the end of '88. That is, they hope to be doing business to the value of £2.5 million.

software as an area of growth in the year ahead — in fact, just about anyone you care to talk to sees '88 as the shining path leading to sales and profits.

## WILL THE GAMES- INDUSTRY SURVIVE?

Will the 16-bit get richer and the poor get poorer in '88? Probably. What seems likely to happen is that the budget companies will increase their share of the 8-bit market. The big boys with the big money for the big licenses will continue to cash in from coin-ops and films. And the

smaller, independent houses?

Mergers and marketing deals seem to be the order of the day. Rachel Davies doesn't think that many houses will actually go bust this year; software houses are more professional than they used to be. But she does believe that there will be "Mergers, a consolidation around the big houses, with the small houses (assuming development teams still publishing under separate labels)." Let's hope that it doesn't mean they'll just be turning out coin-op clones to order.

## What's in a game?

Just how much does a software house actually make out of a game? Although you buy it on the shop for £5.95 or £10.95 the software house obviously doesn't get all of that.

First of all they have to give a discount to the distributors who are getting onto the shelves. That discount is usually of the order of 30%, so a £5.95 game will bring the publisher around £4.20.

The advertising and packaging of the game will add up a good proportion of that. Then you have to pay your programmers a 10% profit, an artist/composer/development house. And of course there are the normal business costs of renting, repairs, phone bills, travel etc. etc.

Out of that original £5.95 there might not be much more than £1.50 — £2.00 left. If you're considering a fee instead of a game then you're not making much money. Obviously, '88 does have gone pretty well from that. But they must have taken an amount £200,000 from that one game alone — but with that you have to bear in mind the substantial costs of loaning the coin-up and the required six months development involved.

(Unless you have the resources to buy licenses and promote your games heavily, it's hard to sell a lot of full-price games. No wonder then that the smaller houses are cutting back on their releases and turning to development for their licensed and better.

## ELECTRONIC ARTS

One of the most intriguing developments in '87 was the establishment in the UK of the European arm of EA — largest US publisher of entertainment software.

EA is not a public company, so they're not obliged to divulge profit (or loss) figures. Their latest summer though, for the year ending March 1987, was \$32 million — and it's more than likely it will be substantially higher in March '88.

EA's European boss Mark Lewis, unlike many other people in the games field is optimistic about the prospects for 3-bit software — EA's, at least. It's still a healthy market, based on sales of Chuck Yeager and Skater in Oct. He says:

The implication being that the games will sell well at full price if they're good enough.

For the future, EA are investing in CD and interactive video, but Mark Lewis thinks it unlikely that we'll be able to buy anything at a reasonable price until Christmas of 1990.

And for 1988 we could see some of those independent software houses signed up to EA as "associate labels" — so UK, and Mactech have already done. "We're still looking for associates", says Lewis, and it's more than likely that we'll sign some more software houses in the new fiscal year.



EA's Mark Lewis - Director of European Publishing

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## AFTERSHOCKER

Sega titles for their own. Master System fans have been a bit of a mixed bag, all things considered. While *Dal Ru* and *Chopster* have been very impressive indeed, it's the second change of perspective from the original that sets the stage for the new game. It's the new perspective that sets the stage for the new game. It's the new perspective that sets the stage for the new game.

making a similar effort - the new-up, original, and it's a completely high standard. It can't expect a post-processor.



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# WE HAVE IGNITION!

This month's software Sputniks should go up like rockets: they're on the launch pad, fired up and ready to blast off! If the mission proceeds as planned they'll achieve orbital insertion in **ACE** next month before splashing down at a shop near you - but it could take months of computer time to fully analyse the data!

## IMPOSSIBLE MISSION II

by Paul Snelson

Give *Impossible Mission II* up to be old tricks again - world domination, that kind of thing - as you'll have to wend your way through the robot-strewn life searching for treasure. Obviously, reality, isn't. As in the original game you take control of a great deal of hard work, including robot movement patterns, taking jumps and experimenting with

arts and exciting tricks. The revised game is different - the time you're trying to collect the secret code that'll get you into *Impossible Mission II* - but it's not as old should catch on pretty fast. *Impossible Mission II* putting the speed in it. At the time of writing, check out next month's *ACE* for a review of the revised article.



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Get Dexter II—Subtle but as big as the original

## GET DEXTER II

Intelligence

Chaffin of *Dexter* went down a double with *Aminal* owners in Britain, but the chances are that most of them didn't even make it. On the side of the *Chaffin*, you see, the game was mangled by wargame specialist P&G under the name *Get Dexter*. Now *Intelligence* are getting up to bring us the *Intelligence* sequel, and as you can see it does look rather good. Once again you control the hero (and look Dexter *Chaffin*) on a screen split to the glass of a bar, with plenty of enemies to contend with and only the

friendly (like photocopier *Smiley* *Smiley*) for help. These *Intelligence* people are still busy translating the game and its accompanying literature, but it and *Aminal* CPC owners should be able to see the results very soon. *Chaffin*



## PREDATOR

Action

Five weeks before a dodgy holiday in the software market, but *Predator* seems to have to be a winning formula: go for movies with stars in 'em. Whether that last movie science tells you the odds are there is still uncertain, but it's got all the elements: suspenseful kill scenes, close call sequences, necessary commander (and also here and there showdowns). The commander in this film is some star that *Arnold Schwarzenegger* is the closest slug-out is (probably) something of a tongue-in-cheek, but as the movie version things should be a good deal higher. *Predator* the game is due for potential real soon now, it's worth the wait.



Can you see a predator? Well you sure can't!



*Predator*—but you can't see him, but sure he's there ready for you.



Can you see it? Well, perhaps, just perhaps, and otherwise you're pretty

## CRASH GARRETT

Intelligence

It's well like *Intelligence*, actually. These *French* movies who brought you *Get Dexter*, *Battle Squad* and *Phoenix* are now trying to win you with cinematic adventure under the aegis of renowned *French* producer *Mitchell* *Barbed* *Peter* of *Palace* *Stills* and *Co* should love this one - the action is outlined in a scrolling text window above the main graphics display, with constant overlaying of cartoon boxes as the various characters act and tell their way through the plot, in which we see *Crash* *Garrett* has his *garland* *Cynthia* to the evil *Baron* *Von* *Enid* and

must get her back.

Limited text input but lots of visual tricks on screen portraits scroll, yep off, dissolve, and slide about the display. As a character enters, his picture scrolls smoothly on-screen -



type *AT&T* and watch him slip down out of sight beneath the weight of your power-packed punches. There's even a degree of animation showing the emotional life of those involved - smiles, grins, snarls, and always give you some idea of how your total forward text inputs are being received. Stunning music on the *AT* version, superb graphics all round, but some doubts about the long-term interest and definitely not one for those keen on 100% arcade action. Keep your eyes peeled for the full review of the English version, coming soon.

**RASTAN**

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# LIGHT TRACERY



**I**n the first part of the series we stepped for beginners and went straight into the techniques involved in showing the bulk of three-dimensional objects, surface texture and light effects. This month we're going to pause for breath and take a look at some of the more technical skills involved in creating computer art.

Technically, the first thing that should be considered is, of course, the structure. Visualizing the fundamental structure of an object is quite difficult, and getting it down is even more so. Learning the skills required takes a lot of practice so, for the moment, we are going to cheat—and copy objects directly by hand digitizing.

There is a number of techniques that can be used to copy a picture, but the simplest one is **tracing**. All of the pictures illustrating this article were produced initially by tracing images from magazines. The method used is described in detail below, but first it's worth discussing the process of selecting images, since this is really the very first job once you have decided what you want to draw.

Fortunately for the aspiring graphic artist, we are surrounded by images suitable provided for us to copy. Newspapers, magazines, video supplements, picture books, posters, postcards, family photos—the list of good sources is endless. If you intend to work quite often with a computer paint program, it is worth making a collection of images that interest you. Before sitting down at your computer, scan through all of the suitable pictures and select those that are closest to what you want.

Initially you should just choose one object to complete picture to copy, though whatever you choose, try to make it something simple, unless you have a very sophisticated, high-resolution system, most

## The second instalment of our series on graphics technique finds Brian Larkman trying out a bit of light tracery.

attempts of complex images tend to look rather messy. As you get more practiced you will want to take bits and pieces from various sources and grade them together. In that case, the two most important things to look out for during picture selection are scale and orientation.

### SCALE AND ORIENTATION

In both our main pictures, the car tends to mix together various differing images. For this to work, the car and the Rex, for example, needed to be approximately the right size and at exactly the right angle and view.

## GT REX

A picture made—could have been produced using 3-D software, but this one was actually created in Deluxe Paint 2 on an Amiga.



1 Initial tracing into the pen surface of a blank.



2 Shading on one computer (the writer's brain) added, that of the other continues on hand-drawn sketches.



3 Initial colorizing of objects. More detail could have been added at this stage using either 3-D software, but most of the modeling is achieved by the use of Deluxe Paint 2's brushes.

### Hand Digitizing

Transferring the image of any object (or sound) from the outside world to a computer environment is called digitizing. Most parts of the physical world appear to us as gradual changes of shade or tone. This continuous variation is known as analogue. A computer can only deal with variations in definite steps, each of which can be very small, but always numbered, and therefore known as digital. The easiest and most well-known way of digitizing an image is by passing an analogue video signal through a hardware digitizer. This produces an approximation of the original made up of dots. Nevertheless, it is equally possible, though a lot more work, to 'hand digitize' an image by carefully copying it. It's called art and can do the 'by-eye', but may well at some time take the short-cut and trace an image.



2 The image is superimposed vertically onto details provided through a grid. Dinosaur and window.



3 Complete horizontal composition. The original (2) image is copied vertically (to achieve a taller "to-scale" window) and mapped to the original (1) to fill it. The two images clipped horizontally. The window window is also sized.

point in relation to each other. Use handles to scale or adjust on the computer after mapping, provided your print package allows scaling at all; use the box or how to draw using a grid. Orientation is usually much more difficult to change, except in the special case of mirror images. If possible, cutting out the objects and placing them together

gives a better idea of how the picture will look, otherwise, try rough tracing or sketching. It may seem laborious, but it's hard to over-emphasize the fact that the really important is what makes a good painting.

The next stage is to copy the objects you have chosen, either by tracing or with a grid. Both these techniques are described in boxes

### Tracing

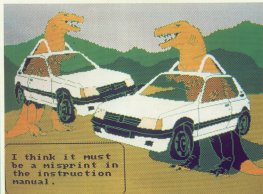
By far the easiest hand method of digitising an image is by tracing it. The tracing "paper" needs to be completely transparent. Some form of clear acetate such as overhead projector transparencies is most suitable. They can usually be obtained from a good model making or stationery shop. If free-stained waterproof, permanent felt or rollerball pen is also required. Red or green are better than black, allowing the lines you draw on screen to show through.

Trace the image carefully—following all limits of the object, not just around the edge—but do not be tempted into drawing too much detail. If there are definite colour changes, trace those too. If colours change gradually, try to pick out a line that divides them. The final tracing should look like "painting by numbers".

One great advantage of this acetate is that it should slide to the monitor screen by static alone. Position the tracing on-screen in the correct orientation. It should be not enough, use "to-back" or marking tape.

The body is made using rubber-banded lines or postage—in, for circles or ellipses. For suitable task it is usually best to select an off-white screen and a distinctive line colour (different from the background). Starting at the top and working down, follow the shape of the traced lines with short rubber-banded lines. With a little practice it is possible to produce a very good copy, even with quite tight curves. You may find it easier to line things up if you keep one eye closed.

The final step should look something like the first (1). For outline above. **SAVE IT EARLY!** There will be lots of gaps and wrong lines, but these can be corrected with magnets. The fine details of the line drawing can be added at this stage.



4 The final picture. A simple background is composed first. The window window is painted down, followed by the original large window slightly overpainted to show depth of field. Dinosaur are then painted with well defined and detailed line work.



## NUCLEAR FAMILY



1. ACE and Digger - initial load before filling in



2. Components of ACE (left) ready to be filled in with Digger - loaded version.  
 3. Digger - initial fill with Digger.  
 4. ACE and Digger - initial fill with Digger.

Once the detailed line-drawing has been made, the real work is over. However, it can't be stored frequently enough to **SAVE YOUR WORK DFTEN**. Keep a separate copy of the line-drawing, as you may want to use it in the future or make a total mistake with the filled-in version.

What you do next depends on how you like to work and the subject matter. It may be that the whole picture can now be assembled as a line drawing and then filled in with color and texture. In most cases, it is better

to finish each object completely and then assemble the picture. There are several reasons for this. Firstly, complete objects can be stored separately in folders for use in other pictures at a later date. Secondly, some objects may overlap each other, or be multiple of one stage and it is easier to erase to show each one individually. Thirdly, you may wish to try a variety of compositions and backgrounds before settling the final one. ■

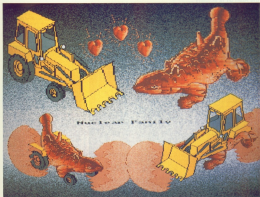
### Changing Scale with a Grid

If the software you are using will not allow scaling, it is possible to copy an image using a grid. Draw a pencil grid over the original picture, dividing it up into a reasonable number of squares (at least 8 x 8). If you do not want to draw directly on the picture, then use an acetate sheet. Using the grid box tool of your painting program, create a grid of similar proportions to your drawing, but at the new scale (e.g. x 2, x 4, x 0.5). Working systematically across your drawing, copy the contents of each square into the corresponding square on-screen, taking the position that each line crosses the grid into the next box as a guide. Details and corrections can be added with magnify. **SAVE DFTEN**.

## ARTWORKS

Inspired by our GFT series? Want to show the world what you're made of? Then send your artworks - with a note explaining how they were created - to:

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3. ACE and Digger - initial fill with Digger

4. ACE and Digger - initial fill with Digger

# QUANTUM PAINT

ATARI ST 520/1040, EIDERSOFT £19.95

It was so obvious that hardly anyone noticed at first. Neochrome, the original art package for the ST, gave the first hint by using over 200 colours on-screen at once. Now Eidersoft have proved it with Quantum Paint—the Atari ST is actually capable of displaying 4096 colours on screen at once, just like the Amiga. Is it worth having? Brian Larkman finds out.

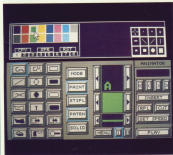
**T**he trouble is, once you have got there, what are you going to do with them? Some people would say that 4096 colours is ridiculously excessive. Certainly the new Microsoft 2 gets by with 256, so does Acorn's Rastaman, Nevertheless, as NewWave shows with LightPaint for the Amiga, 4096 colours provide substantially smooth shading of pictures, allowing the drawing of realistically-shaded objects, transparency and texture. To achieve these tasks, LightPaint has a whole range of sophisticated tools. What of Quantum Paint?

Let's start at the beginning. Quantum Paint is provided on a single disk and operates on all ST machines from the 520 onwards. It starts from the GEM workspace, though the program uses a customized interface of its own for operation. Better use a 'Key-Word' box to be found from the manual.

a single operation that seems the least convincing method of protection, normally allowing the user to lock-up their master disk as often as necessary. For some reason, the author might prefer to produce a cassette backup, but I believe very few of it should be possible to copy all of the necessary files individually.

The control panel now appears. The completely clear drawing area is centered from here, with the right mouse button in Degree style. Palettes, preferences, set-up options and other functions used functions are reached from a second-level panel via a Menu button on the main screen. The main controls are set out logically into three areas: basic drawing tools on the left, annotation controls on the right and palette control across the top.

Most of the drawing tools you would expect are present, though there are several surprises in a package of the nature, making it less useful than it ought to be. At first there seemed to be no Undo function, something even the most experienced computer artist would not want to be without. In fact, it is possible to undo via the keyboard (CMD) key, though this is not mentioned in the manual. However, undo operates on all drawing that has taken place since the control panel was last brought up. For someone used to state-of-the-art software, this is rather irritating and potentially disastrous.



Quantum Paint: the main screen when everything starts



## OUT AND PASTE

Even more irritating is the limited cut-and-paste. Areas of the screen can be packed up and moved or copied, or used as buffers, with or without a transparent background. They cannot be saved and loaded, even onto a temporary clipboard, or between Quantum Paint's two drawing windows. This prevents one of the major advantages of computers: cut over the mouse menu variety—building up pictures from a library of components. On the plus side, it is possible to 'lower' some cut by drawing around them instead. Nevertheless, the obvious could, for people used to more sophisticated cut-and-paste, mitigate Quantum Paint to being useful mainly for working on pictures produced by some other package or digitiser.

## PALETTE CONTROL

The tip of the control panel is the area of the screen - making different colour programs on the ST - the palette control. Using the same technique as systems of 'Instantial Road' (enough to completely exchange a row palette of colour for the current one, while the picture is being displayed on the video screen), four new modes (28, 31, 35 (1) and 34 (0) have been added to the ST's graphical capability. The simplest of these are the 28 and 31 modes, low and medium resolution respectively providing - yes, you guessed it - 28 or 31-colour screens.

When the palette control uses a 32 colour, it can do a few nice colour palette. Each of these colours can be selected individually from a full screen display of all the ST's normal range of 31 (2) controlled by the F10R button, or by using RGB sliders. Colour can also be copied between point-point and spread between two selected colours giving an evenly graduated range. Between the current palette is a set of address numbers 1-8. Clicking on each of these will display its respective palette, allowing it to be set up as a changed (accelerating on a button bring-up a Cycle speed) or on to independently select range, spread, and direction of colour cycling to each.

When they are activated, each of the eight palettes available can control a horizontal band across the screen, the PALETTE button on the second - standard - screen brings up a separate displaying the size and distribution of all palettes by means of eight wide 'bars', which can be dragged up and down the screen, and eight toggle to turn palettes on or off.

The effect of these controls can be seen in the picture Madonna. The background consists of a series of zones of colour, each independent of the others. Seen live, the screen are shimmering with colour caused by minor cycling. Only the colours in the background of the face and hair are common to all palettes. Similarly, the envelope picture, Carved Stone has two independent 32-colour palettes just to produce the smoothly colour, plus two more to create the multi-dimensional background.

In use, 28 mode is quite straightforward. The palettes are simple to set up and changing is arbitrary within the limitations of the tools already mentioned. Oh, but how nice it would be to have more control over how the colour is distributed. Preferred cycle drive often adds of the colours, in the cycle stage to be painted in sequence as a band that a down, but there is no cycle draw on top of the other tools, and different fills are not available. This is a great pity. Being able to be flexible of providing or many colour screens, the tools for using them really should be more sophisticated. On the plus side of colour control (although not implemented on the current version) the normal palette cut-clearing (reverting and creating - all very useful effects.

## SUPER PALETTE

In the centre of the main control board is a button marked SUPER. Clicking on the SUPER selection of the two Super Palette



Carved Stone - the palette used to produce the sky, because for the background and background.

mode, it's when using these, especially 31 mode, that the real advantage of these 7 zones, the programme of Madonna Paint, can be appreciated. Super Palette offers the use of either 31 (2) or 30 (0) colour on-screen, something that most ST artists thought was possible only on the Amiga.

In practice, 31 mode are slightly more difficult to use than 28 or 31 because of the need to draw screen, that of the normal 31 (0) drawing tools except that 31 are available, but the colours that appear on-screen are selected from a variable range of 31, like a normal 31 palette, so the first drawing can be rather dull. No matter, after a period of inactivity (the length of which can be set) the program is able to recalculate the correct colours to display and presents a full colour screen. If you do not mind the slight flicker of an interceded screen, all 31 (0) colour can be seen (well actually only about 2500 different ones) at 31 (2) without interlace.

It seems a little difficult to pull holes in the screen advantage, but as was mentioned at the beginning, 30 (0) colour can only be used on the tools available for printing them with.

The 31 (0) modes mentioned in the manual are, like most of the other modes, not imple-

mented on this version, so I cannot comment on their use. If they are anything like the standard Modes in Madonna Paint, then they will be great. Nevertheless, it is a nice drawing tool like different fills and shading that are the most commonly required means for using lots of colours. The lack of these is the greatest limitation of the palette.

One of its great advantages, though, is the simple direction facility provided. Any screen can be scrolled not on a full screen dump, but, as it is a little like the remaining only the differences between the current picture and the previous one. If only cut-and-paste facilities could be located from a library, simple operation would be very easy. Even now, in combination with the excellent colour cycling facilities, animation is good.

Madonna Paint is going to be a spectacular program. At present, it is very good, especially for the price (\$19.95), but not really treated off to the post of replacing the '...and all wonderful graphics features...' of other programs. In spite of the manual, Madonna Paint had that there is a detailed upgrade path to version 2.0 is a normal sum (but only to registered users). Version 2.0 will have all of the colour manipulation tools mentioned in the manual (plus some, if not all, of these I have suggested as well). In the meantime, Version 1 has to be a must for any ST artist.

## FOR

- 4096 colours
- a nice menu
- Easy to use animation
- Amazing 31 (0) colour palette

## AGAINST

- Inadequate text drawing tools (especially cut & paste)
- Very few specialist colour manipulation tools



Madonna - Only the colours in the background are common to all palettes.

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Production Editor Paul Jones working on the Macintosh, drawing up the magazine's exciting new technology section by Andy Smith

## Tie Breaker

Here's a letter from a poor soul in agony. In not more than 25 words, write - on the dotted lines below - a suitable reply to print in the magazine.

Dear ACE,  
I am having a problem. I cannot get my disk version of Elite to load into my Sega Console. I am getting desperate. Can you help?  
A. Wally Swabaine

.....

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.....

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# BAD CAT



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# BACK TO THE FUTURE

Coin-ops in 1988 - Chris Jenkins reports from the 44th Amusement Trades Exhibition at Olympia.

**T**oday it has been said that today's mess-up is tomorrow's home computer game. Really, home space invaders aren't onto it: space-age has it beat, so, and thereby shall they know the shape of next year's hot products.

All that may change, though, if the signs and portents seen of the arcade industry's annual get-together at Olympia come to pass. It looks as if the coin-op industry has cut out of new ideas for game frames and has come to sliding point in the actual graphics handling technology. Next year's big gimmicks, it seems, will be the software rather than the console.

It is a bid to miss players away from their computer and back to the arcade, the Japanese and American coin-op designers have been concentrating on the coin slots, laser computers, control computers - the actual playing environment. While the usual of year living room may distract you from the arena business of coin-baiting, the arcade can give you the surroundings, the feel, and even the smell of the real thing. Companies such as Capcom are said to be experimenting with the several systems of 3-D motion-trail technology, by which appropriate views will be watched through the cabinet as you play. The problem is not a bid they've perfected the non-sporting smells such as engine oil, middle finger and burning rubber, but can't come up with anything that people actually *WANT* to smell. I think it will be some time before the arcade tries to be *so* "Waa that you, or have I just smelt a bomb?"

The major move, then, is away from specialist graphics systems such as customised laser disks, multiple motion and gear screens, and towards mechanical effects built into the cabinets. The target is not a *1988s Afterburner*, the sort of lighter aviation featuring steering graphics, housed in a 1988 hydraulically-operated wire cabinet. Obviously, it's the cost of such units which make them relatively rare, but there are cheaper alternatives which look set to dominate the market: *1988s*. This, distinct to *1988s*, is a fairly straightforward helicopter simulator. Presented as an out-of-the-ordinary view, it includes brilliant graphics of high rise buildings through which you have to weave, towers piloted by lightning-rod fighter planes, sea-bomb

talk, *1988s* it or not, is to take the lot to hell.

*1988s* is available in a free-standing cabinet, but, like many new games, it's also available in a Deluxe version. This consists of a twenty-inch monitor mounted in a control panel featuring supposedly realistic helicopter controls, attached to a trolley-like body on casters. Mounted on this is a plastic seat, complete with foot pedals, joystick with buttons, and speed control in one side. As you flip your chopper through the skies, avoiding buildings, guano and enemy planes, the chair rocks from side-to-side and tips backwards and forwards. It's a tremendous feeling which immediately entrances the game, and which certainly couldn't be reproduced outside the arcade.

Unlike the expensive *Super King On* and other hydraulically-powered simulators, *1988s* Mode uses a simple system of lever-actuated to the joystick, it's therefore much cheaper to buy and service, and so should encourage a whole series of similar games such as *1988s* 4000 *1988s* racing simulator.

Another exciting-looking idea is *1988s* *1988s*. It's very similar to existing



machines such as *Outrun* in many ways. However, the cabinet, mounted on hydraulics, flip themselves backwards and forwards, and they can be electronically linked together so that up to eight players can race at the same time. *1988s* Fur *1988s* also features hydraulics. Available for its free-standing form, the one has a cabinet which looks more like a helicopter than a formula one race, but what the heck. The water is strongly solution too with villages, underground and bridges rather than race tracks.

## GOING TOO FART

Another impressive feeder is a lot of it there.



The Special Force racing cabinet on loan from...

back to the pre-movie cowboy shooting games I remember playing when I was ten. *Twin Operations* isn't an incredibly noisy simulation in which you will soon find the virtues of the virtual aging you into a futuristic leery.

The robot's a deceptively simple, a low-angle-replicated first-person shooter gun mounted on a column, featuring a conventional trigger and a barrel-mounted wheel to launch grenades, points towards the screen and behind a glass shield to prevent mishaps, perhaps?

The game's simple too, an elastic screen



Machine—consequence of the exciting video game.

of jungle water in which you need gun down the enemy while completing true mission to block out communications or pick up ammunition, it rescue prisoners. Enemy soldiers run, roll and parachute onto the screen, leaving grenades, shooting wildly, and even in air impossible some breathing themselves behind obstacles who you must not shoot. You fire back rapidly, searching out your clips, water tanks and first aid kits to replenish your supplies. The joystick is flat as you shoot the gun, handle wildly, throwing you out way of and forcing you to spend valuable ammunition wastefully in order to be sure you demolish all the troops, helicopters, jeeps and gunboats before they shoot you down.

*Operation Wolf* actually made me get nervous about any policy of caring control drive and avoiding shooting children seem gone way to a meaningless bloodlust in which I quite happily blew off the heads of full-jacketed soldiers. If anything, *Operation Wolf* takes soldiers a little too far and raises questions as to whether these games might not be subjected to some form of monitoring.

The same observation could be aimed at Sager's *Heavyweight Champ*, another 'low' size which is fast return to the mechanical genre—video games of old. *Heavyweight Champ* is a boxing simulation using graphics of a type which has been available in various forms for a couple of years, a so-called high cabinet mounting a heavily-built man in depicting a 3-D view of the ring. You talk through your prizes, who is shown in outline form, to see your opponents. A number of interesting and dramatic moves are possible, and if you can complete five fights within the first level, you become champion and go on to defend your title against increasingly big bruiser and more skilled fighters.

Some years ago you may have seen a

film called *Futureworld* in which artificial brains were controlled by players who went in to visit our first futuristic humanity. The stars of the game was *Heavyweight Champ*, because instead of trotting a weekly system you grab hold of a pair of handles, and carefully punch at the machine and control the top screen of the cabinet to make you move, straight forward to a pit, forward with a hat for a look, move the lever from left to right to cut opponent, and wave and raise the lever to defend. I saw players getting really excited every with the end looking of the machine for all they were worth, like state will tell whether the machine can take the punishment, or whether players will manage to injure themselves, punching at it.

**REQUIRE**

Another trend for 88 is to produce multi-sensory arcade to old battles I tell you they were sitting out of doors. Whether you think this is worth the effort is largely a matter of taste. AGI's *Golden 88* is impressive, it a follow-up to one of the biggest early arcade games. In the new version, the game involves the same waves of alien space-down from the stars, trying to bomb you or capture your fighters. The difference is that instead of the weekly two-color spots, we now have more vividly detailed and amazingly individual enemies, differing crystals and rotating asteroids, the angry music is



Top, 88, and you can see through the game mode in Sager's *Thunder Bolt*.

replaced by stunning digital effects and elaborate sound taken in the bonus sections and the backgrounds are now more vividly detailed, with quick buttons, whirring asteroids and planets, OK to a beat, but nothing more than a jostled version of the original.

The same can't really be said of *Thunderbolt*, which takes the old Asteroid game into a totally new dimension. Now, instead of monochrome vector graphics of poorly spaced-out and bounces, you have monochrome multi-color matter ships, tending of free space fighters, bottle crashes, AND planets to avoid with. You can fit one of these buttons which cause you fighter to reorient itself into different modes,

designed for fighting, running or defending. Having cleared one screen you typepress into another one quadrant, with another ball ball background and another set of enemies. It's fun, but the *Golden 88* looks a bit primitive compared to the latest 3-D fighter simulators such as *Grey Star* or *Storm*.

**CUTEST**

Another trend which fails to inspire me with excitement is the return of the cutsey game. Apart from Sager's *Parasitic*, follow up to the ground-breaking *Parasite* and *Paradise*, we are also promised *Bandow Island*, *Totri's* sequel to *Butter Bebe* and *M&M* isn't even out of the cutsey model which makes one think they'd be better off concentrating on games such as *R Type*.

I can't see myself spending many hours on these types of machines, but I think the old playground will take a beating in the level world of combat games. Most of the designers have solved the problem of these games being so static by combining elements of the historically exciting shoot-'em-up. *Totri's* *Major Mission*, for instance, uses a game three-minute system to display highly-detailed backgrounds of desert scenes and military bases. *Four Arms* or *Concave*—apparently a body snatcher, although I don't know how you can tell with all the obstacles you must defeat within, guard dogs, tanks and bombarding demons using traps, grenades, and the more subtle things and need lovely graphics, then, though little in the way of originality.

*Sagittaria* is even better shoot-'em-up, with *Totri's* follow-up in *Tiger Hat* and *Flying Saucer* due to put in an appearance soon. *Totri's* *Golden* series, veridically includes scenes over jungles, deserts, and deep-seas, allows you to pick up extra weapons such as lasers, bombs and smart missiles, and has a two-player mode. Original, it can't, but then neither is *Pythons*. *Konami's* *Smile*er shoot-'em-up which does at least feature an amount of variety of top-view and perspective graphics as you battle to destroy the horrible power, missile, secret codes and ground forces.

**TAKE YOUR PICK**

Another new trend is towards multi-game consoles. Although few serious gamers are limited to the less elaborate titles—being of your own machines, systems in selling machine-games here—*Wonders' Playhouse*. Ten slots of slot have appeared since the game, and a slot allocated to a few games such as *Duck Hunt* and *Wipe Out*. More conventional games, such as *Chameleon*, *Marco Bros*, *Volleyball* and *Medal* can also be found on three units, which at least give you a wider choice of games, even if they aren't state-of-the-art. *Accolade Super Tower System* works on the same multi-game principle.

Well, that could be a year for manufacturers rather than electronic addresses, but will be adding on, adding it, punching, shaking and pulling out of the pits, then now on, while you're enjoying the games, you can be getting some-else too.



# ...and back to the blasting!

## ● AARGH!

1991  
249 per game

As 1990-based titles come to dominate the home computer market, the dividing line between computers and savings becomes increasingly blurred. Just to make things more confusing, Midwestern's on-air director, Aristotle, is now developing machines using Commodore Amiga circuitry, implying that the resulting home computer conversions will be nearly identical to the on-air original.

If that's the case, I can't wait to get hold of AARGH if that's all you have to stand to get the full effect which is a totally unadorned type of Bannage. The machine in the store game recently translated is home return form by Aristotle. AARGH takes the form of a making you be terrible and offering you the chance to do as much damage as poss-

ible as you



allow you to move in any direction around the entire village.

Your task is to smash up everything you can, a process which is depicted in gory

detail.

Smash. You can even climb on top of them to smash off the job.

It's not all fun, though. In the two-player game, you're competing for points against the computer. In the one-player game, sometimes even more fun.

The natives are obviously used to the monster's dropping expectations, and have banded together a little defense in wood-work classes. This stone-throwing catapult can be very detrimental to your health, so as the natives drag it around the village trying to get within range, you should chase after them and give them a taste of the old death-tomb.

As you progress through the village eating meathorn, more threats loom, including gnomes insects which try to bite at the top of your head.

Should you be unfortunate enough to run out of energy, your monster collapses in a bloody mess of guts which look just about the right size for the smoking pot.

Deliciously featureless and voided, AARGH should establish Aristotle as an already known to be released with.

...and back to the blasting!



ible, but there's some neat twists and good humor.

Set in a large island caught out of King Kong, the title is two player game lets you control either a Golem-like dinosaur, or a human cyborg. The opening map shows you the island's main beauty spots, which you must reduce to smoldering rubble. The first scene is a native village guarded by numerous gates, which consist of you must to allow you to run about inside the compound. Peeking perspective effects

Technical notes



detail. breathe on finished huts, and they burst into flame, like natives running around until you throw them into public. Before huts with your fate and they fall into smoking





Remember the first time you played *Defender*? Christina Erskine charts the development of the arcades, from the good old, bad old days, to the first official license between the coin-slot industry and the home-computer copy-cats.

**W**hat was the first ever video game to hit the arcades and start off the coin-op craze? All those who answered *Space Invaders* go to the bottom of the class. Several points to everyone who remembered *Pong*.

*Pong* was the first commercial video game, written and launched in 1972 by an American university graduate called Nolan Bushnell. His fledgling company, Atari, sold the game into hundreds of bars and amusement centres in the United States. A year later, *Pong* arrived in the UK, with immediate impact. To arcade visitors, *Pong*



# AFTER PONG

made a complete change from one-armed bandits and pinball machines. The video game boom had begun.

Three days, *Pong* looks laughably primitive, but even in those early days certain simple guidelines were established that are recognised even by today's multi-colour mega-games - simplicity, addictiveness, simple, increasing levels of difficulty (difficult in the very first versions the ball didn't speed up as the game progressed) and competition between two or more players. The game consisted of two blocks representing each player's ball, and a credit space ball moving slowly between them.

In years ago, it like had never been seen before. Throughout 1973, *Pong* hurried into amusement centres up and down the country. Then, almost overnight in the case

looked, it faded out again. By 1974, the original *Pong* was burnt out and the coin-op industry which had grown up around it took stock.

The first version of *BreakOut* - which in 1976 is enjoying a renaissance through *Advanced* and *Impact* - appeared in 1974 and established yet another industry guideline - the variant clone. The *Pong*-derivative kept the balls on the screen and the same game industry in the block in some time, but after the initial enthusiasm for *BreakOut* had waned, things remained quiet on the coin-op scene for some years.

## ENTER THE JAPANESE

*Pong* and *BreakOut* were both developed in the US. It wasn't until 1974, with the arrival of 'batter' *Space Invaders*, that the Japanese

burst onto the market and the popularity of video games exploded, all over again, and with an alarming intensity.

Tateo was kept busy manufacturing 400,000 *Space Invaders* machines for the Japanese market alone, and licensed rights outside Japan to US company Midway to cater to cops. By 1979, there was something in the region of 750,000 *Space Invaders* games installed in arcades, pubs, and public buildings throughout the world, around 55,000 of them in the UK.

*Space Invaders* never existed somewhere by 1980, but this time there was a plethora of quality games to take its place. *Galaxians* was the first significant benchmark - another variant clone this time on *Space Invaders* but now in glorious technicolour. These, some these very important releases which together with *Galaxians* have stopped both the arcade industry and its in even greater extent) the computer games market ever since.

First, there was *Scramble* which together with *Defender* established the horizontal scrolling shoot-em-up. You will find very little in a modern game like *Flute* that doesn't exist in the original *Scramble* scenario. *Defender* gave us even more versatile flight

paths-and lines) important of all: a simple game objective (locking words, letters, and numbers). Another point worth noting about Defender is the long-range screen, solving the problem of a text-of-line limited by the monitor display most effectively.

The other two games of late were Donkey Kong and Pac-Man. The former was a console game featuring platforms-and ladders - a genre-style that was rapidly copied by vast numbers of home computer software houses, though the ladders slowly disappeared. The platform, however, are still with us in games as diverse as impossible Misrosoft's *Jack the Nipper II*.

Pac-Man established the vastly influential maze concept (also given 3D status by Nintendo's type games). It remains a perfect example of a game containing total simplicity with great subtlety.

Along with the originals came repeat and clones, many of which emerged from the Far East, where the new industry was burgeoning and the copyright laws were lax. For a year or two, the coin-op industry reeled as variants of these classic games to its ideas, with the old driving game, such as Atari's *Pole Position* and *GP-10*, those to victory.

The tactics of cloning, copying, and



Great game, but something's a little odd and it's in style terms. At least one different variant of a car control display (though produced using computer lines, after the computer games) or game that changed because there was too much to follow. Pac-Man's formula is a little bit, but has been used in other games that it has to be said.

precise kept things running for a while, but inevitably the wheel soon turned full circle and the bottom fell out of the market as manufacturers were unable to reap the necessary rewards from their products before the pirates stepped in to steal the customers. Today, companies such as Sega and Taito sell the custom-chips used in the games (at least to make it difficult for would-be clones to break in). It gives their new games a 1982 three-month start before the closely-related variants appear. In the early 80s, such setbacks had not yet been devised.

#### INTO THE HOME

By the late Space Invaders was being played everywhere you could physically fit a cabinet. Atari's first home video console was on the market. Thus began the relationship between home machines and the arcade, an uneasy one-at first. Atari produced its own home console versions, but coin-op manufacturers were barely interested in the first true-home titles.

As these machines, the *Vid 30*, *2300* and *1201*, held on like old-time coin machines

#### Charting the changes

Andy Waters has seen both the coin-op and computer software industry at first hand. He began programming and designing coin-op games in 1981, moved in order to set up a custom software - of SuperPaint fame - and has now gone back to writing for the arcade, currently for Misrosoft's *Archie* version.

The arcade industry has changed dramatically. When I first started in September 1981, we were not only writing the programs, but had a factory actually building the cabinets as well. We'd probably have done better if we'd just stuck to writing, rather than trying to do everything.

The pirate versions of arcade games by other arcade manufacturers almost killed it all off with one exception. Take *Scramble*, which was a very good original game. In the UK, there were people taking cabinets apart, photographing all the components and copying them, often in not very good copies. Suddenly from nowhere there were *Scramble* variants and by 1985 everywhere, everyone had to have the latest version.

The early computer versions were a bit like this, though none of them could compare with the arcade original.

opportunity for pirate versions - this time unauthorised versions of coin-op games on the home-computer.

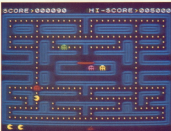
The success of the first home computer, particularly in the countries the IBM, led to a huge demand for software. Small local-business companies sprung up overnight (many of which disappeared overnight as well) writing simple games for the new machines. Some of them were a bit ston or original ideas and took their inspiration directly from the arcade.

The earliest examples were probably the versions of *Lunar Lander* written for the IBM. But come January 1980 and the second IBM Microbit, visitors could take their pick from a wide variety of titles all bearing unmistakable resemblances to programs in the arcade. It should be added, however, that though the likenesses were obvious and intentional, the micro versions were largely very rough and ready. Thanks to the limitations of the micro themselves and the comparative inexperience of the programmers.

Moreover, outside one they aren't called *Space Invaders*, *BreakOut*, *Pac-Man* and *Dragon Maze* or the show. J. E. Gomez Software had *JD Master Maze* on display. Big



Andy Waters: in the good old days, questions of copyright simply didn't arise.



Shooting in the Invaders - the only 'official' version, produced by Atari. The simplicity of the game level made it ideal for conversion onto the personal-home computers.

Byte demonstrated Invader and IE Break-Out. Also at the time, Quikvision (which still exists as a label today) was getting busy with titles such as Defender, Invaders, Q5 Scramble, Asterisk, and Galaxian. In the late named, Quikvision attempted to distance the title slightly from the original, at least in the story alone, the enemy spacecraft became malicious birds dropping exploding eggs and your time machine was rebranded a dragon-egg catapult. Donkey Kong appeared in a number of guises, as Donkey Kong (Interscope Micro), as Crazy Kong (PSS), or even Monkey (Atari). (Atari had not a licensing or rights agreement in sight.)

As Andrew Brevton, then the head of newly-formed Brevton Consultants, and responsible for a fairly-disguised title states, he entered Space Invaders, only, it simply didn't occur to people that there was any kind of problem with rights. Everyone was doing versions of arcade games, so you just copied it.

#### LEGAL INVADERS

The video game companies were slow to get litigious for a number of reasons. Firstly, in the very early days of computers, it simply didn't seem worth it to initiate legal action.



An early Atari Asterisk dragon-egg, sporting the Atari logo, sporting the Atari logo, sporting the Atari logo. (The Atari logo is not visible here but is present on the original.)

against a game that might sell a few hundred copies at most. It was only in 1980 when the software boom began to take off and games started selling in thousands, that they woke up to the fact that their idea was being poached.

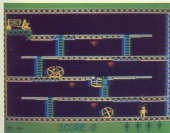
Even then, there were problems. Until the updating of the Copyright Act in 1990 specifically to include computer software, the copyright position regarding programs was a very grey area. Copyright was decided as copying in the written word, words of art and

#### What a Pong!

Everyone thinks Pong was my first video game, but in fact it was the second,\* confesses Atari founder Nolan Bushnell. The first was a game called Computer Space, which was licensed out to another company. It was not a great success, it had lots of spacehips and flying saucers all over the screen and all my friends liked it, but then they were engineers, and it didn't go down so well with the public. I then vowed that my next game would be something simple.

Pong was certainly simple. At that time, Bushnell had already set up Atari as a research and development firm licensing its products to other companies to sell. Bushnell claims that the only reason Pong came out under Atari's name was that to one who also wanted to take it on.

He went on to write 20 or so games for Atari, including Asteroid, before selling the company to Warner Communications in 1976. After Atari, Bushnell set up his own company to design and sell robots, from simple functional devices to Precision, a light-headed robot suit fully comparable to the home.



Barry Berman from IBM. Apart from the obvious similarities required by the Spectrum, this made it a shameless clone of Donkey Kong. Berman says a game like this would almost certainly result in litigation having taken.

#### Chronology - from Pong to the first official arcade licence.

1972 Nolan Bushnell writes Pong

1973 Pong machines become available in the UK.

1974 The first version of BreakOut hits the UK arcades.

1977 Pong is produced for the brand new Atari 2600 games console

1978 The Atari 400 sees the light of day in the US

1978 Taito's Space Invaders, the arcade game, sets off the second coin-op game explosion

1979 Galaxians, the first colour display video game is introduced

1980 Defender, the first game played with horizontal rather than vertical movement, appears.

1980-81 Games such as Pacman, Scramble, Donkey Kong, Mr Do and Frogger keep the coins going into the slots

1981 Space Invaders appears on console format for Atari machines.

1981 The Atari 400 and 800 games consoles arrive in the UK.

1981 The ZX81 is launched, and the UK home computer boom begins. Demand for software, particularly games, leads to hundreds of software houses setting up shop. Unauthorised versions of coin-op titles sweep the market.

1982 Atari releases Pacman for its console range

1982 Bug Byte withdraws Norelco after threats of legal action from Atari.

1982 Atari goes on to do battle with Commodore over Jetty Monsters.

1982 Century Electronics licenses Superior and Ocean to produce official versions of Hunchback, setting the final seal of legitimacy on the relationship between the home and arcade industries.

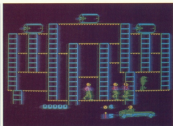
music — where did computer software fit into that definition? The technology was new to lawyers as well; it was difficult to argue a case when it was uncertain whether the medium in question was covered by the Copyright Act or not.

Litigation did however follow. Atari was particularly keen to test the law of unauthorised versions of its coin-op games, not surprisingly, since Atari was also putting official versions of its arcade games onto its own computers, and planning titles for other micro as well.

In 1980 Atari persuaded Bug Byte to withdraw *Konami* (Atari's is all but named after its catalogue) and later that year entered into a well-publicised legal dispute with the odd enemy Commodore over the latter's *Jelly Mania* game, which also claimed Atari's infringed its *Pac-Man* copyright.

Known for the first licensed arcade title probably to be with Century Electronics, the now-defunct Manchester company campaigned long and hard against unauthorised computer versions and, indeed, in 1983, to obtain some successful injunctions to the Commodore and BBC machines, and Coca-Cola to the Spectrum.

A climate approaching certainty of legal action, and the promise of changes to the Copyright Act prompted software companies to look to officially licensing arcade titles in 1984. The advantages of being given access to source code and co-operate-



Star Wars — one of numerous professional video-fighting derivatives. If you think the graphics are poor, just wait till you face the version of *Star Wars* that lets you play with graphics.

with Atari's manufacturers, plus the publicity gained from being able to openly use the name of the original notwithstanding the costs involved in obtaining the licence.

Software houses and their coin-op counterparts have had a much more relationship of late, with home-computer versions being extremely encouraged. As might be seen at *Exotic-Data*, one of the UK's largest coin-op machine distributors, prints out. The two industries complement one another. The public gets the opportunity to play the games at arcades and that stimulates demand for the home title.

The coin-op manufacturers have also been doing very well financially recently out of home-computer versions, perhaps too well for the real rules to continue. It is said that US *Galaxy Gun* has become real thing (C&EG 288) — the price the same company paid

all of its own. This could well happen if the arcade industry, overpopulated with cloning machines and mired with obsolete, loaned, some of its property and enters another period of stylated depression. ■



Italy Moves — from the streets to the home-computer industry, software has to be made with Atari's.

### Copyright

Prior to the new 1985 Copyright Act, the safest way to argue a copyright infringement in the computer industry was to go by the writer word — in the case of software, the actual programming code. Thus in order to invade copyright, the offending title had to be a copy of a substantial part of the original's code. Clarity in translating games from one, a printed circuit board in an arcade cabinet to a ROM, this definition rapidly became meaningless. The code couldn't remain the same!

An alternative was to try for a passing off action, i.e. that the computer game intentionally imitates the original, just how much the very early computer versions of arcade games, written on 8" discs, did manage to resemble the coin-op original is debatable.

for *Gunfire* was pushed up and up above the licence was cheap or less restricted through the software industry.

If prices for licences continue to be picked very above the majority of copyright holders, we could well see a return to wholesale cloning — with just enough differences programmed in to make an occasional form of copyright infringement difficult to stick. Indeed, it is already happening — there are very many of games on the market today which bear a striking resemblance to *Gunfire*, *Melinda* *Melinda* and others.

The alternative, of course, would be for the home computer industry to follow a path

### Costs

To play one of the first Space Invaders machines in 1978 cost just 50p per game, compared to between 20p-50p today. However, from the arcade owner's point of view, prices have remained remarkably stable. To buy in a *BreakCar* machine in 1975 for an amusement arcade would cost about £1,200, to buy a simple stand-up machine in 1987 costs about £1,200, though the price of similar size cabinets such as *Duffman* and *Atterburner* approach five figures.



Atari's first coin-operated video game, *Pong*. This is a prototype version of the game, which was later modified to play with Atari's.

# TETRIIS.

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Coin-op fever is with us as never before. Arcade cabinets, screenshots and logos dominate adverts for home micro games, while the big coin-op manufacturers are now household names. Are pale imitations of coin-op games the best entertainment your micro can offer you? Do even pixel-perfect clones of arcade hits make anything more than mediocre home fare? Andy Wilton investigates...

**O**nce it was this and TV sets, now it's coin-op games. They were first written on plastic toy converters, a Taito or Konami logo on the entry guarantees the success of a home computer game in many people's eyes. It's a game with a licensed coin-op conversion, the chances are it draws fairly heavily on recent arcade hits to its gameplay.

The conversion seems obvious, doesn't it? Pick up and home micro gameplay both aim to provide pretty much the same kind of entertainment, so what could well on the one hand stand as a good choice on the other - provided it can be totally converted, of course. That's the theory.

In practice, however, the kind of attitude is going to have to change. Coin-op game play might have been the best you could hope for on a VIC-20 or ZX Spectrum, but

the ST and the Amiga are capable of it in much more. That's not to say that coin-op games are poor - far from it - but they're designed to excite rather than bring tears, and there's a big difference between the two.

#### CASHFLOW

The ideal coin-op game and the ideal home micro game shouldn't have a great deal in common, because coin-op and home game designers are trying to achieve quite different things. There are many conditions in game design for the arcade. First and foremost, good coin-ops must be visually striking and, in the short term, very addictive indeed. They must appeal right from the word go if you aren't hooked after two or three plays, you probably won't bother with the game again. That's just to say that it'll probably cost less than you'd expect, but possibly pay off in a way.

# GAME OVER?

#### The conversion problem

This has traditionally been a big stumbling block, especially where the Spectrum is concerned. Six Star launched its own leader bank when Pacman and Commander Dingo were the order of the day, so its colour and scrolling limitations weren't considered serious at the time. The vast majority of colourful, fully scrolling coin-ops since then have not, as a rule, converted any too well.

The rival C64 and Amstrad CPC machines have had their problems too. For a while the C64 seemed the ideal machine for coin-op conversions, what with its hardware sprites and impressive scrolling capabilities, but the quest for bigger visual impact in the arcade has rather left the machine behind. The numerous end-of-level guardians in scrolling shoot-'em-ups severely strain the C64's resources, and the head-on perspective of After Burner or the Gun Run/Enduro floor-style of racing games doesn't suit it any too well either.

As for the CPC, its poor scrolling and stretchy sprites have made for problems in the past. Coin-op conversions have certainly brightened up a great deal for this programmer and games writer, who has learned how to use its 16 colour mode properly, but the C64 the CPC has trouble coping with large sprites or head-on perspectives.

The 16-bit revolution is changing all this, however, with ST and Amiga conversions often being almost indistinguishable from the originals. Indeed, the Amiga can produce inside-eye games to such a high standard that several manufacturers are now producing Amiga-based coin-op machines. There's a great temptation for 16-bit programmers and software houses just to turn out large numbers of coin-op conversions or their derivatives.

It's a question of economics. There's a shortage of software for the new machines, prices are high, and 16-bit programmers are in great demand. In conditions like these, the ideal thing is to turn out games quickly. There's no advantage in thinking up whole new 'jobs of game when you can sell ideas you already know inside out.

A good home micro game has to meet a different set of requirements. It'll be judged not only by how addictive it is, but also by how long the customer takes. It's a coin-op looks you're interested in a solid story, play before you're out of it, the game designers have done pretty well. It's a home micro game comes apart too easily, on the other hand, it's in for a rough time from reviewers and the sales will probably suffer accordingly. Very few pure arcade titles can manage the testing process to justify being released at full price. It takes enormous skill on the part of designers and programmers to hold an experienced player's attention that long.

The problem can only get more pronounced on the latest micro take over. At £14.95, a full-price ST or Amiga game has to offer gameplay that really lasts. With £100 of money to sink in, a ZX Spectrum shoot-'em-up usually won't hit the bill very soon.

That's not to say home games can't be made to look compelling, interest isn't because they are rewarded less or ignored by coin-ops, but if the fun isn't there it shouldn't come to a surprise. Certainly some shoot-'em-ups or racing games will still be worth looking up in a post or so time, but these games classes are one thing indeed; they are hardly paid by the tonnes of arcade-capped titles heading for the modern cowshed.

What's needed, it seems, is some blend of arcade action, with strategy, exploration or



adventure - or, at least, if you will. Putting the brain into gameplay is a tricky business, and you could instead attempt such as Star Trek or Star Wars, but that's only partially successful.

### OVER THE SHOULDER

long-term interest and the only casualty of the games industry's arcade-oriented view of things. Coin-op mechanics tend to produce games that lack not only depth but also replayability: the sessions have a lot to do with a camera over the shoulder appearance, and the effect that has on its success.

As far as viewing in the jarring public coin, the most interesting for a coin-op is the overhead view. It's not enough for a game to be staggeringly addictive from the moment you start playing; the machine must get its claws into you, the moment you look at it, either in its direct appearance - the aesthetic between-games detail inside - or



**1987's Asteroids** might be more popular for its strikingly simple line art, but it's also a classic example of the overhead view.



**1979 Asteroids** might be more popular for its strikingly simple line art, but it's also a classic example of the overhead view.

more likely over someone else's shoulder while it's on. The graphics need to good enough they can be a distraction, or at least an appreciative audience for the coin-op player, but to the arcade owner they're all potential customers.

If a game's going to be in its place in the arcade line, it's best to be a persuasive salesman: the impressions are everything less, and that means graphics power above all else. The promotional success of Out Run, for example, has as much to do with what the game looks like with someone else behind the wheel as how it plays once you're in the driving seat.

None how different this is from home video gaming, where the player is all-impor-

## Games that wouldn't work as coin-ops

Some of the greatest home video games just wouldn't work as coin-ops. The fact that they wouldn't shows just how different coin-ops and home games are.



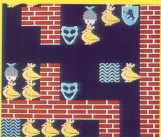
**1979 Asteroids** might be more popular for its strikingly simple line art, but it's also a classic example of the overhead view.



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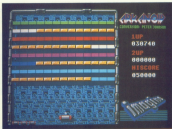
**1979 Asteroids** might be more popular for its strikingly simple line art, but it's also a classic example of the overhead view.

text and the main graphic often goes into the form of the action. In coin-ups like Dan's-a-great-bowl-of-broodfridling-hologramball-walk-it-completely-wasted-on-the-players-themselves - they're concentrating on staying alive rather than sightseeing - but then it's not really aimed at them, it's meant to lead to future plays, and it does that admirably.

There's a further point here, and one that has some far-reaching consequences. If the game's own on-shoulder display is the only screen you'll see for the machine, it's also (along with the offset sequences) often the only set of instructions you get. That means you'll have to be able to work out more or less how the game works just from watching it played. Few players will risk putting money into a machine they don't understand just in the hope of picking it up as they go along.

For this reason, standard coin-ups have eagerly lapsed to coin-pipe support. The games like *Temple* and *Gas*, graphically impressive in their time and addictive enough to attract real followers, had trouble paying their way just because they were unconventional; it wasn't obvious how to pick them, or whether they would actually be fun once you'd got them figured out.

That's not the end of the coin-operation problem. It's a machine's got to convince someone both that they can play the game straight away and that they're enjoy playing it, a machine's clearly in a tiny business to coin-up designers. The easiest way to make a game that does these things is to use an existing game format, improving on graphics and minor computer features but keeping the overall idea conventional enough to



THE INCREDIBLE MACHINE (1) The presumably difficult ones have these machine-specific icons in its window - some using them and they've got some designed for them - but just means the game going on to the next screen.

be (more or less) instantly recognizable.

There's a reservation in the coin-up world of course, but it usually has more to do with presentation than gameplay. *Moravia* works at genius like *Nebula* or *The Sentinel* might be instantly, best-practically motivating, but you won't find coin-ups with that kind of ingenuity.

However, it happens the home-games industry has to find a direction of its own. It's a bit games only ever get the accolades they show they're the most important

weapon in the sales battle against games consoles - *teletext*.

There's certainly a lot to be learned from coin-ups as to its presentation and instant attention are concerned, but the video games of the future will need a good deal more than that. Because they get it, the games must have the kind of being, mind and originality to justify buying an ST, Amiga or beyond - not to mention the £19.95 listing price - and they won't find that in the arcade. ■

### Direct transfer

With the arrival of Amiga-compatible coin-up machines in the streets, a whole new avenue of "conversion" is opening up. It's not really conversion at all - you just transfer the coin-up program to an MSX or whatever, and it runs there without any need for modification. In the immediate future we can expect *Road Wars* and *Skorpion* from Melbourne House, both of them home versions of Amiga-coin-ups.

The ease of transfer will certainly give home players sticker, better-looking games, but it could create some problems as well. Unless the games are modified somewhat during transfer - the difficulty being in particular will need some attention - the games simply won't have the lasting interest a home-games needs.

### The two-way street

Direct transfer works both ways - home-games will work fine on home machines, home-games can be made to run in the streets. *Starfighter* (Rainbird/Argonaut) is a case in point.

When the straightforward shooting action and bar-wire frame graphics of the ST fit snugly the size of arcade game, *Billy Minsky*, conversion to coin-up form was no problem at all. Billy's new series of machines are based on Commodore's Amiga-compatible 680 boards, so the Amiga version of the game will run on them almost without modification. Even so, there may still be some need for changes in difficulty, timing and game format, the sticking-sequences in particular seeing unsuitable for a coin-up or *Billy Blast*.

But Rainbird's Dave Gageley: "It's the first British game to be converted to coin-up form at all for as we know, though *Beastlord* have done the same sort of thing in the States. We'd certainly consider converting other titles to coin-up if they were suitable."

Though startlingly unconventional in viewpoint and content, *Supernova*'s power processing should enter on a path of simplicity and playability a coin-up fan could wish for. In many ways a Default-er's 20-20 era, the game would be hard to beat for sheer on-shoulder appeal - if only it could actually reach the arcade, that is. Again, the answer might well lie in the Amiga version currently under development. If the game transfers satisfactorily to its native architecture, it could look very attractive to coin-up companies with Amiga-based machines, for such a fanciful possibility this, considering that Rainbird will be publishing the game's ST and Amiga versions.



1988 (Rainbird)



1988 (Supernova)



1988 (Rainbird/Argonaut)

# SOLDIERS OF FORTUNE



The coin-op smash hit from Konami now for your home-micro. This fantastic conversion with all the original play features takes you into a thrilling alien world as you negotiate force fields and take on ferocious guerrillas as you infiltrate their headquarters.

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3<sup>rd</sup>

# DAN DARE MEKON'S II REVENGE

WINTER ISSUE 1955

The story so far . . .

The Mekon has returned, cunning as ever, to take revenge on the Planet Earth. In this bid to become ruler of our little planet he has developed a new genetically engineered race . . . the SUPERHYBIDS!

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Commodore 64



Spectrum 48



Amstrad CPC

# SCREEN TEST



Post-Christmas depression can be lifted simply by taking a look at our Screen Test reviews page. There's loads of good stuff, and those who like a more reflective kind of game will be cheered by the two 900+ programs - Superior's *Bonecruncher* and CDS's *Mah Jong*.

*Bonecruncher* racked up a whopping 943, mainly because of its mind-bendingly addictive puzzling. Not to mention its really cute graphics. *Mah Jong* is the best ever computer version of the classic Eastern board game. A lot of folks out east gamble on this game, but you won't be taken for a ride backing an outsider with the CDS corker.

Prettiest game of the month had to be Firebird's long-awaited *Black Lamp*. It really does look stunning. It didn't quite have enough of the Right Stuff in terms of gameplay or control to break the 900 barrier, but it's still an admirable achievement.

Loltdown of the month had to be Ocean's *ECO*. Great things had been expected of this Denton Designs game, but there was just a gaping hole where you might expect to find the gameplay...Doubly sad because we'd been so impressed with the preview versions. Well, you can't win 'em all.



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## THE ACE REVIEWING SYSTEM

If you're new to ACE, a word of explanation is in order about our innovative reviewing system.

First off is the **PRO**. **PRO** stands for **Predicted Interest Game**; it's an easy-to-use representation of how long we think your interest might be held by a game. Instant online conversions will start high and then usually fall off; games demanding some thought and planning will stay higher longer. Fun games start low and go nowhere but down.

The **ACE Rating** is a figure calculated to show the area underneath the game. It's the game's overall score, and is scaled out of 1000. Any game which scores over 900 is ACE's **Rated**

and is pretty damn good - see *Bonecruncher* and *Mah Jong* in this issue.

As well as an ACE Rating each separate version of a game reviewed gets its own version too, giving you details specific to that version and a score for graphics, sound, fun factor and IQ factor.

These (and) less categories are there to give you an idea of whether the game demands much in the way of thought, is instantly enjoyable, packs an exciting punch, and so on. A high **IQ Factor** does NOT necessarily mean that the **Fun Factor** will be low. *Bonecruncher*, for example, scores 91 on IQ and 7 on Fun Factor; it's not only a demand-

ing puzzle but great for us well.

**Release Dates** on each review tell you how much the game exists on the different formats, and when they should be in the shops. Bear in mind that we can only pass on what the software houses tell us or on to the date of arrival of a game. **Timeline!** means that that version should be in the shop by the time you read the review.

Each game is reviewed by one main reviewer, but is played by at least three of the ACE team; the final ratings and judgement are the considered opinion of us all.

**HUFFINK** has been spared to make this the perfect game on the street, gun. Just look at those go-blimp-wham-blaster graphics. Hee hee? Cio, not a scooter of a game.

No doubt about it, *Black Lamp* is a games element's dream. It looks stunning and must undoubtedly take the award for perfect arcade adventure yet, but underneath the beautiful facade you won't find any new ideas. This is a straightforward shoot, search, and survive number in the grand tradition of *Jet Set Willy*, *Scooter*, and any number of others.

At *July Jack* the Aster you must find nine lamps at different colors. The display area is divided into three sections: street



Goal is simple: Find nine lamps in the area, with 100 points for an extra target destroyed.



Function - the lamp itself is actually invisible. The target normally will appear upon objects when an end up at it each time hunting, especially if it's a large or hidden.

Use in the start location.

To make things difficult, every street is running with hostile characters, ranging from *Gene Wilkes* to *James Earl Ray*. Outside you will also be plagued by *Wewewores* and *comb-lobbing Clowns*. Every time you get hit by a missile your strength diminishes by an amount that varies with each opponent. By far the worst are the *Dragons* (each of which guards a *Lamp*) which require several blows in specific spots to kill them.

To aid you there are four categories of object to be found - food/drink, weapons, amulets, and musical instruments. *Food* (like *boots*) boost your energy, helping you to conserve your time limit. The other objects have to be

view of them (and behind the design that guards the *Black Lamp*) is extremely difficult.

All this would make for considerable boredom if it weren't for the frustrating controls. You can't target mouse and keyboard controls (though they are provided) because they're highly imprecise, but even the joystick control is extremely finicky. The design

#### Atari ST Version

Great music, involving an excellent variety of *Drummers* and strong graphics make this a great find. Besides a variety of challenges for music controls remain a constant nuisance, but something you'll find it a busy, or without offering the challenge every time a slip of the stick sends you to your death.

GRAPHICS	9	REACTOR	8
SOUND	7	FUN FACTOR	4
ACE RATING 813			

nal directions-always tricky to select quickly and accurately on any joystick are very important, determining whether, for example, you move left, jump out, or simply look left according to your position relative to other platforms, or ladders.

Combine the finicky controls with a load of death-dealing opponents and you frequently find yourself dying while attempting to solve a series of platforms. Don't utter hours of practice you will still find yourself score

# BLACK LAMP

FIREBIRD'S old wine in state-of-the-art bottle

music, soundtracks, and building interest, with outside screens revealing as you move across them. The intention was simply to find new display as you come from scene to scene.

The lamps are scattered throughout the screens. You can only hold one lamp at a time and although there are (with the exception of the invisible *Black Lamp*) duplicates of each colour you need only find one of each, which you then deposit in a special chest before hunting down the others. To help you there are several such chests throughout the game and there is always



#### RELEASE BOX

ATARI ST	07/86	OUTRICH	
SPEC	07/86	FERRARICH	
AMSTRAD	08/86	07/86	FERRARICH
OSAY20	08/86	07/86	FERRARICH

collected one by one until you have five of each. *Fire* weapons will give you increased firepower, greater lifetime accuracy, and movements called *booster* (fall, float, float) that you can fall from higher platforms without killing yourself. All these enhancements are temporary, lasting about 30 seconds, and the enhancement comes into effect as soon as the life stage is collected - so you can't choose when to implement it, which is a pity.

*Black Lamp* has a large map and is running with hostile gates, so the challenge is considerable. What's more, the location of objects changes with each game and subsequent games become more and more difficult, with faster-moving opponents. *Lamps* are easy to find, but staying alive is that all



On in the open. That *Fire* is used to fight you with exploding bullets, and the *booster* for getting a check-out of the map.

slowly stepping over the edge of a platform to fall to your death, rather than jumping up onto the next one.

Old game concept, state-of-the-art graphics, frustrating gameplay, great music, excessive challenge, but it is more top notch, but there's no doubt that the experience is going to strike it rich with the one. If you like a game that delivers instant reward appeal but insists a high price for successful completion, then join the rush - but don't expect anything particularly legal.

Steve Cook

# BONECRUNCHER

A very SUPERIOR brain-teaser

ACE  
943  
RATED

**WHAT** is game? Drawing on the great Britishish tradition, Superior has managed to come up with a puzzle that's packed with innovative features, truly effective, and very, very tough.

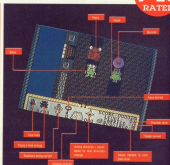
Young Bone Cruncher is a black-graphic maze filled with skeletons. The aim of the game is to collect skeletons, make way by popping them in a corridor, then deliver the way (via a stairway) to a collection of white-looking monsters. In each of the twenty-five stages of increasing difficulty you must deliver the box of soap, each box requiring five skeletons.

Of course these bones don't come easy—levels include monsters—usually trapped, but sometimes you have to free them for limited reasons—space being, but nevertheless still easy to crush—and ghosts. The ghosts do the most obvious Britishish-derivation, killing the same side as the soap—they can be pushed around, can crush you, and block your sight-of-way.

## RELEASE BOX

Comix	01/86	11-86	01/86
AMSA	01/86		01/86
BBC	01/86	11-86	01/86

No other versions planned



Here's a typical, but simple, Bonecruncher puzzle. The same skeleton is currently stuck on moving from downwards will cause its nearest neighbor to finally sliding the ghost to take some space and maybe monster—crush, see ghost.

The most obvious problem, however, is lack of skeletons. This can only be worked by exploration, and it that task is usually done by popping monsters. When released into a single space, monsters become skeletons, and give to soap movements. Spikes don't help, however—if they find a skeleton they'll gobble it up.

The game has all the tactical challenge of Britishish, but also adds some super elements that give the game a feel all of its own. The fact of there is the reverse elevator, Britishish also always had elevators, but ghosts, like these little souls, always follow the trail of soap. The elevator is determined by the last stairway you climbed is deliver safe to ye monster. That if the ghosts are currently crowding at the bottom of the screen, perhaps blocking an exit, then releasing five skeletons and delivering them, you'll discover that pink spirals will not have them leaving up and downing you is pleased.

You'll also encounter Fairy in (other intelligent companies who feels around for more—did you be used to block of memory spaces. In case if the game trapped (no good), for example and has three lives—

of his own. Fairy visits a whole new dimension to puzzle later in the game—and gives his hint of following the own path it can be a highly frustrating one.

You should also keep a sharp-eye out for keys to unlock doors, attachments, and trap-doors you see lives if you fall down them. The latter are very useful if you can use a monster over one, sending it to its doom—but make sure you don't need to convert the same into a skeleton to make up your quota for that move. Last, but not least, are the skeletons—read on one of these numbered-squares-and suddenly the whole piece starts-tilting with ghosts—oogh!

There are twenty-two levels to crack and completing each one gets you a password, enabling you to start where you left off if you lose all your lives or relax. Enough to keep you going for weeks—and believe me, you will be. Even if you've got Britishish, you should seriously consider Bonecruncher—it has a feel and charm all of its own and is desperately addictive. If you're a fan of arcade action, then forget it. But for those of us with brains that is as close to a compulsory purchase as wine likely to get.

—Steve Cooke

## C64 Version

Despite music which you'll probably want to turn off (shouting graphics, featuring young monsters and a fellow who, if you don't burn the puzzle, then starts watching the funny, then taps his hat, then gets his face...)

Great challenge, easy control, and graphics that's quick to pick up make the game very hard to put down.

GRAPHICS 5 16 K FAC/10K 0  
AUDIO 5 PUBS 140/10K 3

ACE RATING 943

## PREDICTED INTEREST CURVE



Don't forget you need a rating graph.

**MORAL** dilemma are things that most of us spend a great deal of time and effort trying to avoid. This computer version of the successful board game, however, forces most dilemmas as you card up to nine other players, constantly.

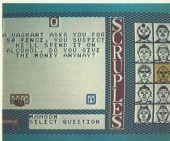
The computer version is a direct translation from the board game, with the rules and objectives remaining the same. The idea is to get rid of all your dilemma cards (3, 4 or 5 of them, depending on how many players there are before you opponents) to begin with, each player receives his quota of dilemma cards and one answer card; the dilemma card simply has either 'yes', 'no' or 'depend' printed on it, and you have to decide which player is likely to give the same answer to one of your dilemmas as is on the answer card. If the answer agree, you discard the dilemma card and receive a replacement answer card; if the answer are



SCRUPLES: even if it's tough on it, some feel it!

# SCRUPLES

Discover your inner self with VIRGIN'S help



Oh! With a bit of help from other players (some are really looking for you want to know the help)

differed, then you or any other player can challenge the answer if you think their reply is out of character. Each player then votes for one player or the other and the winner hands a dilemma card from his pile to the loser.

If you've enjoyed the board game, or think you might enjoy it, then the computer version will not disappoint. There is enough variety between computer-controlled play-

ers to make it interesting and there are enough dilemmas to keep even the most sophisticated members of the community delving for a long time. The best way to play the game, though, is with a group of friends and a couple of bottles of beer. Then just sit back and let the computer handle the tedious parts of the game like shuffling and dealing.

Andy Smith

## RELEASE BOX

SPIC 08	£19.99	1/4/88	OUT NOW
SPIC 09	£19.99		OUT NOW
08/10	£12.99	1/4/88	OUT NOW
08/10A	£19.99	1/4/88	OUT NOW
08/10 B	£19.99		OUT NOW

## C64 Version

The translation made is superb, and the animation of the characters is all there. The graphics and objectives are the same as the other versions and the only problem is the slow movement of the card up card. As much fun as the C64 is on any other computer.

GRAPHICS	5	IQ FACTOR	5
AUDIO	N/A	FUN FACTOR	7
ACE RATING 8/7			

## Amstrad Version

Graphics is very smooth and the animation is very snappy. Again, all the options are there and it's a straight translation from the board game.

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

## Spectrum Version

Signs less animation, but just as much fun. All is much lost while the C64 version leads in one glaring translation from the board game.

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

## Atari ST Version

The graphics are great and each player's card is animated throughout the game, showing expressions of joy, disappointment etc. Plenty of atmosphere goes to make this version the best of quality, and the computer is the perfect medium for this type of game. Not a game you'll play solely for the money, but certainly one you come back to often.

GRAPHICS	5	IQ FACTOR	5
AUDIO	N/A	FUN FACTOR	5
ACE RATING 8/13			

## PREDICTED INTEREST CURVE



Scruples is not the sort of game to keep you interested for weeks on end, but you'll enjoy it as much as a game like it as you'll see what you enjoy in the electronic game.



# CRAZY CARS

TITUS drive like maniacs

## RELEASE BOX

AMIGA	02/1984	03/1984
ATARI ST	03/1984	03/1984
IBM	03/1984	03/1984
AMSTRAD	03/1984	04/1984
SPEC	03/1984	03/1984



The game Crazy Cars - competing to achieve the victory the way in the 80s.

**FLORIDA** - the sunshine state is the setting for yet another NASCAR on the new racing drive-out-and-drive-in, it's very much an Out Run meets Buggy Whip type game, and elements from those games are borrowed within Crazy Cars.

If you haven't already guessed the plot then here goes. There are six stages, and each one has to be completed within a time limit before the player can progress from the humble Mercedes to Porsche and Lamborghini to the prestigious Ferrari Ferruccio.

The player views the action from directly



behind the current car and the leading race car scroll continuously towards the player. As you're up against the clock to finish the stages, it's a good idea to avoid bumping into the other race cars in the leads, because that causes your car to lose speed - thus, lose. Complete the six stages and you start again from the beginning in a new car and with slightly less time. It's a very addictive game that looks and sounds fantastic. A shame, then, that it's far too easy to be anything like a long-term challenge.

Andy Girth

## Amiga Version

The graphics are certainly superb and well drawn but the scoring is silly. The only real difference between the cars in the handling and performance department is the addition of a few extra mph for the faster models. Without having time available for creating or back-ending other vehicles the challenge soon wanes, and it can become very boring. But it's playable and also could find yourself going for the odd spin in a year's time. A lesson attempt to continue but only different game styles when doesn't quite work.

GRAPHICS  HD FACTOR   
AUDIO  FUN FACTOR

ACE RATING 690

# WINTER OLYMPIAD 88

TYNESOFT are Calgary bound

**THE** 15th Winter Olympic games are the inspiration for the latest Tynesoft offering. There are five events for the player to compete in and the game can be played by up to six players in alternating turns. The object is to win the gold medal for your selected country for each discipline. You have three attempts at each event except for the bobsled, where you have only one and whoever makes the best time-wins via default.

The player's perspective changes for each event - for example, the Downhill section shows your sled in the center of the

screen viewed from behind, while the Bobsled shows your character side-on. The skills the player engages to win each event vary according to the event, and it's quite possible to be an expert at one event and awful at another.

If you're ever played Winter Games you could well find that Winter Olympiad has to be too many similarities to be a necessary purchase. But if you don't own a copy of Winter Games and you're interested in the Winter Olympics theme then you may find the game interesting for the initial while at least.

Andy Girth



Winter 88: Reached the top of the hill going off the bobsled when you reach the bottom and push yourself to a good start.



The 88th predicted results could have your interest dying rapidly. One for those who game game only.

## RELEASE BOX

ATARI ST	03/1984	03/1984
OS/128	03/1984	04/1984
AMSTRAD	03/1984	04/1984
SPEC	03/1984	03/1984
AMIGA	03/1984	03/1984

## Atari ST Version

The graphics for Winter Olympiad are superb, but sound leaves a little to be desired. Each stage played will cost you a substantial amount of money to complete with anything like a non-terminating score. Dedicated sports simulators here could let the fun die off quite fast.

GRAPHICS  HD FACTOR   
AUDIO  FUN FACTOR

ACE RATING 610

## C64 Version

Great graphics and sound and a tough game to master for as well. The C64 version plays in the same way as the ST version, but the multi-task on the computer screen could see your interest waning early.

GRAPHICS  HD FACTOR   
AUDIO  FUN FACTOR

ACE RATING 585

# OCTAPOLIS

Play the baddie with ENGLISH SOFTWARE

**SAVING** worlds and missing elements in dozens of standard-issue scenarios, so it makes a change to play the baddie and set out to conquer planets that have so far managed to thwart the various attempts of the universe's most powerful empire.

Octapole is the score of an ancient little planet whose secret weapon is the ability

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to confuse the minds of space-wizards and robots alike. The Galactic Imperium is the name of the evil organization determined to conquer the planet (and you are a space pilot for the Imperium). So how come you get to play the wicked one? Well, it would appear that Octapole is not able to confuse your mind and render you a blithering idiot, so the Imperium are helping you to do the dirty work.

The game combines shoot-em-up with

## C64 Version

The graphics, sound and animation are superb on the shoot-em-up section but the graphics are a little basic on the platform stage. Sound is very good and atmospheric. A good combination of the best game value.

GRAPHICS	8	IQ FACTOR	3
AUDIO	7	FUN FACTOR	8
ACE RATING: 73%			

platform, with the shoot-em-up stage coming first. The screen is split into two with a side view occupying the top half of the screen and an aerial view taking up the bottom half. Your space ship starts left to right and bobs again over an Octapole city and is attacked by various waves of alien craft. The player can decide the speed of the ship and its wheel direction to fire. After a while your ship starts to flick, and then it's time to land your craft on the runway (which is conveniently located in the centre of the city). Then comes the platform stage - you control a small on-screen character who has to cross five screens complete with boxes that remove one of your lives on contact.



A shooting-up section with a welcome difference.

Octapole manages to combine the two distinct game styles very successfully. The shoot-em-up section is particularly well done with the two views adding variety. The platform section is a little basic but a well run.

Andy Jones

## PREDICTED INTEREST CURVE



Declining you remained for a while - and you get out of the game.

# TRAUMA

ERE INFORMATIQUE get unoriginal

**FRENCH** programmers may know a thing or two about graphics, but they do tend to produce unconventional game styles that leave British gamers confused. If you feel tempted to gaze about evoked, abstractly unusual, static gameplay, best to stand the alternative - most Channel software sticks to the same old as the same-games-again.

Take the latest offering from De Informatique for example. It's a vertically scrolling SF shoot-em-up in which you crew little boat, a world of horribles was thrown - with strands like that, who needs enemies? - by dodging

a path through two levels of fixed defences. You can pick up extra firepower on the way to help you both wave upon wave of alien spacecraft. Right you wily through it enough and you'll come up against large enemy ships which can only be destroyed by repeated blasting. Sounds familiar, does it not?

Admittedly there are quite a few semi-original features to the game - teleports that

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help you huff up the game map, for example, and nasty blue discs of background which drain your energy if you fly over - but the basic game idea is nothing you haven't seen a hundred times before. Stand the ground intelligently, stand the small discs, shoot the big ones and so it goes on.

It's quite payable stuff to all that, and good-looking too. The problem is, just that, with so many similar games on the market

either of the same genre is chosen. It's very hard to find reasons to recommend this game. Its long sections might seem like a plus point, but in practice the gameplay is unimpressive enough that you can plough it through them without too much difficulty. The result is that, as with so many other games in the genre, you can see all you want to quite easily.

Andy Jones

## Atari ST Version

The backgrounds and games are fairly dated almost to the point of being boring, but the side-it's quite remarkable the ST's up control can still pull it off.

GRAPHICS	8	IQ FACTOR	1
AUDIO	8	FUN FACTOR	8
ACE RATING: 83%			

## PREDICTED INTEREST CURVE



Only a trace of its former glory as a shooting-up.



Being collected from the sea floor.

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# HUNTER'S MOON

THALAMUS attack the workers

**COMPARISONS** aren't always helpful, but this Ocean's video Mutek with the Thalamus. Also from the TV series of Star Trek and perhaps you'll catch some of the fervor of this slow 8-way scroller. Programmer Martin Winkler has you eat, light-years from home, with vast numbers of strange alien structures between you and your loved ones.

To get back home you need to fight your way through 16 star-systems, each one divided into several separate levels. It's not a straightforward shoot-em-up by any means, though blasting certainly plays an important part: partly because your main aim is to collect each level's vital elements, and partly because your real opponents - alien warships - are formidable. The warships are little white boats which orbit the starship, wrap-around at protective cells around them.

At first, the warships simply orbit on physical beams - by orbit them and you stop episodes, costing you a life - but as you later see them, a reality by and that you way in, you'll find they have decidedly nasty. Those colony cells nearest you stop turn into defensive installations, being slowly glowing spots of you. This is best enough while you're outside and can manoeuvre freely, but as you blast through the colony wall to gain those elements the all-round fire can get very heavy indeed.

Later systems have guided spaceships and other tactics in line of you, but you'll face a much larger problem right near the end: go through you one blast through individual colony cells, the worst step for warships doing their job. The job of course is to carry on orbiting the colony, repairing damaged cells along the way. Outside with a warship, or coast into repaired cells where you expected a previously blasted hole to be waiting, and you'll have to start the level again.

Timing, then, is of the essence, and so is protection: collecting a shield gives you a temporary shield against those nasty spaces, so pressing on with the next attack can also be a lot safer than getting your teeth lost. The tactics you involve here are all about stringing attacks together, or clearing out multi-staged colonies in one movement. Of course you've still got to get into the first

colony of each level sometimes. Though even here sophisticated elements sometimes get you off to a flying start.

In the tactics of Hunter's Moon are interesting stuff, there's a strategic side to things too. On completion of each system you'll get the chance to earn a bonus life by defeating eight attacking warships in a little sub-game. There are eight different sub-games and the one you play each time is selected at random, but they all run on the same basis: blast the warships (or both) before they can a space you.

Win or lose the sub-game, you still get an extra permoshield at the end of each system - and this can be a good thing: more units than a bonus life. Permoshields offer the same go-go-go-factor you get when you collect a shield, but last for the duration of a

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level. They don't become active the moment they're collected, it's up to you to choose what levels to use them on. Like time bonuses in Chess, permoshields add depth to the gameplay by forcing you with long-term decisions early on. Add the instant reward at the unusual action plus a variable 128 level - game ball, and you've got something of a winner.

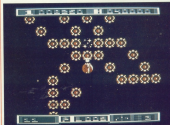
• Andy Miller



04 - Shooting your way into a colony, you're about to crash - but with luck it's just your ship's computer.



It takes time for the long-term impact of this though.



05 - Shooting your way into a colony, you're about to crash - but with luck it's just your ship's computer!

## C64 Version

Fast and snappy effects are high praise and we have also noticed an gradually improving CD-ROM version, and we'll watch it.

GRAPHICS: 5 80 FACTOR: 5  
AUDIO: 5 80 FACTOR: 5

ACE RATING: 843

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# TANGLEWOOD

MICRODEAL'S text-less adventure

**DODOS** seem to be something your uncle has a knack of inventing. His latest venture had him buying the mining rights to a distant planet which everyone thought was barren. Only when the planet started to reek of true wealth did a coal-mining company invade it and send the documents that proved your uncle owned the site rights.

It's up to you, then, to recover the docu-



While you're in - Dodos are all the skills to level your skills. They're not dead.

ments with the aid of five mobile robots that you control individually. These robots are controlled using the mouse, and the keys to guide them across the planet along little pathways. Occasionally, the mobiles will come to make an underground trip through one of the several caves on their quest, it remains through some strange forest or vault.

Various objects are to be found around the planet, and it's up to the player to discover

## Atari ST Version

The graphics are superb. The animation is smooth, and control has been refined. Control is extremely difficult though, and not something you can perform to any great extent - which is a shame. Sound effects are sparse but good, and if you want a challenging maze adventure, then Tanglewood will provide you with it.

GRAPHICS 5 HD FACTOR 7  
AUDIO 5 FUN FACTOR 7

ACE RATING 75%

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or their uses. This dodeca adventure will not appeal to everyone's taste, but if you've been put off adventure games that require text input, then Tanglewood could well be worth a look. The game is complex enough to keep even the most experienced arcade adventurer putting his quill some time.

Andy Smith

## PREDICTED INTEREST CURVE



The picture should help you to find out how your adventures may fare in any title.

# METROPOLIS

City adventures from MASTERTRONIC

**SORDID** things go on in cities, and the anonymous Metropolis to city called City'n is no exception. In this case, someone's stolen a stolen tape and it's up to you to get it back.

Metropolis is no ordinary city. Its deserted due to the atomic race. They're cautious and helpful, but they do tend to be a little on the stupid side. You've got to do your best with them, though, since the only way to get the information you need is to

ask it until you're hounded to a house!

Metropolis the city has 10 physical levels, while Metropolis the game has 10 levels of difficulty. You move around the place by means of walkways and lifts, in a manner not uncommon of Gregarious's games. On the last level you are held by a bomb and shown the ropes, a robot leads you to where you get your first job and awarded MIM Code (with which you can buy Robots, Bags etc etc). Then, then you just follow the lead



Trading round the city. Interacting with people and learning is the reward.

after another.

There are several problems with the game. Even though you're visually told what to do, it can be fairly actually getting through to level 2. Its graphics are fairly pleasing and the techno-rightness of Metropolis nicely witty, but you ultimately find your investigations getting a bit follow-

Peter Carter

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ask them for it.

Metropolis is an arcade adventure. You are experienced trolling around the city, and can question robots by typing text into a speech bubble. Ask the right robot the right questions and you might get a meaningful answer; ask the wrong question and Police Droid 1 (or perhaps Lightning Droid 2 could well reply with a conversation-stopper such

## IBM PC Version

There's one huge drawback to Metropolis on the PC, unless the forthcoming ST and Amiga versions, there is no compatibility - no Save Game option. This means that each time you play the game you have to start right from the very beginning and follow each step in exactly the right order. Even knowing it backwards, it's going to take you a good 10-15 minutes to complete. The multi-surely have been overcome by the simple expedient of giving the player, on solving the last 7 items, a code to access the save save. Graphically, the game looks pretty good, with some use of color and some neat animation.

GRAPHICS 5 HD FACTOR 7  
AUDIO 5 FUN FACTOR 5

ACE RATING 62%

## PREDICTED INTEREST CURVE



Staying between early scores is the point of interest.

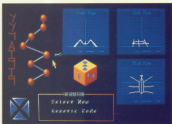
**NRDS** do it, bees do it and now it seems even Doron Designs can't do it. When talking about evolution, here, below the-surface, and the quest for a body that can survive and reproduce in its environment, but don't imagine the program's a heavy-weight Doron simulation with a text-based manual: a few carefully placed words will be best to manage.

For most of the game's playing time you use crystal or mouse to control a laboratory designed to feed, mate, and avoid getting eaten. Starting out as a small, six-legged animal (bugged or otherwise), you'll test it out first to find food, and quickly you can track down a suitable insect - or bee-shoot perhaps, in a nice lady bug - either manually, or by using your computer's learning instincts. The later only work of close range, so you'll have to get in the ballpark for yourself - even so, they tend to make things a bit too easy if you fail to reach food it's gone-over time and then, but if you make it you'll surely reach adulthood.

Having successfully chosen an age, your next task is to reproduce. For this you'll need to find a mate, but in the rather over-simpli-

# ECO

OCEAN put their genes on



ECO (E) shows the genes (left) using the genetic code you create (right) to help you evolve.

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fed scheme of things any other creature of your species will do. The mating game is pretty simple to the feeding game, consisting of a round world bounded up by turning around at one range. Your creature - a 100%-insulated personality corresponding to a sense of smell - seems to finally have to spotting potential partners of its domain, but for the most part you can feel somewhat quite successfully by sight alone.

Once you've been up to your intended, the world unfolds the act of mating by switching to an icon-driven genetic engineering screen, here you can suggest your creature eight genes to produce an offspring with altered characteristics, at last you can only alter one of the eight, but with each successive-generation another gene is unlocked until only eight generations you'll get total control over the shape of the descendant.

By altering the settings of the genes -



ECO (E) has a grid a nice read and needed additional, so we changed some windowing options.

each can have any one of eight values - you can give ants 10-bits, dog-like common sense, bugs, scoopers, bees or other human-like talents. As you make adjustments, you can see the effects they'll have on the final organism; there can be surprises, as the genes interact continuously. If you don't decide quite what sort of creature you want, click on the clear icon, and you'll instantly offer all unlocked genes, giving you a polluck slipper.

Once you've got the hang of this, and survived long enough to unlock all eight genes - not terribly difficult, to be honest - you're seen just about all the game has to offer. Survival is fairly tedious once you can create only organisms you want, and there doesn't seem to be any other object to the game. There you can offer your generation,

all cleaned up and nowhere to go, you can be anything you want, but what's the point?

To put it mildly, Eco is a disappointment. Who-owns creation, sick presentation and really subtle icons make a good first impression, but the soon wears off as the total lack of testing gameplay becomes apparent. Early reviews of the game pointed to much, but the finished article really wouldn't hold anyone's attention long enough to offer value for money.

Andy Wilson

## Apple II Version

The new home basic moves fast and the icons are generally intuitive, but the amount of graphics that can fit the size of graphics screen.

GRAPHICS	4	IQ FACTOR	4
ANALOG	3	TECH FACTOR	3
ACS RATING 5/11			

## PREDICTED INTEREST CURVE



These early results will be looking and reading the graphics performance.

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RAINBIRD



**OUR** best game is *Castles*. *Conan* gave us the movie, and now Gremlin looks over its shoulder.

Mostly, it's the *Overlord* take-pose-it-is-a-wonder-city-top, score-which-you-want HE-MAN figure action as you, steering SKULLFLOP's headcrabs, who materialize in each screen and pepper him with bullets. Your strength drops each time the badkins score a hit and can only be replenished by picking up the occasional sword found in the street. Your objective is to retrieve 50 swords

before encountering SKULLFLOP.

The action is about as uninteresting as it could possibly be, but to save the game from instant conignment to the dustbin (as three old-time scenarios, *For Escapes*, *Evil* as often, a special paired Skelton into the screen, showing one of your five companions TELA and GORGON. They will give you a hint, sending messages, telling you where they are and inviting you to join them. Get there in time and you'll be propelled into a game-within-a-game to eliminate the monster.

Unfortunately, these mini-games are pretty atrocious as well. One of them features a punch-and-sock combat sequence. It's

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Overlord: An eye looking in the window, a part of the city will be built around it instead.



CONAN: Here you'll find the Skelton, a creature that looks like a bear. There's about as much graphics in this scenario, like the one in the next page.



CASTLES: A punch and a sock are the only way to win, in this scenario. You can't change screens and saving for this.

#### Spectrum Version

Best of the lot. Some of the best on the small form factor. Great in 1984. In 1985 it's simply superb.

GRAPHICS 3 IQ FACTOR 2  
AUDIO 1 FUN FACTOR 1

ACE RATING 369

#### C64 Version

The best of the lot, with faster action, better map music, and better graphics. You can even get an on-screen map to prevent the confusion. Even with all these improvements, however, it still isn't worth getting.

GRAPHICS 4 IQ FACTOR 2  
AUDIO 5 FUN FACTOR 2

ACE RATING 439

#### Amstrad Version

Very simple, reasonable controls, good sound. Nothing too in comparison to the best design of the game in the look of relative quality.

GRAPHICS 3 IQ FACTOR 2  
AUDIO 2 FUN FACTOR 2

ACE RATING 394

#### PREDICTED INTEREST CURVE



Does playing your favorite game help you to play - the game - in the first place?

# MASTERS OF THE UNIVERSE

GREMLIN present He-Man

#### Why oh Why??

Gremlin are obviously lousy about paying attention to a game's feel, leading between the lines. They are unhappy with Richard Kibbles, speaking for the company, said "We would have put more money into the project, but then we couldn't have recovered our costs. If you spent ten times as much money on a game, you don't sell ten times as many."

If that is the case, then Gremlin's overheads need to come down. Perhaps the message is that the market just isn't big enough to support the degree of hype, overhead, license fee and programming costs that the larger companies are committed to. "This is a major part of the Jeff Minter style of also programming, perhaps?" Certainly it's a possibility as far as the shrinking \$-bit market is concerned.

Speaking for the programmers, Greg Horne of Gremlin was cheerfully honest about the game. "We didn't necessarily want to do the product," he said, "we were told to aim for the younger market... And after all, there isn't really a lot in the fifth effort, is there? We're not 100% happy with it, but for the kids we think it's good."

Kids? What kids?

slow, unconvincing, and unexciting. There's also a "shoot-out" which puts a cursor on the screen, that you score over the top of a building, shooting targets that pop up in the windows before they shoot you. Really original.

Other scenarios include a "kiss killer" which has you flying around the streets, shooting air-borne obstacles, and the final confrontation with SKULLFLOP where you have to shoot him into the sky. Neither of these is likely to leave you on the edge of your seat with excitement.

What you're left with then is a lot of three-to-five minute shooting in eight directions only, against uninteresting opponents, also speed up with the occasional change-of-scene. Generally a signalling, with the direction of North changing each time you flip screens, forcing you to re-orient yourself constantly. The action on the Spectrum and Amstrad versions is depressingly slow. Furthermore, the graphics on all versions are unimpressive and repetitive.

It's debatable whether the product should ever have been at all in the first place, but the best thing for Gremlin to do now would be to buy the entire stock and start work on something better.

Steve Gade

# BEDLAM

GO! Create some havoc

**PINBALL** games are not the sort of thing you expect to find in the middle of vertiginous scrolling shoot-em-ups. Bedlam, however, is one such vertical wonder, and the five pinball games incorporated are designed to increase the player's score during the main game. This consists of taking charge of a spaceship viewed from above and attempting to complete the 25 levels of the game - which is, apparently, really a lighter simulation created up by the tracks of the Bedlam Imperium: Planet Accelerator, where you use a code. The various levels involve attack from both ground-based installations and waves of airborne aliens, and contact with any of these results in the player being

one of his initial five lives.

Extra life-power is available to the player who manages to pick up any of the five-power symbols that appear on the ground of set pieces throughout the game. The programmers have been very considerate, and included an option that allows the player to take up the game again from the point he reached last time. That said, Bedlam adds nothing new to the shoot-em-up genre. You'd have to be very determined to fight your way through to the end - and it doesn't take long once you're locked for waves formations.

• Andy Girth



**INTEGRAL** - That's you in the bottom right-hand corner. How the top side entrance is blocked in the pinball levels.

## RELEASE BOX

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IBM PC	£11.95b	IMMAYNT

## PREDICTED INTEREST CURVE



Beating out for credit on the Spectrum, Bedlam scores the Amstrad Edge in the Spectrum for its speedy road through.

## Amstrad Version

Samurai is a lot tougher, as your ship moves around a lot more slowly. Its more colourful than the Spectrum version, but that's only to be expected. The pinball values available on the Amstrad version, making it a very average - and reasonable - shoot-em-up.

GRAPHICS	8	IQ FACTOR	3
AUDIO	8	PLAY FACTOR	7

ACE RATING 678

## Spectrum Version

Good use of colour makes this a very good looking game. The scrolling is adequate and the animation is fine. Gameplay is good if you're playing solo, but it tends to be a little boring in two-player mode. If you're a real fan of the sort of game then check it out, though even shoot-em-up devotees could find the interest waning early.

GRAPHICS	8	IQ FACTOR	3
AUDIO	8	PLAY FACTOR	7

ACE RATING 739

**GELDRÄ'S** the main villain in the coin version of the Nintendo version. It's up to you, Albatross (you), to penetrate the five levels of Geldrä's secret base and neutralise him. Rolling Thunder is a platform shoot-em-up viewed side-on, with waves of Geldrä guards instructed to punch, shoot or blow you up on sight. Fortunately you're armed with a pistol and a machine-gun, and you can collect ammunition for both through scattered boxes - both

# ROLLING THUNDER

Shoot some hoods with US GOLD

which the guards also appear - situated at ground level and on balconies. Jumping up and down is pretty simple though, the arcade remains guards had coloured hoods to indicate the number of shots required to kill them, but there's no such indication on the home-matter version - you have to determine each guard will need the maximum.

The coin-op has been faithfully converted and the programming team have done a remarkable job - considering 5-bit limitations. It's fun to play and quite addictive in the short-term, but as with most coin-op conversions, the Challenge will fade quickly.

• Andy Girth



**INTEGRAL** - The job of our hero. There's quite a bit of action for him in the factory.

## PREDICTED INTEREST CURVE



Good and excellent. Beating whether you will better than any other shooter in the

## RELEASE BOX

SPEC	£19.95	OUT NOW
CGA/CG	£19.95, £11.95b	IMMAYNT
AMSTRAD	£19.95, £14.95b	OUT NOW
ATARI ST	£14.95b	IMMAYNT
AMIGA	£14.95b	IMMAYNT

## Spectrum Version

The controls will confuse and the absence of colour on the character means there's no definite path. Sound unfortunately is distorted. Gameplay is slightly slow and a little boring in places.

GRAPHICS	7	IQ FACTOR	8
AUDIO	8	PLAY FACTOR	8

ACE RATING 715

## Amstrad Version

The graphics are excellent but lose a clarity late about them. Gameplay is slower than on the Spectrum, making the game slightly less enjoyable in this frequent death positions. Generally very similar to the Spectrum version but not quite as playable.

GRAPHICS	8	IQ FACTOR	3
AUDIO	8	PLAY FACTOR	7

ACE RATING 690

**KONGS** and jumps are the order of the day here - and if they sound like odd events games to you, prepare to be enlightened along with dozens and pairs. Maybe the best bet you can form is the nutty-like mental game of strategy and chance. Not sets of cards, as you might assume 5000 the comparisons, but sets of tiles - small slabs of ivory or plaster with symbols on them, the distinction being a bit academic in the case since they're rendered in your computer screen.

The tiles fall into five groups: suit tiles, wind, dragons, flowers and seasons. The first three groups are far and away the most important of these, flowers and seasons tiles being bonuses and not essential to the gameplay.

The game has three suits - bamboo, character and circle - the tiles within them being numbered from one to nine. There are two different kinds of wind tile - North, South, East and West - while dragons come in red, white and green varieties. If you're a value of mental arithmetic you'll probably make that 34 tiles between the three groups, but the actual total is four times that number.

Quite simply, the three main groups form four of everything: four red dragons, four blue winds, four bamboo circles, four two bamboos and so on. The heart of mah-jong gameplay is all about collecting sets of three duplicates - either three identical tiles or jumps of all four in kind. Though you'll also need to learn the self-explanatory pairs, six jumps and kongs that get you the big points, while chows - sets of three consecutive tiles from the same suit - score you nothing whatsoever.

#### RELEASE BOX

CD-ROMS CD-ROMS £14.95pb CD-ROMS

AMSTRAD CD-ROMS £14.95pb CD-ROMS

PC, ST and AMIGA versions later this year

If mah-jong is all about points (and it certainly is) you might wonder why anyone would want to know how to win. The answer lies in the structure of the game. At the start of a hand, each of the four players is dealt fifteen tiles, and must then try and get rid of them before the other three by forming sets. If these are kongs or jumps then so much the better, but these are big points otherwise if you go mah-jong - get rid of all your tiles, that is - so it can be worth

#### Amstrad & C64 Versions

These versions are designed for the hardware - the original program was written in the high-level language Fortran and ported to real machines. There's nothing to set them apart in the graphics or sound files, but the CD-ROM game looks better.

CD-ROMS & 386 FACTOR 8  
AMIGA N/A RUN FACTOR 8

ACE RATING 937

# COLOSSUS MAH-JONG

Will CDS make the chow?

ACE  
937  
RATED



AMSTRAD - Touch feeling: turn different these patterns a going and you can go mah-jong!

making chow, rather than haggling on and being better to it. Considerations like their table decisions in mah-jong - usually over which tile to discard - quite complex things. The strategies involved seem odd at first, but they can be picked up very quickly and make for intriguing if not exactly mind-bending gameplay.

That's not-ping the game, what's the computer version got extra? Well, there are three useful opponents for starters, adjustable in strength, between complete novices and real tough moves. The package also includes a tutor program which, along with the best-of manual and a little bit of common sense, provides a great introduction to the game.

Graphically polished and generally easy to use with some clever menu options, this system is a worthy addition to the Colossus range and a great game of entertainment software in its own right.

Andy Bell



AMIGA - You've got the money - we divide and we divide - and the rest of it comes. Another game you can't win at another. There's a dash though, but this could be a real winner. Build the game - you play only with one team to go mah-jong!

#### PREDICTED INTEREST CURVE



Learn to represent your business - in good

# SORCERER LORD

PSSst - wanna play a wargame?



SCREEN - get into the game as fast as you know an opponent is watching.

**TOUGH** times are ahead in the once-popular lands of Galenor. That old saga the Shadowlord is over, as you read his, vanishing left from his estate with a furious army that is fast best on capturing the estate of Yareth, and thereby ruling the land.

Times of course you can stop him. The role-playing wargame puts the player in charge of the three remaining race types that inhabit the lands of Galenor. At the start of the game only a small number of characters know of the Shadowlord's invasion, and the player controls these few characters, and attempts to cause the end of the times within the land.

Recruiting armies to your estate and war the cause is not difficult - a unit merely has to land on the fortress or estate where an army is located, and the army is allied to your cause.

No fantasy wargame would be complete without the addition of a little magic to spice it up, and Sorcerer Lord has it too. Spells, which can force the player winning or bring a vital battle. The strengths of magic



SCREEN - keep your eyes peeled, there's got to be a hole in every game.

that the player is able to summon (though when it's used is decided by the computer) is determined by the number of Stone Kings (mythic terrain features looking like Stonehenge) that the player controls. At the start of the game the player has control of all eight Stone Kings, but as the play progresses, the Shadowlord is wiser to take possession of them.

Apart from the tactical map, which can be viewed in any direction, a strategic map can be called up at the touch of a button. This map shows the whole of the lands of Galenor, together with terrain features and the approximate positions of the units. Terrain plays an important part in the game, as each unit has a set number of movement points at the start of each turn, and the various types of terrain affect the various units to different extents.

Sorcerer Lord is certainly no pushover. A player will lose either if the estate of Yareth is captured, or if the Shadowlord captures any fortress and holds it for twelve consecutive turns. An absorbing and atmospheric game that will keep you playing for a long time to come.

Andy Bell



## Amstrad Version

The main selling thing about the Amstrad version is the hexagonal display of the playing area. The colours, though, are garish and dull, and the unit symbols are not as detailed as with the Spectrum version. Just as difficult and just as absorbing as the Amstrad is to run the Spectrum.

GRAPHICS 7 IQ FACTOR 8  
AUDIO 3 FUN FACTOR 8  
**ACE RATING 638**

## Spectrum Version

The screen display is colourful and well designed, though the information screen does not remain visible for long enough to absorb all the statistics it can give. The screen is divided into squares, not hexagons, but this doesn't affect the format presented to the game. The three that enjoy P&W's work seriously, and for about you don't get over the time.

GRAPHICS 8 IQ FACTOR 8  
AUDIO 8 FUN FACTOR 8  
**ACE RATING 844**

## PREDICTED INTEREST CURVE



The Spectrum version has more than 1000 different spells and 1000 different units. The game has been around for a long time.

RELEASE BOX		
SPDC	07/84	07/84
AMSTRAD	07/84	07/84
CLATD	07/84	07/84

# GUADALCANAL

ACTIVISION head back in time

**KAMIKAZE** pods may have played their part during the Japanese and American struggle for control of the Pacific during World War II, but you won't find any of them in Activision's latest wargame set in and around the island of Guadalcanal - expanded by more on the key to America's last Pacific offensive. If the Americans couldn't take and keep Guadalcanal, then their plans for naval supremacy in the Pacific were 'all washed up'.

## RELEASE BOX

OS/OS	CD-ROM	CD-ROM	CD-ROM
AMSTRAD	CD-ROM	MISSING	
SAGE	CD-ROM	MISSING	

The solo wargame gives the player the chance to recreate the battles, with the player deciding to play either the Japanese or American forces. It pieces of all battles with the original campaign then you'll make but strikes played a major part. Its only thing then that a major portion of the



The strategic map can be seen in the top portion of the screen, while you can see the main battle tactical map in the centre for all-time important decisions.

game is given over to getting supplies to whichever army you happen to be controlling. Troops can't march in empty spaces and they can't attack the enemy without ammunition.

The three scenarios in the game include a short three-day battle which is designed to introduce the player to the game. The other two scenarios are the full campaign, with the player controlling either the American or Japanese forces.

It's fun to play and would serve as a great introduction to the genre for budding wargamers. Though the occasional strategic could tend the game's simulation a little better.

● Andy Smith

## C64 Version

The graphics well-designed and colourful and sound is excellent. The supply side of things has room and improvement, making this an enjoyable game to play while still providing enough of a challenge to keep the player busy for quite some time.

GRAPHICS 7 HD FACTOR 8  
AUDIO 8 FUN FACTOR 8  
**ACE RATING 7.64**

## PREDICTED INTEREST CURVE



Remember game ratings are only approximate guides for interest. Use this as a reference to help you choose the right length of time.

# APOLLO 18

Space out with ELECTRONIC ARTS

**OVER** the station is where you would find yourself in this curious but quaint flight sim based on the American space program. It takes you through seven distinct stages of a lunar mission, ending - if you're successful - with your triumphant splash-down in the Pacific.

## RELEASE BOX

OS/OS	CD-ROM	CD-ROM	CD-ROM
No other versions planned			

It's a strange game, because although it looks as though it should be some kind of simulation, it plays more like an old-fashioned arcade game. The choices are that after a couple of hours you'll have successfully completed all the various tasks, looking up simply with the aim of getting further up the high score table.

It's the last part - blast off - the only skill needed is to hit your fire button as near to the top of the screen as a number seems very small. It's 1991 to 1995. You have to do this several times before making it into orbit, and you already allowed a tolerance of 148. The

first few games it seems decidedly difficult, but after a few minutes it becomes not just easy, but boring.

Successful entry into orbit gives you the



Getting to a suitable speed with your jet is the key to it, along with the correct attitude your position.

chance to perform other tasks: docking and undocking the Command Module with the Lunar Module, reorienting course, landing and then walking on the moon, space walk, splash-down. All of these are controlled in a pretty simple way and are done too demanding to accomplish.

Overall, the Apollo 18 mission must be counted a disappointing failure. It fails to challenge, fails to simulate anything worthwhile and, worst of all, fails to entertain.

● Pete Connor

## C64 Version

Graphics are pretty enough and the sound is adequate, but the gameplay leaves an awful lot to be desired. It is of a demp quality rather than a lasting appeal.

GRAPHICS 6 HD FACTOR 6  
AUDIO 4 FUN FACTOR 6  
**ACE RATING 6.49**

## PREDICTED INTEREST CURVE



Predictions of all other future games is advised only.

**HEROES** comes in all shapes and sizes and just to grow it, but from The Daily Mirror where he works in his own comic strip, comes Andy Capp. He's the last-wrest, most concerning silver tooth of the business, and the narrative soon goes to points least changed from one bit.

Andy's debut on the music box has an arcade adventure named advice, where he attempts to recover his stolen Gas. You're only got a week to guide Andy around on his coin-driven adventures before Time goes hop it took 7 months. So time is of the essence, and with very limited funds it's not going to be easy - especially since you still owe money to the rent man, and he won't be put off too much longer.

Andy's limited funds at the start of the game simply aren't enough to keep his alcoholism topped up to the work, and should be dry out - well, it's game over. The game's full of puzzles like trying to find out how to bag, because or food when you're dead, and how to get rid of the rent man who takes

### Amstrad Version

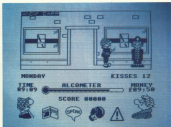
Amstrad identical to the Spectrum version. Gameplay and objectives are the same. Sound is the same as for the Spectrum version, but the effects are of a slightly higher quality.

GRAPHICS 4 IQ FACTOR 4  
AUDIO 4 FUN FACTOR 7

AGE RATING 6-11

### RELEASE BOX

SPEC	CDROM	CD-ROM
DAT 18	D190s, D130s	MS-DOS 1
ABSTRACT	D100s, D140s	CD-ROM
ATARI ST	D100s	MS-DOS 1
AMIGA	D100s	MS-DOS 1



001700 - Andy Capp on the Spectrum's budget-priced, one-hour per dollar 48K disk.

you entrance to the pub.

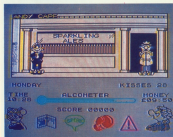
The gameplay is tough to begin with because it's hard to find your way around. More touches added to the game, like the changing background color to signify the time of day (though a twenty-four hour digital clock is always recovered) add atmosphere, making the game fun to play, at least until the comedy wears off.

The advertising side of things is somewhat limited and the Plot springs immediately to mind as a comparison. And followers of the comic strip will easily identify all of Andy's traits, but dedicated arcade adventures may find the game too simplistic and too easy to complete to keep their interest for any length of time.

—Andy Smith

# ANDY CAPP

Newspaper capers from MIRRORSOFT



001700 - Andy Capp on the Amstrad's budget-priced, one-hour per dollar disk.

### Spectrum Version

Though it's nearly identical it's very atmospheric. Sound is limited to a title tune and Andy's foot steps (which tend to crinkle after a while), but the sound doesn't detract from the gameplay, which is easy to pick up. A fun game to play that unfortunately does not have sufficient in it to hold your interest for any great length of time.

GRAPHICS 7 IQ FACTOR 4  
AUDIO 6 FUN FACTOR 7

AGE RATING 6-11

### PREDICTED INTEREST CURVE



Despite our criticisms, we'd still recommend buying the Amstrad if it is to keep you playing for long.

# GARFIELD

Cartoon cat capers from THE EDGE

**GIRLFRIENDS** Garfield and girlfriend Jon had better enjoy 800 Garfield isn't going to lose his without a struggle. The lovely Arlene has been spotted off to the local journal and now Garfield has to get her back.

## C64 Version

Quirky and colorful graphics give the game the right feel of cartoon atmosphere, and there's a funny soundtrack to accompany the action. Whether you feel the sublimating or not, it's worth a try.

GRAPHICS 7 EQ FACTOR 6  
AUDIO 7 FUN FACTOR 9  
**ACE RATING 585**

## PREDICTED INTEREST CURVE



Interest peaks in a mid to late afternoon in the region is moderate.

As the numerous fans of the cartoon strip will know, Garfield has two main problems in his life: he can't get enough sleep or enough food. His ideal life would be one long nap, punctuated by very large meals. So in this arcade adventure your job is not only to find Arlene, but to keep up both food and sleep levels.

The game starts out in the house of Garfield's owner, Jon, unfortunately for you, Jon has locked the fridge, so food is the last priority. The best you'd likely find early in the game is the (unused) milk belonging to Odo the world's most stupid dog.

Throughout the game you can pick up and use various objects - lamps, buckets and the like. Should you be unable to find any food at all (which will suffer a "ouch ouch" and gobble what ever object he is carrying if he's not carrying anything at all, in the big sleep for him).

Both food and sleep meters run down pretty quickly, so you've got to get out and explore as soon as possible. There's a park, underground area,

## RELEASE BOX

DATE	CDROM, D4, 888	OUT NOW
SPEC	CDROM	MINISET

and shops. Curiously, the owners of the hardware store, butcher's and health food store seem to be identical topics.

While Garfield graphics are silly and cartoonish, the game's arcade adventure format is very old hat - wander around, pick up objects, try to use them intelligently, and don't let your food and sleep meters run down. While lots of the cartoon may go by the role and pretty approximation of their lives, others should try before they buy.

Paul Carter



Garfield is the kitchen dog. The owner's brother seems to enjoy the butchery - and the health food store.

# MINI PUTT

Crazy clubbing from ELECTRONIC ARTS

**PURILE** Though you may find the idea, in practice the computerized may get seriously bored a reasonable club of fun.

Instead of that tired ol' business of wending clubs club tapping the caddy. Mini Putt merely gives you one club - a putter, naturally - with which to thread your way around but very crazy courses indeed.



Mini Putt is by Electronic Arts. What a world would that be for you!

## RELEASE BOX

DATE CDROM, D4, 888 OUT NOW  
No other versions planned

Whatever one you select, the obstacles prove to be somewhat different to those you'll encounter at Glenageary or Royal Birkdale - the Elephant Hole has you trying to putt past a protruding proboscis, and on others, what-ifs-and-even get planets interplay your state-by progress. And, of course, there are all manner of rolling rough, bridges, water hazards and walls. Control is pretty simple - set one meter for strength, and then another for accuracy. What skill there is - and to be honest there isn't exactly a lot required of you - comes mostly in selecting the appropriate path through those wacky hazards.

While it's not the most demanding sports we've ever seen, it's a certainly pointed

enough ability to make it a welcome alternative to various stuff like Labyrinth - and there's an option for up to four players to compete.

Paul Carter

## C64 Version

If possible, get the disk version. The tape method can be very frustrating, reading and just to express ourselves but not enough worthy talk. Graphics are bright & fairly simple, while the sound is really worth a try.

GRAPHICS 9 EQ FACTOR 4  
AUDIO 9 FUN FACTOR 9  
**ACE RATING 585**

## PREDICTED INTEREST CURVE



Early world of fun, but not long.

# ARKANOID

TAITO  
CORPOR.

## REVENGE OF DOH



*...the name  
of the game* ...the name of the game  
Multi screen,  
realistic graphics and all the  
coin-op features.

SPECTRUM	COMMODORE
<b>£7.95</b>	<b>£8.95</b>
SPECTRUM	AMSTRAD



# SCREAMING WINGS

RED RAT crash land

## RELEASE BOX

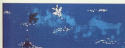
ARC: 2 disks    200K  
 Cass: 1 disk (5 min)    200K  
 MSX2: 1 disk (5 min)    200K

**UNPROFESSIONAL** is the first word that springs into your head as soon as you start to play *Screaming Wings*. The vertiginously-rolling shoot-'em-up boasts some nifty collision detection, terrible animation and indecipherable digitized speech, largely by your plane (which flies above) through

## PREDICTED INTEREST CURVE



several stages under constant attack from other airborne craft. The game's length only because the release date is so bad. **A**ndy Smith



# TOUR DE FORCE

GREMLIN get on their bikes

## RELEASE BOX

ARC: 2 disks    200K  
 Cass: 1 disk (5 min)    200K  
 MSX2: 1 disk (5 min)    200K

This is a very poor game on the Spectrum - the scrolling is awful, as is the collision detection. The roads are easy to hit, and you won't get more than a few hours play out of the game. **A**ndy Smith



## PREDICTED INTEREST CURVE



# BASKET MASTER

Slam-dunking IMAGINE style

## RELEASE BOX

ARC: 2 disks    200K  
 Cass: 1 disk (5 min)    200K  
 MSX2: 1 disk (5 min)    200K

**ONE** on one is the order of the day in the basketball simulation. Play against either a friend or the computer and dribble, pass and shoot at will. Chances you may lose the ball. Subtle replay facility allows you to watch those glorious baskets in slow-mo. However,

incredibly tough gameplay makes this a frustrating game to master and a tedious one to play. Slightly less so for basketball fans. **A**ndy Smith

## PREDICTED INTEREST CURVE



# KICKSTART 2

MASTERTRONIC throttle up



**ALL** the thrills and spills of car hire racing? Well, not quite, but it's a playable game for a short while and the course-designer means you can at least repeat itself into the obstacles. The 24 preset courses will not take long to master and the computer opponent is a pushover. A sim-

ple, but game, but don't expect much in the latest street-racing stakes. **A**ndy Smith

## RELEASE BOX

ARC: 2 disks    200K  
 Cass: 1 disk    200K  
 MSX2: 1 disk    200K

## PREDICTED INTEREST CURVE



## ATARI ST

### SUPER SPRINT

Electric Dreams 519 9546  
Spectrum version reviewed Issue 2 -  
ACE Rating 901  
C64 version reviewed Issue 3 -  
ACE Rating 917  
Amstrad version reviewed Issue 4 -  
ACE Rating 801

The beautiful four-episode machine-to-2F has been highly successful. The graphics, sound and sheer playability are superb. With up to three players and a drama, the action is fast and furious. Add in great value-for-money, and the game rates its high rating.

● ACE RATING: 917

### ENDURO RACER

Activision 519 9546



This motorcycle arcade game made the transition to 3-bit micro some while ago, and the 2F version is now available. The graphics have been improved and the result is a good, fast, addictive arcade conversion. The team driving noises have been replaced by music, though, which may disappoint some.

● ACE RATING: 815

## SPECTRUM

### RAMPAGE

Activision 519 9546  
C64 version reviewed Issue 3 -  
ACE Rating 887

The monster smash makes it to the Spectrum, and was well worth waiting for. The main-



Some very tasty updates are now available. Can ST owners afford to miss out on *Super Sprint*? Can Amstrad owners pass up *Bobsleigh*? Should Spectrum owners ignore *Rampage*?

Don't be caught out by a duff conversion though - first check the ACE updates section to see just how well the game plays on your particular micro.

steps are all, conventional and it can be a little difficult to tell when you're done. Still, it's a great game to play, and Spectrum's arcade conversion here will not be disappointed.

● ACE RATING: 880

### GRYZOR

Cosmos 519 9546  
Amstrad version reviewed Issue 3 -  
ACE Rating 771

The game's multi-level on the Atari, but at least you can work at each level until you've completed it. He starts to pick up extra - just shoot the gun emplacement and you've got the extra. The Amstrad replaces as you do a very confusing and seamless to true arcade effect - on the Spectrum, though, it feels like a cheap outside shot. It's an enjoyable game that should help you going for a while.

● ACE RATING: 760

## C64/128

### FLYING SHARK

Electric 519 9546  
Spectrum version reviewed Issue 3 -  
ACE Rating 891

If you've played the arcade or Spectrum versions of the game, then the C64 version may disappoint. The gameplay has suffered through being speeded up dramatically. The

only defects from the game, and your skills will still do that much better.

● ACE RATING: 735

### TEST DRIVE

Activision 519 9546  
Amstrad version reviewed Issue 3 -  
ACE Rating 815

The gameplay is surprisingly worse in the Amstrad version. Graphics are steady but well-organized to give a good one driving game. Still that of testing interest though.

● ACE RATING: 815

## AMIGA

### FEUD

Activision 519 9546  
Amiga budget titles don't come much better than this. A wonderful arcade experience in which the player takes charge of one of a pair of feuding warriors, and has to run around testing the legends for skills to cut on the other. A real treat of the past.

● ACE RATING: 860

## AMSTRAD

### BOBSLEIGH

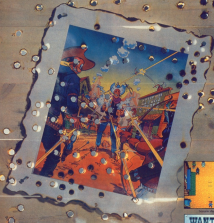
Digital Integration 519 9546  
Spectrum version reviewed Issue 4 -  
ACE Rating 901  
C64 version reviewed Issue 4 -  
ACE Rating 847

Thankfully the Amstrad version followed the Spectrum version more than it did the C64. A thronging pay-die bobsleigh simulation to keep you entertained for a long while.

● ACE RATING: 901



ROOTIN' TOOTIN' CONSTANT LOOTIN' ALWAYS SHOOTIN' SHOWDOWN!



Available on PS2, Xbox and PC



Available on PS2, Xbox and PC



**CAPCOM®**

A coin-up conversion

CBM 640/28 Cassette £8.99 Disk £14.99  
Spectrum 48K Cassette £8.99  
Amstrad Cassette £9.99 Disk £14.99

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# ATARI ST DEFENDER OF THE CROWN

Minimoff \$29.95-dk



Never again are you ready to slough through.

Whether the Wild West has taken you to the Arroyo Defender of the Crown is a lot of coverage when it hit the PC market last year, and it still works. With all those epic sequences — swordfencing by night, conquering enemy castles, riding off to the post and the like — the epic tale of brave knights being England from Norman invaders could hardly fail to lure heads.

Bally, appreciation bestowed, and the game turned out to be something of a disappointment behind those fancy sequences: the default complexity was pure and unsettling. Like people completed the thing with it done, while featured games were completed more England the first time they played.

Fortunately for all you ST owners out there, Defender of the Crown custom Commodore have really improved things during conversion. The user did pretty much the same — conquer territories, build an army with the revenue the brings in and then march on the Norman strongholds of the South. However, extra options and limits

can visit Sherwood Forest to seek assistance from Robin Hood — but he'll only help you three times, so as with your other resources you'll have to use the Sherwood option judi-



iciously in combat, you're fighting Edward the Sixth against to a rock in Sherwood.

Finally

Add to these strategic problems the tactical interest of individual battles, and things really hot up. Where the Arroyo version offered a simple choice between attack, stand attack, and retreat, the ST game is quite a bit more complex. With half a dozen options open to you — you can charge with your knights or bombard with your catapults, outflank the enemy or fall stand and fight him — you've got a fair amount to think about.

The overall side of things has been 100-



Spicing up a feature that is essential, but the information on what to do.

ly leaked out too, with outgunning and sailing both posing some tough timing and coordination problems. A successful raid can give you money to fund whole good siege technique is vital, so the increased difficulty here makes a big difference. The strategy still, you should position the post, pretty far-castles, but in the tough game Defender of the Crown has become on the ST it can be a lifeline as a last-ditch way of gaining land.

Other nice touches help things along, but with good strategic gameplay married to the stunning presentation of the original the version really really has to inspire and entertain anyone.

Andy Miller

## PREDICTED INTEREST CURVE



Forecasting returns, but the underlying principle is to get the most of things.

### Atari ST Version

Graphics create a wonderful historical-medieval atmosphere, with maps and map screens being particularly impressive.

GRAPHICS 9 IQ FACTOR 4  
AUDIO 7 FUN 100/100 4

ACE RATING 826

Now new to the ST version turn the strategy of this into quite a nicely logistical exercise. A clever gambit system gives you some interesting decisions on marching, while a delightful-reprieve option gives you a peek at your opponent's lines and tactical weaknesses (if a fee). Get really stuck and you



Laying siege to Nottingham Castle, how'd that end and you've still got the garden to defend.

# ATARI ST & AMIGA POWERPLAY

Arcana \$19.95ck

Arcana Greece was a troubled sort of place it would seem. Framing gods, necro tar powers, the crimes of satyrs and maenads slugging to answer reality about questions like "Which the tallest cathedral in Britain?" or

did your stone... and your... to your intended... the pool... into fun, then the fun...  
At last, it's... a... the...  
ACE RATED 955



Which country does the airline "Daria" belong to?

USA  
West Germany  
Netherlands  
Spain

USA - better question right and you are here - get it wrong and it's back to school!

"Which side did Isaryc Rogman play in that?" Who that's what Arcana's hidden day-to-day. And these 10-bit versions of this classic quiz and strategy computer board

## Amiga Version

Get questions, good music, great sound and more than you want!

GRAPHICS 9 HD FACTOR 9  
AUDIO 8 FUN FACTOR 4

ACE RATING 955

game might well surprise you too. A lot of what's gone into them goes and above the commonest test itself, and it shows.

The central board game is straightforward stuff, some way below the level of draughts, the object of it being to wipe out the opponent. Stepping the other guy's (or the computer's) pieces involves moving adjacent to them and engaging them in combat. The it was said that, done, however, because of the way the game's quiz element blends.

Before you can move your chosen piece, you'll have to choose the answers to a trivia question from two consecutive games, one at right within the time limit and you get to score one square, adding to your piece's limited power into the bargain, get it wrong

changes to one of three levels: Medusa's score, or mountebank or a time goal. Now you're faced with a series of questions either against the opposing player or the clock. Get too enough, ahead on points, between your piece runs out of combat strength and the opposing piece turns to stone, falls in the lava or gets squashed by a large stone plinth.

The question-and-answer system cleverly



of 2000... Last good number a while ago, with a way to help it come to the best!

## Atari ST Version

Needs presentation, still not great graphics and speed (and the rules show the machine at its best)

GRAPHICS 7 HD FACTOR 8  
AUDIO 7 FUN FACTOR 4

ACE RATING 955

get round the problems of repetition, they gives out of multiple-choice answers will be used with several different questions, so you can't simply learn the correct answers out of each group. More importantly, you've got to get the right answer quickly, so even when you've got the questions and answers off by heart - not something you'll manage easily - there's still plenty of challenge to it.

Meaning as it does with the board game side of things, the board takes on strategic interest. The squares of the board are about coded, each colour corresponding to a quiz test type: it's vital therefore to choose routes and attack strategies that keep you on the colours you like, so that you get questions you can answer. History and weapon built may well have problems if a crucial square gives them. If you skip quiz questions

## Predicted Interest Curve



Get when you know the questions and answers, the game.

Overall it's very interesting stuff indeed. If you only buy one quiz game, this has to be the one. If you aren't planning on buying an quiz game at all, take a look anyway: you may be pleasantly surprised.

by Andy Miller

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Shoot-em-ups may come and shoot-em-ups may go, but a game that actually gets you thinking can last you till you're old and grey. We present the ACE guide to the best in brain games, from chess and bridge through to real originals like Tetris and Boulderdash.

# BRAIN GAMES

**I**ntelligent games can be a lot of a problem for minds. When they're just presenting you with puzzles—as in *Leontor* for example—the mind doesn't really have to think for itself, but once they start getting involved in tactical games it's a very different story. Chess and bridge are very complex things, and most computers are ill equipped to mimic the way humans approach the mental challenges involved. Programmers have developed ways of looking at games that do work well on minds, however, with results that are in many cases very impressive.

When deciding on their next move, human beings tend to spend

a lot of time working out how good one game position or arrangement of cards is compared to another—a process called evaluation. The positions they're evaluating could be next moves, the moves after or maybe even a dozen moves later; the process of working out what positions could possibly arise is called 'look-ahead', and this is what computers specialize at. To oversimplify a bit, humans tend to look very hard at the next few moves while computers concentrate on what the game will look like much further into the future.

How many moves ahead a computer looks depends on the type of game it's playing. If a game has a large number of possible

moves each turn — a high branching factor — as the baffles say — that will easily increase the number of positions the computer has to deal with. Chess has a typical branching factor of 20 or 40, so a look-ahead of five moves or so is about the limit for a home move. Draughts, on the other hand, has a much lower branching factor — frequently there's only one possible move, because of "locking"

(compulsory capture) — so computer draughts games can look up to twice as far ahead. This ability to look further into the game suits computers well, which is just accounts for computer draughts players being stronger than the world's humans draughts experts while the top computer chess programs still fall short of grandmaster standard.

When games with concealed

information or some random element are concerned, moves often have real difficulty. Bridge crimps is notoriously hard to program, for example, because of the problems involved in working out not only which of his cards an opponent will play but also which cards he's actually got. Many programmers will count to millions and write games that take a peek at human players'

hands, a practice that's got computer bridge just about at any level something of a bad reputation. Many people will just up with something cheating from computer games however, simply because they get round the problem of finding enough play as to make up the numbers.

# CHESS

Computer chess has come a long way from being a poor match even for a child. Nowadays, while a decent program might not be able to trouble Kasparov, it can certainly whup the lesser mortals.

There are several points to watch out for when considering the purchase of any program. For a start, what's the display like? Most decent programs these days allow you to swap between a 2D or 3D display. But this isn't necessarily as important as you might think, while the 3D display is more 'realistic', it can also be harder to see quite what is going on since the taller pieces can often mask shorter ones. While you can invert the board on most chess software, you don't really want to be flipping all the time. Whether you're playing in two or three dimensions, you need to be able to clearly differentiate between the pieces; you don't want to give the latter old 'Oh, but I thought it was actually a pawn' excuse, do

you?

The levels of play the game offers is another crucial point. If there is a good spread from, say, beginner up to 'grandmaster', you can be pretty sure that the program will provide people of nearly all abilities with an entertaining game.

Closely related to the levels of play is the response time. You want the computer to play as well as it can as fast as it can; the decent game should be able to play well with a 60 second time limit. This is usually to be found in level 3 or 4 on most programs. Some programs — Colossus, in particular — dispense with levels of play and instead allow you to set a response time for the computer. Naturally, the longer you set it, the faster it will play.

Extraneous features which have now become necessities are the ability to invert the board, set up problems, change colours, and — extremely important for most of us —

take back moves. The last factor can salvage a lot of bad games. A force move option is also a handy thing; if you're playing on a higher level it can take minutes for the computer to make its move and it's useful to be able to hurry it along. Try not to abuse the program, a victory where you've consistently forced the computer to move in two seconds is pretty hollow, isn't it?

## CHESSMASTER 2000

CD Software Technology      **CD ROM**  
Amiga

The non-par of Amiga chess software. It's got just about every feature you could want, and a few more you probably don't. The display is excellent, whether in 2D or 3D, movement is easy, and the excellent chessmaster also welcomes you on the title screen plays a pretty mean game.

By far as we know Chessmaster 2000 is the only home computer chess program to feature speech. Most attractive extra is the 'look say' whereby, at the click of a mouse button, you can compare on to the screen an impression, but thoroughly bogus, spreadsheet.

## PSION CHESS

Model	Price
Model 57	£24.99
Model PC	£24.99
Model 100	£24.99

Very slick program indeed, more so when you remember that it originated on the Sinclair QL. (Slightly remember that?) Again you get a choice of screens on the display, and the pieces are really distinguishable.

Point's got lots of levels, and plays a pretty mean game from very early on. It's better on the PC than the 57 — a much more pleasing view.



play — but it is well worth considering for either machine. But don't let on the game's price, if you don't require them they can be £1-£1.50 on.

## COLOSSUS CHESS

Model	Price
Model 57	£24.99
Model PC	£24.99
Model 100	£24.99

Very strong player, but not too hot in its 3D display mode; the pieces are not well-defined and it can be easy to confuse them. Perfectly





clear, though, is 3D mode. If strength-of-play is more important to you than smart graphics, then it has to be your chess.

### COLLOSSUS CHESS

4-man

Amstrad CPC £11.950x (14.858)

Certainly the prettiest chess game for the CPC range, and particularly nice in 3D: the pieces are masterfully shaded to give a great impression of solidity. It has all the features you could want, but is not as strong a player as Colossus 4



## BRIDGE

All computer bridge games work to a similar format. You play South, against two computer opponents East and West, and with a computer partner North. All offer varying deal hands, the auction and card play, and will score for you, according to the rules of Rubber Bridge. Finally, it will calculate the relative strength of hands by the Acol high card distribution point count.

Compared to good human table players, computer simulations are fairly primitive, scores being totally shot-on-lane and intuition. Home computer bridge programs do not work out probabilities of card distribution according to bidding, do not account for the rubber-auction scenario in the bidding, and implement virtually no card play conventions (such as jetting).

### COLLOSSUS BRIDGE

CPC

Spectrum £11.950x  
Amstrad CPC £11.950x (14.858)  
C64 £11.950x (14.858)  
Amstrad PCW £11.950x  
BBC £11.950x

The program is intended for beginners and amateurs, and is packaged with 14. Forth book *Begin Bridge*. It offers both random hands and hands with a certain point count for those who get tired of passing all the time. There are lots of options

for watching, reviewing, and replaying hands, or peering at your opponent's cards, and the computer will understand and initiate both Stayman and Blackwood conventions.

Colossus bids strictly according to the conventional four-point count distribution, with the occasional inopportune call made by the computer just to throw you off balance. Card play is similarly un-



form. It will draw trumps, then lead out strong suits. It also guesses sometimes - although not only when it will be successful.

With its replay options and later program, Colossus is a very good choice for those getting to grips with the game. The screen display is clear and easy to understand, though functional rather than pretty.

### GRAND SLAM

David Saffarone

PC (Box 183, Slough, Berks.  
Tel 02954 1180)

004

02.850x

Nearly four years old, and rather ponderous compared to recent programs, but it still provides a cheap (and cheapest) alternative to Colossus on the PC. The computer handles conventional doubling, Stayman and Blackwood, and strong/weak variables for trump openings.

Grand Slam offers single replay, view hands and alternate hands options, and both bids and plays predictably and safely. The screen, while unexciting and with no use of graphics, is very clear and easy to follow. No tutorial or demo features are available for beginners.

### BRIDGE PLAYER BRIDGE PLAYER 2000

CP Software

Amstrad PCW £18.950x  
Apple II £18.950x  
BBC £18.950x

CPC's Bridge Player series appears under a number of variations, the above are the recommended versions. The program is similar in style to Colossus, though with fewer options, and slightly fewer conventional features. The computer will not for instance initiate Stayman or Blackwood conventions, but will

respond appropriately if you make the bid call.

While the computer generally bids with frustrating timidity, so that you will often underestimate the strength of your combined hands, it is also capable of making wily aggressive bids on occasion, just to keep you on your toes and really test you in it. When defending a contract, you can frequently bring lead-lead down if trumps are split unevenly, since it doesn't seem to have been coded to draw trumps particularly efficiently. Not does it finesse.

Like Colossus, Bridge Player is suitable for newcomers to the game. In addition to replay and what options, it also has a form mode where the computer plays through bidding and hands for you, as well as a kind of tutor option. The BBC II version includes a tutor which takes you through 30 hands with explanation and analysis.

### INFOGRAMS BRIDGE

InfoGraphics

Amstrad CPC £18.950x (14.858)  
MSA £18.950x (14.858)

Probably the best home video bridge on the market - but sadly confined to the few machines above. It's certainly one of the few that attempts a pleasing graphic

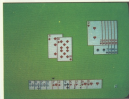
display, with pictures of the cards dealt on a suitably green-table-top background.

Particularly strong is the range of conventions available, with Stayman, Strongstart/variable opening, Major, Blackwood, Freecard majors all included. These can be toggled on or off according to your preferences.

Bidding and card play are on a

par with its competitors, although the computer's bidding, in general, appears to be bolder than in most other bridge programs.

Integrated Bridge is not, however, as well suited to beginners: there is no tutor option, and screen information pertaining to the contract being played, or which team is declaring/defending, is somewhat scanty.



## PUZZLES

### THINK!

Personal Edition

**Amstrad CPC** £2.995  
**Spectrum** £2.995

A wonderful idea: make up a four-page set of pure skill, and incorporate it. Originally full-price in Amstrad, you can now pick it up as a budget/brain-teaser, and excellent value at £100.

It's a simple-looking game, but appearances are misleading. Your aim is to make a horizontal, vertical



or diagonal line four pieces long on the game's six by six board. You and your opponent (human or computer) take turns to push counters into the lower or right-hand edges of the board. As the counter pushes into the row, any counters already on the row move up or left one square, if this takes them off the edge, they disappear and are lost for good. There's no limit to the number of turns you can keep

playing if sensibly with.

The game has interesting sub-titles to it and the computer opponent can be very tough indeed on the harder settings, but it's still hard to get down quite what makes it so mind-bogglingly addictive, probably just that it's a simple idea very well implemented. A must buy for Spectrum and Amstrad owners, in any case.

### BOULDERDASH

Personal Edition

**Spectrum** £2.995  
**Amstrad CPC** £2.995  
**CGA/CG** £2.995

Amstrad in style and requiring a considerable amount of hand-eye coordination this fine old piece of high-speed excitement is nevertheless a tough challenge for the pros.

Your job in each of the game's screens is to dig for gems, but your progress is hampered by boulders, underground creatures, and some rather strange wind. There's bare rules of behaviour which are quite easy to learn, but actually using them to your advantage can take a fair old effort of the brain - especially considering you need the gems in seconds rather than minutes.

## SCRABBLE

Personal Edition

**Spectrum** £2.95 to £14.95  
**CPC** £2.95 to £14.95  
**CGA/CG** £2.95 to £14.95  
**MSX** £2.95 to

**Deluxe Version**  
**Spectrum/MSX** £2.95 to £15.95  
**CPC/MSX** £15.95  
**CGA/MSX** £2.95 to £15.95  
**IBM PC** £24.95

From a well-kept sensation with their first version of computer Scrabble for the Spectrum, it appeared just over three years ago and was remarkable for squeezing an 11,000 word dictionary into 16-KB machine, together with a high degree of intelligence. As a result, many players discovered that Scrabble, too-Cheer, is a game that can be very satisfactorily played against a computer opponent.

Things aren't what they used to be, of course, and now Scrabble is available from a different company - Leisure Genius (owned by Virgin) - and for additional machines. The original (Pip) version is still sold for the Spectrum, again by Leisure Genius, and there are also faithful conversions for most other formats. Notable exceptions are the ST and the Amiga, but we're promised an ST version for February this year. Playing Scrabble against a machine has certain advantages. To start with, you can be sure that the machine won't cheat. The words it chooses are in its vocabulary (which has been checked by an official Scrabble expert), not in its imagination. If you cheat, entering a word that's not on the computer's list will cause it to challenge you - but simply reaffirming your decision will go to back down. Cheating, therefore, is a matter for your own conscience and not the computer's adjudication.

To complicate matters, Leisure Genius have also released *Scrabble Deluxe*. This offers a vocabulary ranging from just under 20,000 words in the Commodore to just over 25,000 on the PC. In addition, the number of cell levels has been increased from four to eight - a significant improvement since it enables you to match your own skills more accurately against your computer opponent.

The Deluxe version also has a game clock for timed play and an inspired algorithm that speeds up the 'thinking time' for computer play at the high skill levels. You should definitely give the extra for the low version - or fast on the Commodore (it's the same price, so no reason).

All versions allow up to four players, of whom any number can be computer controlled. Various game play options include shuffling the letters on your rack (based on set possible words) and asking for hints. All normal play conventions are supported.

One thing you will need, however, is a pencil and paper if playing with other humans - as you can jot down the letters on your rack before entering them from the screen display. You can choose to have all books on permanent display, but this makes choosing rather easier and can be particularly useful at the end of a game when you're debating whether to go out or hang on in the chance of getting that G with a triple letter score square.

Along with chess, Scrabble is one game that converts excellently to computerized play. Fans of the game can at last play without having to peek out other addicts, and cheats can at last enjoy their



Available on the Spectrum - doesn't the difference between the formats, but the one remains one of the most impressive.

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The pressure and variety the game offers make it enormously addictive and certainly a bargain at budget price, but if you don't notice one end of a joystick from the other or are just looking for a quiet evening's cerebral entertainment you'll probably find its arcade language too pronounced.

**SKULLCRIBERY**

Minor

Atari ST

Passed very closely on Skullcribery, this tiny little customer has a nice split-screen option for two player puzzling, and works with more or less 88 colour ST systems. Unfortunately, its publisher Hesus have recently gone into liquidation so you may have a job getting hold of the game. Hurry while stocks last!

**XOM**

Superior

Spectrum £7.95  
Amstrad CPC £9.95 (14.95)  
C64 £9.95 (14.95)

Fifteen giant mazes full to the brim with puzzles provide the challenge in this enormous sea of space-maze of eggs. The maze components - fish, chickens, horses, vultures,



ducks and fireworks among others - behave according to strict physical rules, so you always know what they're going to do in any given circumstance.

By shunting these objects around with your two standard explorers you can unlock the many formations in your way and get at the mazes you need to complete each maze - but only after some very careful thought. It's easy to work out what an individual object will do when shunted, but since one object can set others in motion it's perfectly possible to trigger a fall-chain bomb avalanche by an ill-considered move.

There's no limit to the game and no manual dexterity required, but clarity of thought and attention to detail are vital. You'll also need considerable imagination to think your way sideways out of problems. A classic game to browse.



**BONECRUNCHER**

Superior

C64 £9.95 (14.95)  
Amiga £14.95

Entertaining title maze puzzler somewhere between Xor and Skullcribery - see main review on page 41.

**3D Tic-Tac-Toe**

This astounding little game - better known to us Brits as *Knights and Crosses* - takes the form of a Macintosh desk accessory so you can play it in the middle of doing something far more useful. The two grids stack up one on top of the other, so you can make perfectly valid lines diagonally or straight up. You'll have to do the stacking in your head, making some lines very difficult to spot. Of course, one line's exactly the same as another to the Mac, so finding it can be a tough proposition.

**TETRIS**

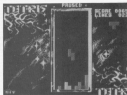
Minor

C64/C8 £8.95 (12.95)  
Amstrad CPC £8.95 (12.95)  
Spectrum £8.95 (14.95)  
Atari ST £10.95  
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IBM PC £10.95

A fascinating geometrical oddity, this Russian puzzle game (the absolute mathematical epic of parking into a cut game). One of a line, shapes fall downwards into a rectangular playing area. Left to their own devices they'll pile up until they reach the top of the screen; your task is to guide them down and pack them in tightly so that this doesn't happen.

If you can dovetail the different shapes together that they form a solid bar from one side to the other, the bar disappears and the shapes above fall down into the gap this makes. As long as you keep this process up you'll survive, but it's not easy: the game spends up as it goes along for one thing, and small mistakes will wipe the heap giving you less time to guide the next shape down.

Different versions of the game have proved to be rather variable in their inside aspects, but the familiar single idea behind them means they're well worth a look whatever your machine. ■



**Where's now for brain games?**

More than has just about reached the limits of what most home players need in the way of strength, speed and flexibility. Programmers are turning their attention to other, more obscure games - with some considerable success. What to be said - but after a while they're pretty much bound to run out of games anyone's heard of or wants to play.

One possible direction is to create games especially for computers games that just wouldn't work in the physical world. Display problems aside, 3D games should work admirably on home machines with the more expiring their better grasp of the situation is denied that renowned human ingenuity. With coin and mouse available there'll be no need for complex rotation systems, and advances in the field of 3D computer-aided design might well have lessons for programmers trying to display solid objects clearly.

Another direction worth pursuing is that of machine learning. If a program can work out and improve basic strategies for games solely on the basis of the game rules - there's been a certain amount of work done on this with draught programs - it may be possible to create 'combination like' games with DIY rules which the computer adjusts itself to. Load the system up, create a pseudo chess on a 12x12 board with 1000 different kinds of pawns, and see how the computer adapts just using general principles. Will you handle the unfamiliar situations better than it can?



© Spidey playing a game of the future?





# TRICKS 'N' TACTICS



## RAMPARTS

Infinite energy!

This handy infinite energy poke should help any gamers having trouble with this game. Simply type in the listing, run it, and load the game from floppy.

20 POINT: Coder's key.  
 80 FOR 8-1004 TO 1088 READ 4,POKE 8,ANDSTB  
 40 UNT 1045  
 80 DATA 188.1,141,188.8,188.4,141,190  
 80 DATA 8,76,74.8,189,173,141,107,64,76  
 70 DATA 5,12,20,88,248,188.5,141,100,8  
 80 DATA 188.4,141,181.8,76,16.8

IAN DIMMICK, *Weyford.*



AGENT X 2—Data loaded

## AGENT X 2

Those elusive codes for levels two and three on the C64.



BUGGY BOY—See you later

## BUGGY BOY

Infinite time

This wonderful car game can now be played a lot easier thanks to this C64 poke. Type in the listing, run it, and start the game tape from the beginning.

70 L4075  
 80 READ: A\$=A\$+1408 AND

80 POINT 1.8,144,1,8070-80  
 80 BYS 576  
 40 DATA 188.40,134,185,184.44,132,190  
 80 DATA 32,80,248,188.88,181,243,3  
 80 DATA 188.2,141,248.3,76,13.8  
 70 DATA 104,144,80,187,141,264,189  
 80 DATA 3,141,27,4,188.88,133,1  
 80 DATA 188.4,188.88,141,8,704  
 80 DATA 76,0.8,256

TIM AND IAN PHARRE, *Reading.*

Make this your highest scoring month yet with this assortment of tips and pokes.

We bring you infinite time for *Buggy Boy*, infinite energy for *Ramparts* and a superb players' guide to *Deflektor*—plus much more.

Code for level 2 = 00MENDRAST

Code for level 3 = NEGALDWRBA

LEE ROWLAND, *Reading*

And for Spectrum owners:

Passwords:

- 1 Here comes it for top.
- 2 There's no escaping it.

Mr R.C. JOHNSON, *Doncaster*

## TEST DRIVE

Get to the Dealership a little earlier with this handy life tip for the Amiga.

To avoid going over the cliff or crashing into the walls - indeed to aid you in your general cornering - simply keep the fire button pressed. The car will then just glide around corners without any trouble. Of course you'll still have to avoid the other road users and release the fire button should you wish to accelerate or brake.

M. GEORGIADIS, *Leeds*



TEST DRIVE - Make it to the dealership



### ● LEVEL ONE

*Mini*

This screen was designed to introduce the player to as many characters as possible. The screen shows the usefulness of receiving mirrors, attractors, fibro-optic cables and plasma arcs, for great difficulties here, and a chance for the expert to accumulate points.

#### General Tips

You enter and leave a fibro-optic in the same direction.

If those Gremlins have been causing you headaches in this 900+ Gremlin/Vortex brain-stretcher, never fear because Vortex's very own LUKE ANDREWS is here to show you the light...



# DEFLEKTOR

The excitement generated from a new purchase usually forces the player to load the game immediately and try to play it. This is not the recommended course of action with any game, let alone Deflektor because it will get you nowhere. Read the instructions and try to examine the characters including what they may or may not do. Go with the rest of the map card and the multi-link system which scrolls the instructions across the screen while the rest of the game is loading, so you are ready to play.

To play the game through you'll need to set aside a couple of hours at least, but if you wish to practice first, the facility is there. A demo mode enables you to view all the screens, and if, while you're actually playing, you wish to view a screen and then plan your attack or have a break, then there is a pause mode, or 'terminal' mode.

The aim of the game is to link the transmitter beam to the receiver. Before you can do this, however, you have to destroy all the Cells left behind by the Gremlins that all roam around various screens. You will see the Gremlins on your travels, still landing and turning the mirrors -

probably to your annoyance. Once the energy levels have built up, the beam is activated. The beam will always hit the first mirror and deflect accordingly. You will notice the mirror flaring sound during energy build up during which the mirrors can be moved, as it's not guaranteed that you will hit the first mirror favourably. At the start of each screen you should turn the first mirror full circle - you will then experience either energy loss, a direct hit on a Cell, a link with another mirror, a link with another character or the screen perimeter. The object is to hit a Cell or another mirror that is in a position to hit a Cell.

The game concept is the same for all machines, but the screen layouts are sometimes different and speed varies from machine to machine. On the Amstrad, programmer Cottis decided to use the drive made for clarity, simplicity and definition, as opposed to using extra colours, which would have meant chunky and irregular graphics not at all suitable for Deflektor.



### ● LEVEL TWO

*Mini*

Beware of overload, absorbing blasts may power. The middle Cell of the top line is the main problem, though the above mine can be a headache. Plan the route, because it's easy if you think about it. Don't catch you-out, though, if the mirrors are set in your favour.

#### General Tips

You have more time than you think. Move away from danger and let your energy build up again.





### ● LEVEL THREE

#### Wink

Problems from the start. Make sure the first mirror is in your lineout, otherwise instant death awaits. Gremlins make their first appearance. Bottom Cell is the main problem - destroy it by using the reflector and bottom right hand mirror. Last of the easy screens.

#### General tips

Remember, mirror to mirror is not always direct - you may have to bounce the beam off walls or other things. Gremlins can be a help as well as a hindrance.



### ● LEVEL FIVE

#### Wink

The first of the 'Hall of Mirrors' screens - if you think this one's hard, you have a shock in store. Energy loss or Gremlin interference could prove to be your downfall on this screen. Remember - if you can't destroy with one mirror, move on to another.

#### General tips

Make the most of the 'Intermoder'.

# TOR

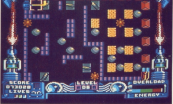
### ● LEVEL FOUR

#### Wink

This is the first shoot-out-up screen. They will get harder, you can destroy all but a few Cells by direct mirror rotation. The wall can be destroyed by using the revolving mirror and deflecting the beam with the extreme right hand mirror.

#### General tips

Reported Gremlins re-appear. Watch your energy levels. Fancy results can brighten the beam and cause overload. Do not lose the beam back on itself, it will self-destruct.



### ● LEVEL SIX

#### Wink

There are two sections to this screen. Destroy the first series of Cells, but be careful of overload. Polarizers and reflectors do the main job (if you're lucky).

#### General tips

In screens that are sectioned off you can avoid Gremlins by repositioning them and hoping they re-appear away from trouble. React quickly to alarm bells and warnings, but don't panic!



## STAR TREK

Is the mission taking you about five years to complete? If so, these tips will prove invaluable.

## Key:

R=Regional code, L=Local code, G=Outer-space zone.

## 1-Best generators can be found on:

- 1 Corwin 34-67-11 Klingon
- 2 Hense 48-62-26 Klingon
- 3 Waker 66-76-16 R-Klingon (poole)
- 4 Bekus 37-30-50 R-Klingon (poole and guard)
- 5 Farnen 19-62-38 R-Klingon
- 6 Pater 76-72-78 R-Klingon
- 7 Lemur 76-67-86 L-Klingon
- 8 Gamed 48-62-84 R-Klingon
- 9 Tiku 25-70-67 G2-Klingon
- 10 Sorla 88-64-17 R-Klingon (guard)

## Lightest guards can be found on:

- 1 Lufid 71-29-84 Federation
- 2 Sural 72-47-81 R-Federation
- 3 Demer 31-57-64 G2-Independent
- 4 Tofus 49-64-88 R-Federation
- 5 Sakel 70-50-41 G2-Klingon
- 6 Suter 28-17-68 Federation
- 7 Solum 61-10-41 R-Klingon
- 8 Ramul 23-66-71 R-Klingon
- 9 Pemas 43-11-21 R-Klingon
- 10 Farnuk 53-65-28 R-Federation

## Signals Console planets:

- 1 Remak 53-10-16 L-Klingon (guard)

## Klingon codes file planets:

- 1 Moku 25-76-29
- 2 Binar 62-76-26 L-Klingon (read Phase)

## Mechanical file planets:

- 1 Marok 50-14-20 R-Klingon (read Phase)



## Psychogen planets:

- 1 Kusam 56-61-58 R-Federation (poole)
- 2 Claxo 86-66-58 R-Federation (poole)
- 3 Mizey 34-52-55 R-Klingon
- 4 Mizey 34-54-75 R-Federation
- 5 Daman 69-62-51 R-Federation
- 6 Koton 15-50-42 L-Klingon
- 7 Tama 56-74-16 G2-Independent
- 8 Darel 20-33-48 R-Klingon
- 9 Sora 25-62-33 R-Federation
- 10 Gatum 61-33-16 R-Federation
- 11 Zorkus 53-57-49 R-Federation

## Fidel commander planets:

- 1 Sava 85-34-43 R-Federation (read Phase)
- 2 Hense 36-15-75 R-Federation
- 3 Lemur 16-57-87 L-Federation
- 4 Lemur 34-79-80 R-Federation
- 5 Demak 51-58-50 G2-Federation

## Billion (beta 4) planets:

- 1 Geph 53-61-64 Klingon
- 2 Refax 32-58-25 L-Independent

## Peace Virus Ampoule planets:

- 1 Tenuk 50-19-67

STUART WYNN, *Creator*



Star Trek - Offer the Klingon

## ACTION FORCE

Infiltrate almost everything.

This C64 game will give you unlimited amounts of ammo, bombs and invulnerability for you and your jeep - NOT ground installations. Just light in the listing, hit 4, and load the tape from the beginning.

- 188 DATA  
32 88 242, 188 25, 141 97 2, 188 267, 141, 88 2  
110 DATA  
88, 188 170, 141 271, 144, 141 267, 144, 188 253  
126 DATA 14, 267  
130 FOR L=5000 TO 5300 READ  
A=C+K\*PIRE LA  
140 NEXT L=0-1048 THEN 130 GOTO 130  
150 PRINT "DATA ERROR" END

THE DOUBLE AGES 88, Cleveland.



ACTION 1981 - Start the double ages go.

## HOT TIPS...HOT PRIZES!!

Every month we give away CEC's worth of software to the readers who send in the best playing tips, maps, jokes and in-game tactics. If your contribution is selected as Tip of the month you can expect to receive six top-rated games for your machine, specially selected by the ACE team, completely free.

This month, Stuart Wynn's *Star Trek* tips earn him five copies of *Be-L-Guns*, *Rampage*, *Defender of the Crown*, *Playboy*, *Fangrenwood* and *Brother Hoodler* for his ST.

Jan Brown wins himself a copy of *Scraples* for his C64 as do Ted and Pat Prazak. The *Brother Hoodler* also pick up a copy of the game for their C64, as does Leo Friedman.

Mr R.C. Johnson however, wins himself a copy of *Scrapers* and *Lord*. We don't just give these games away though, you have to work for them. So send your tips, maps, and jokes to **TRICKS 'N' TACTICS**.

ACE  
4. DUBEN STREET  
BATH  
B.S.T 18J



# MUSIC MINUS MIDI

Fed up with MIDI? Can't afford it? Then check out our list of budget, non-MIDI musical packages for your micro. Mark Jenkins checks out what's available...

**P**rofessional and semi-professional music makes a lot of MIDI these days, but there are those of us who don't want to spend hundreds of pounds on MIDI-equipped synths and samplers, but would still like to produce our music to sleep-along-it's vaguely musical music.

Scores of packages have been released to allow you to do just that. If you have a Commodore 64/128, a BBC Micro, an MSX, an Atari or Intell Mouse, a Spectrum or an Amiga, then check out our musical rogues' gallery of different music systems for different machines, with the correct on-budget prices and packages that enable you to get the best out of what you've got - your computer's sound chip.



Instant Music - set settings, open a file, edit notes, select different instruments - by the page it's all so easy

## ● INSTANT MUSIC

Electronic Arts  
Amiga £24.9500  
C64/128 £9.9500 £14.9500

This family, colourful package is aimed at the novice user who wants to make music but gets a little apprehensive of the sight of standard manuscript notation or the tension of sound chip registers, harmonics, and voice parameters.

The package allows you to compare with the four-voice built-in FM sound chip. The main screen shows the tunes you've loaded (or created), with a menu bar above and flow instruments you've currently selected listed below.

What makes Instant Music different is its use of colour and its method of entering notes. Each instrument is associated with a

specific colour, and once it's selected you can use the mouse to write it where it coloured dots/lines marks on the screen. The vertical position of the lines determines the pitch and their length the duration of the note played.

A note window has a strong visual element to it, which can be very appealing to a beginner. You can have a lot of fun just dragging the mouse across the screen and feeling the effects. This is probably the closest you'll actually come to 'painting with music' on a note.

There are loads of demos in all styles, covering rock, pop, jazz, blues, folk, classical, and even minimalist styles. The 'Preset Dictionary' lists all the styles and sub-directions list the demo pieces, which include some simple chord progressions to help in your own compositions.

Full-on menus include DRUM, EDIT, SCORES, JAM, PROJECT, and OPTIONS. JAM is the most fun - it lets you play any of the four voices 'live' with any sound using the mouse tapping it up and down the music grid, both functions feeding the notes and rhythms available to it in with the backing music.

The package offers a peculiar set of compromises between complete freedom and

helpful 'play-along' type features such as auto-tying and score-following, quick drawing of notes and chords, and so on. It's not fantastically easy to compose complex tunes with, but it's not difficult to create something - and very easy to have fun with.

## ● MUSIC CONSTRUCTION SET

Electronic Arts  
(Demos version)  
Amiga £89.9500  
Apple Mac II/plus - serially you desire.  
(Standard version)  
Ami 57 £24.9500

The suite of programs provide both control of your computer's sound chip and the means to load up professional pieces of music - scoring, transposing, and editing your work as you proceed. In short, it's a powerful package designed for those who know a little bit about a lot else.

But that also means it's a useful educational tool, since the manuals are comprehensive, and anyone with even a superficial knowledge of music theory will find them



Music Construction Set for Amiga - the package scores (well!) in every department.

when using the package with ease. You won't get any "play along" features as you do with Instant Music, but you do get the facilities to enter notes at the keyboard, or to place them directly on the manuscript using the mouse.

There are extensive editing facilities, and the package provides a reasonable number of different instrumental voices which can be written into the score, giving you a clear idea of how your composition would sound live.

The essential concept behind the standard and deluxe versions is the same, but you may find some versions missing from the IT program. Goodies available in the later version, for example, include provision for lyrics, comprehensive scoring functions, score editing, MIDI functions, and quality output of your score to a laser printer if wanted.

Excellent packages with good documentation that deserve the attention of anyone planning to use their micro-sequencer for musical composition, but who doesn't want to spend a fortune.

## ● THE MUSIC SYSTEM/ADVANCED MUSIC SYSTEM

Bandaid

TMS

Amstrad £79/95k

OS4/128 £74/95k

MSI

Amstrad CPC £79/95k

OS4/128 £76/95k

The Music System and the Advanced Music System were developed by Systems for Music Logic and later transferred to Bandaid. The latter have been made available to the BBC, OS4, and Amstrad CPC users, and the program (the AMS) is packaged and missing the most powerful (it's possible to imagine to) features.

All versions use a sophisticated icon system, with the AMS versions having added MIDI facilities in some cases, printout options using a wide variety of printers, and laser versions which allow you to string together composition to create lengthy works.

The 80kbs/keyboard module does most of the work, allowing you to play live on the micro keyboard or to record performances. A double music store is displayed and pull-down menus allow you to choose notes, while a melodiator slide is available for you to time your playing.

It's also possible to place notes on the score using the cursor keys, and other notation such as bar, volume control, and tempo/beat can be added.

Sound parameters can also be saved and the sound editing section includes software-based 80kbs Low Frequency Oscillator for special effects and other facilities not normally found on the music sequencers.

An opening page of a score allows you to select the major functions - record creation, composition, editing, printing, or data opera-



Bandaid's Music System running on the Amstrad CPC. You can play along to the music, or enter notes from the keyboard, or to place them directly on the score by clicking on the notes with the mouse using a pointing device like a mouse or light pen.



The Music System's control screen - choosing an item using the pointer puts you into the appropriate area of the program.

tion - and MIDI-linking facilities on the AMS version.

The only problem with the package is that it can't be joystick-driven, which would have made more sense of the cost-based screens. But overall the TMS/AMS packages represent very good value for money and should be thoroughly investigated.

## ● OLIVER'S MUSIC BOX/MUSIC COMPOSER

Combin Prog, PO Box 475,  
London, E4 6UD

Oliver's Music Box

Spectrum 128 £9/95

Music Composer

Spectrum 128 £11/95

Both these packages are intended to cope with "music inputs" and processing and have a lot of features which their creators claim are unique. Both use conventional music staves but can cope with tied notes (notes joined together with a line which indicates that their values are to be added together even if they cross bar-lines). The Spectrum 128 can't be connected to a printer while it's in OMS operating mode, so there is no printing facility on the Music Composer, but otherwise the two packages are pretty similar.

Music Composer does allow you to use the Spectrum's note generator which is not normally accessible from 128K BASIC, and thus lets you create drum sounds (as well as musical notes, the nature of the drum sound depends on the musical pitch and envelope you choose, and the beat notes are another effect accessible from the Spectrum's sound chip.

Oliver's Music is a simpler version of the same package for a BBC machine. The difference is that it allows you to print out your music, entering notes from the keyboard in more or less the same way. Whether printing is of any interest to you depends on what applications you'll find for your music.

In the Final Check mode, Music Box fills up the empty staves a note at a time, which is a good way of spotting mistakes in your programming, but capacity and 16 stems turns make the one pretty good value for money too.



If you want a truly exciting display, you need the Oliver's Music Music, which gives you control panels displayed to fit over the top of your OS, together with software that enables you to make use of all the computer's screen display. There are a number of software packages and you can also get a system designed to fit over the Commodore OS which will screen your work, but to the different layout of the keyboard. For the data, but don't expect much in the way of sophistication unless you go to the latest Expander (see Expanding Proteus - stay tuned to last box).

● **EMU**  
**Graphic Graphics**  
 Amstrad C14 9500 £19,950k

The Dictator Music Utility comes in tape and speaks non-operation in favour of clear English labelling. The opening menu offers Dev, Edit, Store, Music, View/Load Data, and Save MIDI; the examples and help notes are on the Back of the cassette.

Loading a demo requires a lot of thronging about on the load page and the main menu page, although the music display on three-part harmony or a conventional music score is quite expressive when you eventually do come to it. Press Clpg to make the music play and you'll have a reasonably complex, slow-balled pecked-out in three stringy voices.

The screen display allows you to make notes, set tempo, record notes, recording, set key, line signature and dial and choose new notes and real values to insert, and also shows you what note a playing or being programmed at any particular time on a miniature display of a six-octave keyboard. Notes are inserted one at a time using the BM keyboard, or View from the top two rows of music keys used as a basic piano keyboard. The software will record your performance and rotate it on the screen - quite an achievement.

You can tie notes together, enter all sets of note markings, and change the sounds used with the first page and the first page. The latter defines envelope repeats. The former is a comprehensive display within the limitation of the Amstrad's sound chips of the tone, volume, and length of a note, and gives as much control as you could reasonably expect over the sounds available. You can vary the overall volume during a piece of music and save a piece normally or in 800 Gluechip System Extension form for use in a BASIC or machine code program.

The handbook has a comprehensive list of keystrokes for programming plus a useful summary of the Block Copy function which allows you to reproduce any section of any voice as many times as you like. Overall,



Amstrad's Sound Expander software. There's also a sample software available for those who can't or don't like to use it themselves.

EMU seems powerful - but what's really

● **FM SOUND EXPANDER**

Commodore  
 Price very - stop around.

A really popular FM synth add-on, passed over some time by an Edit/Compose package. The screen you to compose polyphonic music, edit it, and to create new sounds to play it with.

The Compose section opens with a double music screen which allows you to choose a key signature, tempo, voice to be used, and so on. Here are then programmed using the computer's keyboard or the Commodore music keyboard, you can enter one part at a time, and edit notes, copy blocks, and so on.

For MIDI tests, the FM MIDI page assigns each of the eight FM voices plus permission to a MIDI channel and decides whether you want to clock the music inter-

nally or externally (eg. from a MIDI drum machine). There's a new set of 64 pattern FM notes which are far superior to the original set, and you can save and load music and notes to-disk.

The note-editing software is separate on the disk, and the set-up facility allows you to choose an upper and lower sound, split point, transposition, permission on/off and MIDI on/off. After that stage you go on to the BM page proper, which has five graph displays, its brightness, envelope, Pitch 1 and 2, Wave 1 and 2, Tremolo, and other parameters.

The Drum Machine section allows you to create lists from a selection of sounds and with patterns on a graphic display of a single bit. There's also a rather wonderful Real Machine section, which makes up several variations and gives you the opportunity to edit them and recording ready-made.

● **K-MINISTREL**

Kuma Computers Ltd  
 Apr 87 £29,90k

K-Ministrel takes full advantage of the 80's sound chip, built-in MIDI and great operating speed, efficiency and memory capacity. Three channels of composition and playback are on offer on the computer, together with 4, 8, 12, or 16 channels of playback via MIDI.

If K-Ministrel is copying the channels of sound it can also 2000 chords, enough to do very highly composition. Bars, triplets, sostenuto, and crescendo can be programmed, but K-Ministrel only offers very simple editing of the built-in sounds.

The package consists of a single disk and a slim booklet which describes the system as a musical display editor. The basic display is a double musical score and the pull-down options are Edit, Music Play, New, Load, Save, Quit, Sequence Play, Start, End, Copy, Delete, Move, Merge, and Insert, Chord Play, Delete, Start, Mark, Select Channel, Volume, Tempo, Attack, Decay, Rehearse and Options (Change Key, Change



Amstrad's FM Sound Editor - this is the edit section, allowing you to define the characteristics of your sound - what is the package worth comparing with?

None/Transpose, Measure, First Page) if-Minibel operates in medium resolution and produces rather fat, blurry characters. But the display is very clear and the bottom of the screen gives a choice of note and rest lengths and tempo select. Note that the desired lengths are inserted into a piece using the mouse.

A good selection of demo pieces (Beethoven, The Entrepreneur, Lord of the Rings and Glass etc.) show you how far the package can go, so you can start off by editing these to see the effects of various changes. Each channel is color-coded and you simply select which channel number you wish to edit before beginning. The first page gives a limited amount of control over the sounds used, offering Violins, Tromps, Flutes, and Saxons, and you can enter other single notes or whole chords.

Length of composition available depends on the number of channels used, but if it comes to more than one page, the page number reached is indicated on the composition page (although the display doesn't actually scroll). You can load a sequence from disk and insert it into a section you've already completed, copy and paste patterns, enter a title for the finished composition, select a new key signature and produce a metronome click if desired.

You can print out on an Epson or similar printer but will have to mark in tempo

changes and a lot of the musical terms yourself. Triplets are printed accurately though.

If-Minibel is a useful compositional system for basic work, although it won't teach you to compose, as such. But it does provide

good value for money for the extent of what would like to see whether it's interest in music justifies moving on to a more professional and more expensive package. ■



*i-Minibel's* basic studio, available for the PC and the Amiga, is a pleasing compromise between the ease and simplicity of Ed's Deluxe Music Composition for the Amiga, *Amiga* package, and the more complex *Amiga* package, and a nice range of instruments. This can be further enhanced by editing or writing a composition and the package producing a good balance between ease of use and power. Recommended: £75 (if you have £100 for both the PC and Amiga versions).

## SHEKHANA COMPUTER SERVICES

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1.1.7. System Migration	1.1.8. System Integration	2.1.7. Computer Upgrade	2.1.8. Peripheral Upgrade	3.1.7. Project Management Software	3.1.8. Risk Management Software	4.1.7. Business Project Management	4.1.8. Business Risk Management	5.1.7. System Monitoring	5.1.8. System Reporting
1.1.9. System Optimization	1.1.10. System Performance	2.1.9. Computer Repair	2.1.10. Peripheral Repair	3.1.9. Quality Management Software	3.1.10. Supply Chain Management Software	4.1.9. Business Quality Management	4.1.10. Business Supply Chain Management	5.1.9. System Audit	5.1.10. System Compliance
1.1.11. System Security	1.1.12. System Privacy	2.1.11. Computer Replacement	2.1.12. Peripheral Replacement	3.1.10. Time Management Software	3.1.11. Performance Management Software	4.1.10. Business Time Management	4.1.11. Business Performance Management	5.1.10. System Security	5.1.11. System Privacy
1.1.13. System Backup	1.1.14. System Recovery	2.1.13. Computer Maintenance	2.1.14. Peripheral Maintenance	3.1.11. Customer Service Software	3.1.12. Employee Management Software	4.1.11. Business Customer Service	4.1.12. Business Employee Management	5.1.11. System Backup	5.1.12. System Recovery
1.1.15. System Upgrade	1.1.16. System Migration	2.1.15. Computer Upgrade	2.1.16. Peripheral Upgrade	3.1.12. Inventory Management Software	3.1.13. Project Management Software	4.1.12. Business Inventory Management	4.1.13. Business Project Management	5.1.12. System Upgrade	5.1.13. System Migration
1.1.17. System Integration	1.1.18. System Optimization	2.1.17. Computer Repair	2.1.18. Peripheral Repair	3.1.13. Sales Management Software	3.1.14. Marketing Management Software	4.1.13. Business Sales Management	4.1.14. Business Marketing Management	5.1.13. System Integration	5.1.14. System Optimization
1.1.19. System Security	1.1.20. System Privacy	2.1.19. Computer Replacement	2.1.20. Peripheral Replacement	3.1.14. Customer Relationship Management	3.1.15. Human Resource Management	4.1.14. Business Customer Relationship Management	4.1.15. Business Human Resource Management	5.1.14. System Security	5.1.15. System Privacy
1.1.21. System Backup	1.1.22. System Recovery	2.1.21. Computer Maintenance	2.1.22. Peripheral Maintenance	3.1.15. Project Management Software	3.1.16. Risk Management Software	4.1.15. Business Project Management	4.1.16. Business Risk Management	5.1.14. System Backup	5.1.15. System Recovery
1.1.23. System Upgrade	1.1.24. System Migration	2.1.23. Computer Upgrade	2.1.24. Peripheral Upgrade	3.1.16. Quality Management Software	3.1.17. Supply Chain Management Software	4.1.16. Business Quality Management	4.1.17. Business Supply Chain Management	5.1.16. System Upgrade	5.1.17. System Migration
1.1.25. System Integration	1.1.26. System Optimization	2.1.25. Computer Repair	2.1.26. Peripheral Repair	3.1.17. Customer Service Software	3.1.18. Employee Management Software	4.1.17. Business Customer Service	4.1.18. Business Employee Management	5.1.17. System Integration	5.1.18. System Optimization
1.1.27. System Security	1.1.28. System Privacy	2.1.27. Computer Replacement	2.1.28. Peripheral Replacement	3.1.18. Inventory Management Software	3.1.19. Project Management Software	4.1.18. Business Inventory Management	4.1.19. Business Project Management	5.1.17. System Security	5.1.18. System Privacy
1.1.29. System Backup	1.1.30. System Recovery	2.1.29. Computer Maintenance	2.1.30. Peripheral Maintenance	3.1.19. Sales Management Software	3.1.20. Marketing Management Software	4.1.19. Business Sales Management	4.1.20. Business Marketing Management	5.1.18. System Backup	5.1.19. System Recovery
1.1.31. System Upgrade	1.1.32. System Migration	2.1.31. Computer Upgrade	2.1.32. Peripheral Upgrade	3.1.20. Customer Relationship Management	3.1.21. Human Resource Management	4.1.20. Business Customer Relationship Management	4.1.21. Business Human Resource Management	5.1.19. System Upgrade	5.1.20. System Migration
1.1.33. System Integration	1.1.34. System Optimization	2.1.33. Computer Repair	2.1.34. Peripheral Repair	3.1.21. Quality Management Software	3.1.22. Supply Chain Management Software	4.1.21. Business Quality Management	4.1.22. Business Supply Chain Management	5.1.20. System Integration	5.1.21. System Optimization
1.1.35. System Security	1.1.36. System Privacy	2.1.35. Computer Replacement	2.1.36. Peripheral Replacement	3.1.22. Customer Service Software	3.1.23. Employee Management Software	4.1.22. Business Customer Service	4.1.23. Business Employee Management	5.1.21. System Security	5.1.22. System Privacy
1.1.37. System Backup	1.1.38. System Recovery	2.1.37. Computer Maintenance	2.1.38. Peripheral Maintenance	3.1.23. Inventory Management Software	3.1.24. Project Management Software	4.1.23. Business Inventory Management	4.1.24. Business Project Management	5.1.22. System Backup	5.1.23. System Recovery
1.1.39. System Upgrade	1.1.40. System Migration	2.1.39. Computer Upgrade	2.1.40. Peripheral Upgrade	3.1.24. Sales Management Software	3.1.25. Marketing Management Software	4.1.24. Business Sales Management	4.1.25. Business Marketing Management	5.1.23. System Upgrade	5.1.24. System Migration
1.1.41. System Integration	1.1.42. System Optimization	2.1.41. Computer Repair	2.1.42. Peripheral Repair	3.1.25. Customer Relationship Management	3.1.26. Human Resource Management	4.1.25. Business Customer Relationship Management	4.1.26. Business Human Resource Management	5.1.24. System Integration	5.1.25. System Optimization
1.1.43. System Security	1.1.44. System Privacy	2.1.43. Computer Replacement	2.1.44. Peripheral Replacement	3.1.26. Quality Management Software	3.1.27. Supply Chain Management Software	4.1.26. Business Quality Management	4.1.27. Business Supply Chain Management	5.1.25. System Security	5.1.26. System Privacy
1.1.45. System Backup	1.1.46. System Recovery	2.1.45. Computer Maintenance	2.1.46. Peripheral Maintenance	3.1.27. Customer Service Software	3.1.28. Employee Management Software	4.1.27. Business Customer Service	4.1.28. Business Employee Management	5.1.26. System Backup	5.1.27. System Recovery
1.1.47. System Upgrade	1.1.48. System Migration	2.1.47. Computer Upgrade	2.1.48. Peripheral Upgrade	3.1.28. Inventory Management Software	3.1.29. Project Management Software	4.1.28. Business Inventory Management	4.1.29. Business Project Management	5.1.27. System Upgrade	5.1.28. System Migration
1.1.49. System Integration	1.1.50. System Optimization	2.1.49. Computer Repair	2.1.50. Peripheral Repair	3.1.29. Sales Management Software	3.1.30. Marketing Management Software	4.1.29. Business Sales Management	4.1.30. Business Marketing Management	5.1.28. System Integration	5.1.29. System Optimization
1.1.51. System Security	1.1.52. System Privacy	2.1.51. Computer Replacement	2.1.52. Peripheral Replacement	3.1.30. Customer Relationship Management	3.1.31. Human Resource Management	4.1.30. Business Customer Relationship Management	4.1.31. Business Human Resource Management	5.1.29. System Security	5.1.30. System Privacy
1.1.53. System Backup	1.1.54. System Recovery	2.1.53. Computer Maintenance	2.1.54. Peripheral Maintenance	3.1.31. Quality Management Software	3.1.32. Supply Chain Management Software	4.1.31. Business Quality Management	4.1.32. Business Supply Chain Management	5.1.30. System Backup	5.1.31. System Recovery
1.1.55. System Upgrade	1.1.56. System Migration	2.1.55. Computer Upgrade	2.1.56. Peripheral Upgrade	3.1.32. Customer Service Software	3.1.33. Employee Management Software	4.1.32. Business Customer Service	4.1.33. Business Employee Management	5.1.31. System Upgrade	5.1.32. System Migration
1.1.57. System Integration	1.1.58. System Optimization	2.1.57. Computer Repair	2.1.58. Peripheral Repair	3.1.33. Inventory Management Software	3.1.34. Project Management Software	4.1.33. Business Inventory Management	4.1.34. Business Project Management	5.1.32. System Integration	5.1.33. System Optimization
1.1.59. System Security	1.1.60. System Privacy	2.1.59. Computer Replacement	2.1.60. Peripheral Replacement	3.1.34. Sales Management Software	3.1.35. Marketing Management Software	4.1.34. Business Sales Management	4.1.35. Business Marketing Management	5.1.33. System Security	5.1.34. System Privacy
1.1.61. System Backup	1.1.62. System Recovery	2.1.61. Computer Maintenance	2.1.62. Peripheral Maintenance	3.1.35. Customer Relationship Management	3.1.36. Human Resource Management	4.1.35. Business Customer Relationship Management	4.1.36. Business Human Resource Management	5.1.34. System Backup	5.1.35. System Recovery
1.1.63. System Upgrade	1.1.64. System Migration	2.1.63. Computer Upgrade	2.1.64. Peripheral Upgrade	3.1.36. Quality Management Software	3.1.37. Supply Chain Management Software	4.1.36. Business Quality Management	4.1.37. Business Supply Chain Management	5.1.35. System Upgrade	5.1.36. System Migration
1.1.65. System Integration	1.1.66. System Optimization	2.1.65. Computer Repair	2.1.66. Peripheral Repair	3.1.37. Customer Service Software	3.1.38. Employee Management Software	4.1.37. Business Customer Service	4.1.38. Business Employee Management	5.1.36. System Integration	5.1.37. System Optimization
1.1.67. System Security	1.1.68. System Privacy	2.1.67. Computer Replacement	2.1.68. Peripheral Replacement	3.1.38. Inventory Management Software	3.1.39. Project Management Software	4.1.38. Business Inventory Management	4.1.39. Business Project Management	5.1.37. System Security	5.1.38. System Privacy
1.1.69. System Backup	1.1.70. System Recovery	2.1.69. Computer Maintenance	2.1.70. Peripheral Maintenance	3.1.39. Sales Management Software	3.1.40. Marketing Management Software	4.1.39. Business Sales Management	4.1.40. Business Marketing Management	5.1.38. System Backup	5.1.39. System Recovery
1.1.71. System Upgrade	1.1.72. System Migration	2.1.71. Computer Upgrade	2.1.72. Peripheral Upgrade	3.1.40. Customer Relationship Management	3.1.41. Human Resource Management	4.1.40. Business Customer Relationship Management	4.1.41. Business Human Resource Management	5.1.39. System Upgrade	5.1.40. System Migration
1.1.73. System Integration	1.1.74. System Optimization	2.1.73. Computer Repair	2.1.74. Peripheral Repair	3.1.41. Quality Management Software	3.1.42. Supply Chain Management Software	4.1.41. Business Quality Management	4.1.42. Business Supply Chain Management	5.1.40. System Integration	5.1.41. System Optimization
1.1.75. System Security	1.1.76. System Privacy	2.1.75. Computer Replacement	2.1.76. Peripheral Replacement	3.1.42. Customer Service Software	3.1.43. Employee Management Software	4.1.42. Business Customer Service	4.1.43. Business Employee Management	5.1.41. System Security	5.1.42. System Privacy
1.1.77. System Backup	1.1.78. System Recovery	2.1.77. Computer Maintenance	2.1.78. Peripheral Maintenance	3.1.43. Inventory Management Software	3.1.44. Project Management Software	4.1.43. Business Inventory Management	4.1.44. Business Project Management	5.1.42. System Backup	5.1.43. System Recovery
1.1.79. System Upgrade	1.1.80. System Migration	2.1.79. Computer Upgrade	2.1.80. Peripheral Upgrade	3.1.44. Sales Management Software	3.1.45. Marketing Management Software	4.1.44. Business Sales Management	4.1.45. Business Marketing Management	5.1.43. System Upgrade	5.1.44. System Migration
1.1.81. System Integration	1.1.82. System Optimization	2.1.81. Computer Repair	2.1.82. Peripheral Repair	3.1.45. Customer Relationship Management	3.1.46. Human Resource Management	4.1.45. Business Customer Relationship Management	4.1.46. Business Human Resource Management	5.1.44. System Integration	5.1.45. System Optimization
1.1.83. System Security	1.1.84. System Privacy	2.1.83. Computer Replacement	2.1.84. Peripheral Replacement	3.1.46. Quality Management Software	3.1.47. Supply Chain Management Software	4.1.46. Business Quality Management	4.1.47. Business Supply Chain Management	5.1.45. System Security	5.1.46. System Privacy
1.1.85. System Backup	1.1.86. System Recovery	2.1.85. Computer Maintenance	2.1.86. Peripheral Maintenance	3.1.47. Customer Service Software	3.1.48. Employee Management Software	4.1.47. Business Customer Service	4.1.48. Business Employee Management	5.1.46. System Backup	5.1.47. System Recovery
1.1.87. System Upgrade	1.1.88. System Migration	2.1.87. Computer Upgrade	2.1.88. Peripheral Upgrade	3.1.48. Inventory Management Software	3.1.49. Project Management Software	4.1.48. Business Inventory Management	4.1.49. Business Project Management	5.1.47. System Upgrade	5.1.48. System Migration
1.1.89. System Integration	1.1.90. System Optimization	2.1.89. Computer Repair	2.1.90. Peripheral Repair	3.1.49. Sales Management Software	3.1.50. Marketing Management Software	4.1.49. Business Sales Management	4.1.50. Business Marketing Management	5.1.48. System Integration	5.1.49. System Optimization
1.1.91. System Security	1.1.92. System Privacy	2.1.91. Computer Replacement	2.1.92. Peripheral Replacement	3.1.50. Customer Relationship Management	3.1.51. Human Resource Management	4.1.50. Business Customer Relationship Management	4.1.51. Business Human Resource Management	5.1.49. System Security	5.1.50. System Privacy
1.1.93. System Backup	1.1.94. System Recovery	2.1.93. Computer Maintenance	2.1.94. Peripheral Maintenance	3.1.51. Quality Management Software	3.1.52. Supply Chain Management Software	4.1.51. Business Quality Management	4.1.52. Business Supply Chain Management	5.1.50. System Backup	5.1.51. System Recovery
1.1.95. System Upgrade	1.1.96. System Migration	2.1.95. Computer Upgrade	2.1.96. Peripheral Upgrade	3.1.52. Customer Service Software	3.1.53. Employee Management Software	4.1.52. Business Customer Service	4.1.53. Business Employee Management	5.1.51. System Upgrade	5.1.52. System Migration
1.1.97. System Integration	1.1.98. System Optimization	2.1.97. Computer Repair	2.1.98. Peripheral Repair	3.1.53. Inventory Management Software	3.1.54. Project Management Software	4.1.53. Business Inventory Management	4.1.54. Business Project Management	5.1.52. System Integration	5.1.53. System Optimization
1.1.99. System Security	1.1.100. System Privacy	2.1.99. Computer Replacement	2.1.100. Peripheral Replacement	3.1.54. Sales Management Software	3.1.55. Marketing Management Software	4.1.54. Business Sales Management	4.1.55. Business Marketing Management	5.1.53. System Security	5.1.54. System Privacy
1.1.101. System Backup	1.1.102. System Recovery	2.1.101. Computer Maintenance	2.1.102. Peripheral Maintenance	3.1.55. Customer Relationship Management	3.1.56. Human Resource Management	4.1.55. Business Customer Relationship Management	4.1.56. Business Human Resource Management	5.1.54. System Backup	5.1.55. System Recovery

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A close-up photograph of a hand holding a red joystick controller. The joystick is mounted on a red base with a black textured grip. The background is dark, and the lighting highlights the contours of the hand and the joystick.

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**Off his chest**

I am a games freak. I love fast moving racing games. As I own an Amiga 500 one would think I have the right machine to keep me happy. (Wrong.) What I do have the right machine ready - but the wrong software.

All us Amiga owners get a jotted down version of ST games if we're lucky. Now don't get me wrong, the ST is a great machine and a great price too. I wish to buy one as soon as I can afford one, but to make a point when you buy a *Rollercoaster* you expect a *Rollercoaster* does not a *Mir* drive! So I think all Amiga owners are not getting software to match the hardware features that the Amiga has to offer.

Take the game *Barbarian*, the graphics are great and so they should be on the Amiga but the game plays in to my mind no better than some of the Spectrum or C64 games. Plus, where are all the great looking boxes which are on the box, which the game comes in? I've been through the whole game

Well, it only takes a wee bribe and before you can say 'Advanced Computer Entertainment' the letters are flooding in - and some very meaty ones, too. Letter of the Month prize goes to K.B. Smith of Leeds for his sensible and forthright views on the Sex and Censorship controversy. K.B. wins Director for his ST.

The other two winners are arcade engineer Ian Woolley for his peek behind the coin-op rights, and Deano Schofield for his useful fup tips.

If you want to give yourself the chance of winning a prize at the same time as getting a load off your mind, write to

**ACE LETTERS, 4 QUEEN STREET,  
BATH, BA1 1EJ**

on a cheat mode) and have not found any of them.

So if that's the best they can do on the Amiga then I think I would like to buy my old Spectrum back. So come on all you software houses - let's see some games which are really fit to be played on the Amiga.

That's better now, I've got the off my chest.

**Bill Tunbridge  
Trent**

You've got a point - many Amiga games are simply ported over from

**Sex, violence, et al**

I am writing to express my thoughts on sex, violence, *Maria Whittaker*, et al, following the running debate in your pages, and those of other magazines. (Not that I read other magazines, of course.) I personally find that many of the adverts for computer games offensive, for all sorts of different reasons. Let's take the *Maria Whittaker* controversy first.

In the current (February) issue of ACE, Bill at *Credibility* points out that the man in the ad is also sexually sad, and asks if the fact that he now complains about that means that it is all right to see sex, then, but not right to see sex, women. His assumption is that he, as it occurred of being degraded to women because it exploits female sexuality. This, greatly oversimplifies the case. We all accept that, in the whole, men find women attractive. <sup>1</sup>14 vice versa, and that simple fact has been exploited throughout the whole of history and particularly advertising history.

The reason the *Barbarian* ad - amongst many others - degraded women more than men is to do with power: both male and female are depicted as being nothing more than a set of physical attributes, but the male is clearly stronger, dominant, and therefore - doesn't it make you feel good, cheap? - superior. Ask yourself who the ad is aimed at - or should we believe

**LETTER  
OF THE  
MONTH**

that *Prince Software* expect women to buy *Barbarian* in droves, in order to drool over a muscle-bound man-child eating people heads off? I think it more likely that violence is being sold to men, rather than sex to women.

MB makes a rather poor attempt to disguise his embarrassment by accusing Mr Pansel (etern, leave it) of being condescending to women by speaking for them. I imagine Mr Pansel would claim only to be speaking for himself, but MB oughtn't to express the thoughts of 'most women I know', and to claim that 'women are far more cunning than men' - a generous phrase if ever I heard one. *Carole*, Mr B, your misogyny is showing!

In the ordinary world of many of today's computer games, the only virtue or quality worth having are ripping muscles, Macho aggression, and a bigger weapon than anyone else, and it is the portrayal of maleness that is degrading to men. All problems and

conflicts are to be resolved by violence and killing, and this is always justifiable because, you see, we're the good guys and they are the evil ones.

OK, I know that this is a convention for the sake of allowing conflict in games scenarios, but it reinforces the idea that any act is permissible as long as it is done for the right reasons. The IRA think they have the right reasons, Hitler thought he had the right reasons, we all think we have the right reasons, but deliberation depends on us being prepared to submit those reasons to the judgement of others. *Flunko*, *Barbarian*, *Deathish*, *Panegyric* etc etc, gradually create a climate of opinion that makes it acceptable to refuse to do so - if you have 'right' on your side. Yes, they are just games, for films, or books, or TV programmes, or videos, but gradually they bring about a numbing of the imagination and an adjustment of social norms: they should all be burned, and their their perpetrators should be decapitated with a chain-saw and then - I know I'm right - we could impose censorship and the death penalty for anyone publishing anything a bit sexy, and then...

Seriously, software companies, a lot more restraint please!

**K. B. Smith  
Leeds**

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the ST with no enhancements, the ST with no enhancements. Unfortunately, the situation is unlikely to change much unless the Amiga starts selling in larger numbers. At the moment there's not much of an incentive for software makers to do anything special for the Amiga, there are more PCs around so they write—in the first instance—for that.

#### o Terse

I would like to point out a view I held. Mark Robinson—You're a jerk.

Chris Mills  
Petersmouth

Would Mark like to comment on the petty judgement?

#### o Listings

I agree that typing in listings is a

waste of time and energy. However, realize that many people would be interested in articles on programming techniques. For example, how to implement city tracing, mathematics, fast 3D graphics etc. The algorithms required could be presented in pseudocode, which could make them applicable to all machines and languages written.

Also a few errors on the label 'get wit' hardware wouldn't come amiss, most technologies lag up features of transputers and RISC machines. (Yes, I bought issue 3—Games of the Future was the best article I've seen in ages. Keep please.)

John McDermott  
Warrington

We're looking very seriously at introducing something along the

lines you suggest, although it certainly won't be a great wedge of listings. Which is a pity.

#### o More TOS Treasures

Just before Christmas I bought an Atari ST FM and, just like G.C. Keates, I discovered that my ST has TOS version 1.05 which would not run some software. I have compiled a list of titles which will or will not run with TOS version 1.05.

#### Do Work

Barbarian (Physicist), Defender of the Crown  
Star Wars, Flight Simulator 2  
Tomb Raider, Trailblazer  
Huntball, Solomon's Key  
Xenious, Star Trek (1.05 version)  
3D Gates, Kings Quest II, Land of the Damned, Star Raider

#### Don't Work

World Games  
Golden Path, Hollywood Fever

Amnoid, Star Trek 1.05 version  
Planet Rimmer, Kastle 3rd  
Gambler

I was not very pleased to discover that there are some major titles that do not work, especially an EDS-25 save. Please post the list or letter to save new ST owners precious time and money.

Kevin Sander  
Wolverhampton City

Having bought your magazine, I found through your letters section and via the letter named 'TOS Treasures', I read it quickly and realized that I have the same problem. I purchased 'Subter Obsid' for my Atari 520 ST FM from Steve Siga and when I booted it up my ST just printed 'disk not responding' error. After Christmas we went back to Steve Siga in Hart and when they tried it on a 1080

## 8 Bits v. 16 Bits

I would like to join Geoff Purchard (Feb 1988) in saying that although I don't really like to own an Atari or Amiga there is no way I would afford either! I have only owned a computer for just over one year. When I was trying to decide upon one I read the article about the Spectrum had a rather slow and odd form of basic. After much debating I decided upon an Amnoid 486 (as I could not afford a 485).

The main consideration was that I needed a monitor and with the 484 I only required a plug. Since then I have upgraded to a 486. The Amnoid 485 with a colour monitor cost me £399.99.

PRIZE  
LETTER

How much would an Amiga cost with monitor? £699—£799—£999? There is no way that I am in a position to pay that for a home computer and that is expected to pay about £25 for a game.

I therefore feel that the view that within the next year 16-bit computers will overtake 8-bit is a lot premature unless my Sander that Sugar comes up with a cheaper package as rumored) as there must be many users who are

probably in a worse financial position to myself.

I would also be nice if the top name software houses sometimes paid more attention to conversions. The most disappointing games I have bought are World Class Leadwheeler and Road World Class Leadwheeler would be a superb game without the bug I have now owned the cassette and disk versions which both had a bug on certain parts of the putting greens. I am awaiting a reply from the manufacturers about this.

Now—how about some prizes? Firstly to incentive for the magnificent game Enter Secondly—Mongoose and Amnoid for customer service and courtesy. Both have been very helpful to me over the past year. Thirdly yourselves. I enjoy the News and comment sections. The overall magazine like that I am getting a bit tired of the 16-bit lead—16-bit size actually by some of your team.

Stephen Brown  
Southampton

We don't believe that that machines are dead yet, and we certainly aren't going to stop supporting them. But we are excited by the possibilities of 16-bit machines, and we think most people interested in computer entertainment are as well.

#### o Snowflaking

I was reading how few are buying right when I see a letter. By Neil Wilson, Neil Racer? Wilson. Allow

me to access what Neil has said. He wants ACE to cover the Amiga more, drop 8-bit computers (especially Amnoids), just larger photos of Amiga screenshots and smaller pictures of 8-bit games, and as a final, get rid of the play-by-play section.

I haven't ever owned an Amnoid, nor have I played a Play-by-Mail. I am slowly saving for an Amiga, and this news report of Alan Sugar (also his apparent hatred). But Neil Wilson suggest the more that any other person writes written in a mag.

I bought ACE because it was a non-discriminatory computer magazine covering all machines equally. Even though the Amiga market is relatively big, and I share Spectrum, Neil, however, would like you to abandon the 8-bit field, (by the biggest market) all someone and abandon the PGM section which appears to me to be an interesting hobby.

And what is wrong with Amnoids? They have gorgeous graphics compared to my C64 and a half decent sound chip. Lots of games are released for them but he seems to think of them as 'Dross' anyway. It's nothing on how to fit things and knowledge in pieces.

Ian Morgan  
Colchester

#### o Dipstick

Neil Wilson must surely get his piece in the national dipstick competition. It seems to me he wants something to

own and to stuff anyone else. Well, his attitude stinks. He wants ACE to cover less on Amnoids, get he goes on to moan about how badly Alan Sugar has treated Amnoid owners. Surely, a contradiction in terms.

Surely, a contradiction in terms. As for his point about the Spectrum, perhaps he should remember that Alan Sugar could really have swapped them altogether. Also, for the life of it, I can't see his point about 8-bit owners. They still have a strong software base, due to the fact that the 16-bit remained compatible. Now, perhaps Neil should also consider the fact that 8-bit computers are still by far the majority and many people aren't bothered about buying a 16-bit and paying £25 for a piece of computer software. Overall, the letter gives the impression that Neil has bought a 16-bit Amiga and is proud with that it may quickly be superseded by another computer. Perhaps his apparent hate of Alan Sugar has something to do with the much rumored new Amnoid 16-bit computer. To prove that my letter is due to my anger of the ' that Neil Wilson writes, and not just to win a prize, I have not enclosed my full address, so you can't give the CD, even if you wanted to.

Mark Spanton  
Sheffield

Shame about that address. Because we might just have given you a prize... But what about Neil Wilson? Is he going to take the abuse lying down? Will he respond? Please let us know.

STP I loaded perfectly. The salesman then asked,

"When did you buy the STP?"

By that night,

"Just before Christmas!"

"You probably got the newer T05 chip in it," replied the salesman. So I changed it to the 1000.

#### Christopher Heathcote Chelmsford

We hope that Atari's GameStar Air helps everyone with their T05 troubles.

#### 5 Arcades Rip Off!

I've noticed for a long time that arcade change the difficulty level and lower bonus values on certain machines. An example is the arcade near my college. It has a World Cup machine and it costs 25p for one minute extra time, in the 2nd player mode. In the arcades in the West End you can get five to ten minutes for 50p extra time. The same goes for Gauntlet, you may get 100 health points for 10p. The smaller arcades can't afford to drop prices and difficulty levels, while the larger arcades can. The arcades have the choice to change these different levels to the best solution if you find a (poorly) arcade in a shop and a better arcade otherwise you have no choice.

#### Leigh Hammond Barnet

#### Music, musical!

Disc, clip, map for all the info on musical instruments and their performances. Since I have read the music pages, I seem to have been inspired to write my own material and in doing so might have put some good stuff together, so I'm going to get a recording done very shortly. I will forward a copy of the tape very soon.

#### D. Smith Goswells

Well look forward to hearing it. Could you also send a good 1st system...

#### Where are the programmers?

I feel much concern on the state of magazines - including yours - on today's market. Firstly, let me say that I am not a newcomer to the computer world and I have been buying (and reading) computer magazines for about five years. Recently, I went through a lot of my old magazines from 1983/84 and something struck me about the style of the news, reviews and articles contained in the issues from the time. The first thing I noticed was

All computer magazines have in the past had bits in discussions about the. I am what can only be called a resistant reader? You see, the only reason I have game games, utilities etc is because of the availability of the stuff so long before than commercial releases.

When I first bought my Amiga I decided that I would not take press-out stuff if the stuff should I wait for the software houses to decide that it's time to release their stuff months after it is finished and out on the game console? Let me give you a few examples:

**Star in sin.** I am writing this letter on 28 Jan-88 (not at the time you said it).

**Power Fantasy 1.** release just put back again by Electronic Arts, all the shops waiting desperately for it...I've had it since Dec 28th (now late into account the Christmas party).

**Star Gate Air Rally.** the shops have never heard of it. (not October)

**Clay's Cars.** Just given as a lost release. (early Sept)

**Arkward (Jim Ito)**  
**Agnes West (Jim Ito)**  
**Starport Anatomy (October)**  
**Paladin II (October)**  
**Why of the Little Dragon (November)**

The fact is, unless, so why? If these games are finished and they're available in stores, then why not to people like me who want to BUY them but can't? So we have to wait to grasp. Aren't the software companies asking for it?

I have been desperate to get hold of a certain game for weeks now. I have even phoned America to try to get hold of it from the distributors with no luck. I tell a private friend I have that I've been after it and what happens? He gives it to me because he's had it for 3 weeks. This has got to be wrong.

how much more interesting they were compared to today's counterparts, but there was one thing that stood out more than any other and that was news and articles concerning programmers. Today in most magazine news sections all that seems to be listed is what adult companies are doing.

I find this very strange as programmers are the second most important ingredient in the industry (the first being the game-playing public of course). The same thing happens in reviews, a company has supported itself with the release of

## Piracy!!

Only software houses can determine and make their stuff available for purchase they will get repeat of.

**Some Answers Answered.** (These are my answers to some of the comments I think you will make.)

**Who naughty boy, don't you know it's wrong.**

**Yes I do and I do genuinely wish that I could buy the software that I want, but I can't so until I can I will take pirate stuff (I mean, how long is it reasonable to wait, so this I'm sure you'll say "until its released" but it's human nature isn't it, you would have to be a monk not to take some stuff on offer (or unavailable to the public, for instance).**

**I have spent well over a thousand pounds on my Amiga, I may upgrade, modify, extend discs, and games. This is a hell of a lot more than I can afford, and I will be paying it off for a long time yet, so do you think I can sit back patiently waiting for a dream game to be released, and saying to the pirates I know "Ouch Defender of the Crown is, it sounds very good but I'm quite happy playing Holywood Strip Power thank you very much."**

**I feel nice to software houses, I know a lot of pirates and a lot of the people who track (or pirate) for the lawyers' your programs (if not you with you don't) and there is only one type of protection that absolutely none of them will touch, you can extend your disk to 100 tracks if you like but it will still be cracked (Blackjack was particularly well protected...and it only took 3 hours to crack) but no one does The Power, Jester, Guild of Thieves etc, or Intuition games because of the brilliant packaging. You know please open the envelope provided and read the letter" or "please type in**

word + on page 10.

#### Rebuttal points

If a party could pirate your game, but I think there are certain confusions. For a start, you assume that any pirated copy is a complete copy and that software houses are deliberately selling back games. Neither of these assumptions is true. If a game is finished to the extent that the software house is satisfied with it, then it comes out of 10 if they want to do it get it out on the market as quickly as possible, I suspect you're trying to excuse your own piracy by blaming the blower of software houses in releasing games. What, for instance, has the amount of money you spend on your system got to do with the matter? You were very well what a game was going to cost when you bought your hardware.

#### Is "Ducay" a thief?

In reply to A. Doney's letter, I'd just like to let him know what a power he is. Does he not understand that by pirating software he is increasing the price of the software he doesn't want to buy? In a way he is a thief. He doesn't want to pay for something he can get for nothing. He is spoiling the software industry as we know it. If all it suddenly started pirating games where would the software industry be? One person buys the software and everyone else copies. Imagine the blow-up to Defender of the Crown selling one copy - imagine of the software industry. I'm sure that Doney would be feeling sorry for himself then.

#### Ian Crockett Whitehead

To see more about programmers in the future.

#### Gareth Baker North Humberston

We do try to cover news of programmers, and we intend to do more in future issues. But things just aren't the same here as they were the year ago. In those days most games were written by individuals on their own, with possibly a little input from a graphics war and a musician. A lot of companies were one man

a product and no mention of the programmer who after a while the thing? A recent example of this kind of "forgetfulness" occurred in your sister magazine Amiga Action. In the review of Delta the reviewer (let me himself) let us that a few of the sound "best effects" were created by someone who won a competition in a previous issue. Not a mention of the programmer who spent twelve months developing "Voicepak".

Why has there been this movement away from the programmer? I for one would like

## Funny fuses

I hope I may be of some assistance to Darren Meers who was having a bit of bother with his Spacy. There are two possible answers to his problem. The first is that he may have either a faulty double plug or have the wrong fuse in it. If this is the case then either buy a new one or replace the fuse with a 7 amp one.

The second reason is much more complicated. Darren may have an unstable circuit in his fuse as by your computer on different plugs around the house or if the problem persists you may have to consult an electrician. I do know how Darren feels as my own computer does not work. Clean, imagine an US - Scot game download where our extension caused interference and even

when I moved it updates these companies' games still would not work until I changed the 3 amp fuse in my double plug to a 7 amp one.

Hope a simple fuse change is all that is needed.

Deano Schofield  
Towerton

PRIZE  
LETTER

bands, where the programmer would also be sales manager, PR person, and as an elf on the other hand we are a shrinking number of software houses, producing more and more software based on coin-oper, TV and film licences, toys etc. There is no longer any individual programmer responsible for the whole thing from concept through design to coding; most games are the product of teams. There are still of course a few 'star' programmers around (David Gibson, Costa Pirogi, Andrew Boydston et al) but it would be boring in the extreme if we merely copied the same talent every few weeks. So we'll recruit programmers where and when it seems interesting to do so.

### A better class of magazine

Adding to the compliments about a better class and more about computer magazine I was recommended ACE, which I subscribed. The quality printing and the articles are very good. I have sent off for the last three back numbers.

It's nice to see a readable type block on white or even tinted paper, and you don't need to contact or starting home owners.

We are both perfectionists and wish a Spectrum and the games we enjoy are Spectrum, Chess, Boulderdash and other puzzle games like those!

R.E. Fisher  
Hemel Hempstead

Nice to hear we appear to be more mature and discerning matter. The

Brain Games article in this issue should be right at your street.

### Endgame despair

Am I alone in despairing at the endings in games? An effort to seem to just wrap around back to

the beginning or just give a brief textual message after completion. The sort of thing truly negates any satisfaction that a player might get from completing a game. Surely after completing a game we at least deserve a little fun, or even a graphic sequence!

Gregory Stone  
Chesham

You are not alone, Greg. Several people around here have commented on the lamentable state of endings. There should be more than a 'Game Over' screen when you're laboured to complete a game, and it's about time the software houses and game designers pulled their fingers out and did something.

### 644 ROM

While reading the letters page of issue 4 I noticed a plea for help by a 644 owner who was having big problems with Gauntlet. I took it a computer shop and have had the problem solved and as such may be able to help you.

DMs, as you know, have been around for quite a while now and inevitably they have undergone

some changes. One such change was the re-design of the graphics ROM, and while not major there are still some differences between 'old' and 'new' DMs.

Should a game in this case Gauntlet which has been programmed upon a new style machine, refer to the ROM and find the wrong information there (because the machine running it has an old style ROM) then it will cause an error. If this error has not been taken in to account at the time of programming, then the game will crash.

As to what the unfortunate 644 user can do about it, he must go along to the friendly Commodore repair agent who will replace the ROM (unfortunately the most expensive chip in the machine) and then he will be as right as rain to play all his games. Simple, eh?

Andrew R. Loughton  
Acoffington

You're right, of course. But most software is in fact written to run in the latest iteration, so you DON'T often get the benefit of it at those extra points.

## In the arcades

As an amusement arcade engineer with 3 years' experience in the trade, I would like to pass comment on some points of Craig Freeman's letter. Feb '88 issue 5.

Firstly games pricing. Most older games - e.g. Star Wars, Major Sport, Monday, Aggar etc. command a 15p price of play. Newer games such as Double Dragon, Out Run, Phoenix etc are 20p. Some games such as Asteroids and some of the all down simulators will be more, but this is because some of these games are 3 to 4 times as expensive to purchase. As far as my experience goes, when newer machines come into the arcade, it is better that they are set up to be a challenge to the player which can be met, rather than being so difficult that they do not encourage the player to play again. If a game is too hard or too expensive people will not play it.

Secondly, skill levels. Most machines do have a menu of options which can be altered by the operator, so it is not the manufacturer's fault if a game is too hard, although I must admit some games are very difficult to set at a level which is suitable. I found this with 720 myself. Also Craig



must remember that as a machine gets older, people will get better at it and sometimes this makes it necessary to alter the levels slightly. Most operators will try to give the best value for money. So if someone gets on good that they stay on the machine for hours on end 75p, there is not a lot they can do. For example in one arcade I cover there are about 4 lists who can stay on Star Wars from 10.00am to 10pm for 75p, also there are several who can sit on the same in Gauntlet. This does not even pay the electricity.

As you can understand these are my views and each operator will set his machines, so he sees fit, taking all factors into account. So, Greg, I suggest that you put

yourself in an operator's shoes; remember that if all videos were set up very hard they would not be played. If they are not played, they will not take any money. So I can't imagine anyone deliberately making their machines unplayable.

If anyone out there knows, I am trying to find out if anyone ever brought out a game for the CPC 644 called G2. Originally it was an arcade game made by TATEL, if anyone did, I would like to buy a copy.

Ian Woodier  
Bullough Saberton

An interesting insight to what goes on behind the scenes. As far as DM is concerned, we think you're out of luck. There were several more versions, but never one for the 644. Shame - it was a lovely game.

PRIZE  
LETTER

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The Pilgrim checks out Infocomics, budget adventures, and news of the new Atari ST adventure generator from Incentive. And if that's not enough for you, there's also the first of a two-part look at role-playing games, SHADES Diary, Pat's Patch, Players' Guide....Get to it!

## Pass the Persona, Darling...

### First of a two-part Buyers' Guide to Role Playing Games

Static games took a big step forward with the addition of *Dungeons and Dragons*.<sup>1</sup> Besides the role-playing game per se, however, as before we look at its computerized offspring, perhaps we ought to get clear exactly what we mean by a role-playing game, or rather what we mean by a good one.

In *Dungeons and Dragons* a group of human players occasionally they may be



the *Ultima Series*—this is *Ultima II*, typical of the adventures produced in the series produced by Origin Systems and marketed in the United States. The games in this series feature large maps, strong character-based graphics, and complex plotting, requiring using fighting and conversation routines. For those in the series, *Ultima II* has especially interesting and should be suitable for review in the first part of our series.

sub-fictional, but don't call them that: In their books get together and about in *Dungeons and Dragons*. Following the rules of the game, the *Dungeons and Dragons* Master constructs a game-world in which a massive maze, or *dungeons* and fill it with treasure, monsters, and other game elements. This is done without revealing the details of the map to the rest of the group.

The other players then, form a party. Each player names and creates a game character or persona, giving their character certain qualities of character, strength, and morality (attributes). The *Dungeons and Dragons* Master also gives a small amount of money to start with, and then they all band together and boldly toddle into the *dungeons*.

During play, the party will advance through the various locations, encountering obstacles, logic problems, and objects. Their success or failure is determined by the *Dungeons and Dragons* Master, who oversees their progress and arbitrates success according to the very precise rules of the game. Character's behavior and depends on the roll of dice, in conjunction with the various combats' attributes. Dice rolls, interpreted in conjunction with numerous dice tables, also determine success or failure in other ventures—unlocking doors, casting spells, and so on.

#### ADDITION

What makes *Dungeons and Dragons* so successful? Why do perfectly sane people spend hours, days, weeks, sometimes months, huddled around together, often caught up in a single game, with apparently nothing but a large map and a book of dice?

The answer is simple—the power of the imagination. As gameplay progresses, you find yourself identifying more and more with your game persona. Some *Dungeons and Dragons* players even manage to have forgotten their real names, instead they answer to bizarre titles such as *Microbe the Wizard*, *Slogston the Dwarf*, or *Delphina the Witch*. Yes, the world does funny things, and some favorite from the books is play during a professional *Dungeons and Dragons* session.

If the idea of magical fantasy turns you off, then you should know that there are many other worlds available, including science fiction, ancient history and so on. And of course you can create your own scenarios, using the standard rules as a foundation.

#### PERSONAL

Almost all role-playing games divide personas into different categories, and usually your category is partly determined by your

# PILGRIM

attributes. Classes, for example, need a high dice throw for their initial strength attributes, wizards would have to score highly on magic games. Character types also include race variations and even in some games moral alignment (are you good, bad, or chaotic?).

Your character's attributes, abilities, determine gameplay to a significant extent, placing limitations and allowing privileges upon your character. Most important of all, however, is the ability for a character to change during a game. Personas grow in power and experience as they overcome obstacles, allowing the player to triumph over greater foes, and grasp his/her a wider choice of alternative actions as a given situation—new spells, or weapons, or items



Beyond Zork — structural progress, concentrating on text entry and good location descriptions, but with detailed plots of character development. Recently released in ASCII, but set to be making a more elegant conversion to DOS.

role-playing abilities. Again, the character development can contribute largely to the addictive nature of the game and increase the feeling of identification that a player feels with his/her persona.

#### COMPUTERISATION

Over time computer adventures for the same, people have been developing of the ideal DOS implementation on a macro. The

basic concepts have found their way into a number of games from PBS disappointing Swords & Sorcery to Infocom's recent release, Beyond Zork. The actual reason it has become and Zork is expected to slouch towards the rest of this year, but meanwhile, what's looking things look?

First and foremost, it's been the user-friendly market here in the UK. You simply can't progress a large game, complete with maps, text, character interaction routines, games, and location graphics on a machine limited to 64K, or even 128K. What you need is either a 512K machine or, even better, a good standard disk system that can load in graphics and text when required.

However, if few games have managed to date the role-playing concept into sufficiently small space to make them work for 8-bit machines. We're looking at them over the next couple of issues, concentrating on five main releases: the *Black Tide* (and its successor, *Black Tide 2: the Oldenwines*), *Beyond Zork*, and *Ultimate*. Some of these are better than others, but you can be sure of finding a game to suit you amongst those listed.



Black Tide: thanks to its excellent graphics routines, Black Tide has a 32-walling window display, allowing you screen location with the resolution you require. Right and center windows help guide up the action. Overall a superb release.

## Pat's Patch

Pat looks forward to 16-bit adventure creating...

Reader Trevor Ball of Acclington is interested in writing adventure games for either Spectrum or Commodore 64 and wants advice on readers and markets. For Spectrum the best choice at the moment is *Ultimate's* RWF which scores over 5000 in several reports. Interested against that is *Ultimate's*

availability in a number of formats making conversion to other machines simple.

As for markets, the Commodore has a large world-wide user base while in the UK alone the Spectrum is probably the most popular machine (despite the move towards disk-based adventures) at this time.

## The Pilgrim's Players' Guide To The Pawn

### Part 1

The Pawn was the first adventure to be released by Magister Scrolls, now enjoying considerable acclaim following their recent releases, *Quest of Thrones* and *Jivok*. It has excellent graphics and a rather unusual storyline. The tendency to "weirdness" has put off some players, which is a pity because the game still has a certain charm. If you've got a copy and have had progress without, then relax — with the *Pawn's Guide* you can get back to the game and triumph magnificently. So you've woken up with a bump on your head. Check your clothing and its contents before heading off east. Should you bump into a certain airborne personage, greet him (say "FO ENEMIES, TAKE THEM"), and he will give you a robe, which you should take.

If you examined your clothing and other personal accoutrements, however, you will have noticed an unusual device, which you should ask Khross about. He will offer to remove it if you perform a certain task and then hands you a chest to help you. Don't open it, whatever you do.

In the palace gardens, the wooden key is found where you tradition has it people normally hide keys. You'll also find, for some reason, a small amount of cash in the fountain.

By now you'll be able to unlock the chest, but forget the whereabouts — it's not important. Make sure you lock everything, including under things. You should leave the chest with at least three items.

The Gun has another task for you, but he won't give it to you as long as he can see your wristband, so best cover it with something. Place his food before you leave, least-least adventure that you are.

Getting past the barrier is pretty easy, but the solution is slightly impossible. You have to leave it, of course, but using the robe and the key simultaneously. That means you have to be them together. Right as well as the same thing you covered up your wristband with, unlikely though this would be to work in real life. Of course, there are just more rocks, but these ones are rather easier to get past, or over...



By now you'll be able to unlock the chest, but forget the whereabouts — it's not important. Make sure you lock everything, including under things. You should leave the chest with at least three items.

Next month: Killing the adventurer, satisfying the gods, and more...

ly to change rapidly, especially with the growing popularity of 16-bit machines like the Amiga and Acorn 32.

Two adventure writing utilities are on the way to the ST. *STAC* aimed to replace a version of *STAF* which is currently still under development; *STAD* the details still under wraps. Microfrontier's *Adventure* has very close ties to releasing an upgraded version of *GAC* which has been available for a wide range of 16-bit machines for some time now. The new package, to be known as *STAC* will be an extension of *GAC* written specifically for the ST series. According to Incentive *STAC* will be easier to use, and considerably more powerful and flexible than *STAF*—and will allow you to...write professional-looking adventure games with the minimum of programming effort. You can check out a few more details in the October edition of the *Screen* files on these pages.

One of the greatest difficulties in writing adventures on smaller machines such as Spectrum, Amstrad CPC and Commodore 64 is the need to find room for all the routines required to give a feeling of reality in the game, yet still find space to develop puzzles, graphics etc. Companies such as Microfrontier and Microprose Softlab have attempted to get around this lack of memory by using the disk on-ram memory during play, but this has its own drawbacks. Playing with disk access is often prohibitively slow and tends to destroy the atmosphere patiently built up in the adventures' depth of programming. If you want good (cheap) examples of this, try playing on *Adventures* game on the Commodore 64 with a 1M41 disk drive.

With the larger memory 16-bit machines, memory restrictions virtually disappear. *STAC* envisages around 1MB on the 1600K, leaving about 800K free for use. Writers can-

ently having edited copying with less than a tenth of that space on the smaller machines will have plenty of scope in future.

**Goal** Several people have taken me to task over the current routines (Issue 2) as I refer to *Adventures* games. The line included in *Adventures* should go in High Priority, included in the conditions, which checks for the first time in the game so that it is asked on only once. The other lines go in Low Priority and need appear in the order shown, though not necessarily in an unbroken group.

**Got a Problem?** Write to: *the c/o ACE* if you have tips for or need help with *Adventure* creation. Space limits me in the column, so if you need a personal reply please include an SAE. No SAE no reply!

## ◆ The Travellers' Times

Edited by: The Pilgrim Honorary Editor; The White Wizard Published by Far Future Publishing  
 Price: Free with every copy of ACE Magazine

### Informatic!

Not content with romantic fiction, linguistic puzzles, real-time, and role-playing, Informatic have introduced yet another game-style to their data-bases — the simulated comic.

UK players will already be familiar with the game. We've seen Watkinson House's *Adventure*, Palace's *Jeffy and Co.*, and we're about to see *Informatic's* *The Informatic's* very pretty *Cash Game* (see page 15 for preview). So far, few of us have been very impressed with the industry's attempts to mix comic strip with adventure. What will we make of *Informatic*?

It's a little unfair to pass judgement solely on the basis of a demonstration disk, but even so a number of points are immediately clear. The graphics are extremely crude and the storyline suitable for children of tender age. Unlike the British versions, there is no text-only atmosphere. You simply watch the pictures flick by, taking the story, and every so often you can press the RETURN key to switch plot-lines, following the fortunes of another character, perhaps, or a different character's views.

The first *Informatic* title is called *Cash Game*. Member 01: *The Butterbeans* a comic speed writer by Steve Manning. Just in case you're thinking that *Informatic* have finally tipped their hat, you should know that the product will retail in the USA for only \$12 — only marginally above their budget category. It's also aimed squarely at comic-reading kids, claiming that each *Informatic* has at least 15 times more images than standard comic books and should "provide 4 to 5 hours entertainment".

The idea, then, is to compete with comics, not with other computer programs. Can *Adventure*, who are marketing the product in the UK, price it cheaply enough to make the philosophy work? Prices have yet to be announced, but I can't see it knocking *2000AD* (which costs 20p) off the shelves.

### Atari ST Adventure Creator

—or *STAC*, as Incentive are calling it, is a new adventure generator for the Atari 16-bit machines, due for launch in the very near future. The company claim it is even easier to use than *GAC*, with 8000K disk features, and the ability to generate STAND-alone programs. Size and range of individual data sections is limitless and some conditions have been included for manipulating markers and counters.

Best thing about *STAC* looks like being the custom ability of the package. You can define the

screen layout as you please and there is greater control over location, descriptions and objects. Add to that the ability to include pictures imported from Macintosh or Zepes and you have a very powerful package—if it does everything they say it will! You'll find out soon in *Far Future's* exhaustive and authoritative review. Stick with us...

### Bards Tale 2

Just to mark our short piece on role-playing games, Electronic Arts are producing *Bards Tale 2: The Deadly Knight*, a sequel to last year's



**Informatic:** every so often the top right hand corner of the page will flip over, indicating a possible change of plot. You can also "fast forward/backward" through the frames...

**Bards Tale**

The program is 50% larger (in code size) and more challenging than its predecessor, says the company, and features an expanded domain for exploration and adventure, incorporating advanced combat and magic systems.

The original Bards Tale remains one of the best role-playing games, so this new addition should cause a few ripples of excitement. We hope to be able to review it next month in the second part of our role-playing game series.

**Level 9 Join Mandarin**

Level 9 has secured relations with Platinum Software and have led up an exclusive distribution deal with a new label called Mandarin. The label has been established by European international partners at Catalyst Software, publishers of Mini Office) and is being run by Chris Payne, who obviously may remember used to work for Microsoft in the good old, bad old days.

Mandarin will now be distributing Time and Magic, instead of Platinum. As followers of the column will know, the product has been endlessly delayed under the Platinum label, so Mandarin will be picking it up and throwing it open to in the near future. After that will be seeing Camelot and after that... Let's wish Level 9 best of luck with their new partners.

**Level 9-a-Lancelot**

Level 9's Arthurian legend, Lancelot, is taking shape rapidly now, with the game design finished and the coding well under way. It should appear on your screens in late April or early May.

The company are stopping with the title Lancelot and are taking great pains over the graphics. They've added more hand-drawn pictures because they feel these work better than digitized pictures, especially for minor locations. I'm going to write an article on that, said Payne.



Austin, "It's quite a complex subject." Certainly there's no denying that the company's major competitor, Magister Scrolls, have produced some stunning minor locations using hand-drawn art-

work. Remember the sitting room in *Guild of Thieves*? Or the conservatory in *Avatar*? Level 9 have certainly got some coding up to do... but we know you can do it, kids... so get to it! ■

# Letter from the SHADE

**O**ne of the questions that I am frequently asked is whether, as an immortal, I'm fed up with it. The answer is quite simple, no. It's like eating it constantly, it's fed up with life - I envision to some of us activities. Shades fit life, attend a birthday one.

Look at some of the other immortals and what they get up to. The Arch-Wizards, for example, have a very important function on Shades. We are all told that they are there to police the game and deal (occasional) offenders. But in fact their real function is play view and perform the ceremony at Shades weddings.

Of course, if you can get married, you can also get divorced too. And this is the second most important function that the Arch-wizards have to do. A good word in their ear (note that ear is singular, as before) has got divorced whether an Arch-

**Now you can even get married on-line - Sappho the Witch (Mbx 019998149) reveals all...**

wizard has two or not and they'll formally officiate at your separation. Lordard, who does a very nice line in fannies, performs excellent ceremonies for those who wish to make their illicit love affairs legal. I repeat, sit on my fanny and hopefully that one wedding, not fanny. Lordard's ceremony was very moving (the puns about grand puns, thank you). The guests: Healer, Sordidog, Artanis, Gessum, Snow, and Shave, all seemed to enjoy it. But then wedding always attract the high-flying partying on.

Reverend (quite lovely), is the unfortun-

nate immortal who is trying to make an immortal who's out of me... and what an immortal task that is. Though the threat of being beaten up with a long fetter and whipped cream is enough to keep anyone in line. But that's another story altogether.

Yick, renowned for his far better than his, has married Sally, making this Sally's 10th marriage. Yick has also decided to make the address more permanent, probably for reasons quite complex in nature. So out goes Yickie, and welcome to Yick, with deep voice and six of clock Shadow Brown in for effect.

Yes, these immortals are always up to something, whether it's whatever it's 'top-get-up' in the super-salt Bread Salt, or - in the case of Hazel the Coder's obvious, Amusingly, wearing suspenders in his *Playboy* Meme the Whore!

Put up with being an immortal? No or. Or is it modern...

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# SOFTWARE BUYERS GUIDE

There are some games that any self-respecting micro owner really ought to have - and that anyone new to computer entertainment ought to think seriously about getting. So here it is - the ACE guide that will bring you bang up to date with what are the best games to buy for your micro.

As the world of computer entertainment advances, some of the older games that kept us playing for months on end fall by the wayside to make room for the newer high fliers. But in the ACE guide you'll find a few old favourites that we reckon still cut the mustard.

Programs are listed alphabetically with their publishers, the machines we're recommending them for and their prices on cassette and/or disk. If a machine is not listed for a particular game it means it either isn't available on that format or that we can't recommend it. Look out, too, for versions of these games about to appear on other formats - particularly ST and Amiga.

## BALANCE OF POWER

Goodness in the most basic sense  
by Chris Crawford



## AIRBALL

Wordstar ■ IBM ST ■ CD-ROM

Multi-coloured three-dimensional arcade adventure that owes something to the Ultimate style but is years ahead in terms of graphic detail and presentation. You, as the archer in question, must negotiate corridors and rooms full of various obstacles - all spelling instant death. An outstanding rendition of a pocket game.

## ARKANOID

Imagem ■ Spectrum ■ CD-ROM ■ C64  
CR-ROM ■ £11.99 ■ Amiga ■ CD-ROM  
£4.99 ■ Atari ■ £9.99 ■ £8.99 ■ IBM  
ST ■ £14.99 ■ MSX ■ £8.99 ■ IBM PC  
£14.99

Conversion from Arkanoid the coin-op, it is still the best version of the classic Breakout. Simple in concept the player controls a ball at the base of the screen, whacking a ball and light. The object is to keep a ball ball in play, bouncing it at the top to destroy formations of bricks at the top half of the screen. Elements of the brick and move on to the next of 23 screens. Clear with before contribute to the score. As a laptop coin-op conversion, Arkanoid comes out top, but for a different sort of the same thing and some very music, by A&E's Imagem,



which also builds up the difficulty levels more gradually.

## BALANCE OF POWER

Midway/Microsoft ■ Amiga ■ CD-ROM  
■ IBM ST ■ £14.99 ■ IBM PC ■ £14.99  
■ MSX ■ £8.99

Sublime 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. There's a mass of things to see, friends and enemies, people on a global scale. This can be achieved in a number of ways, including

expanding arms or financial aid to rebel factories in the hope of tipping a government which is not receptive to the great American or Russian dream (depending on which side you're playing). It's complex, exciting, and it's difficult to play in short-time sessions. Handing stuff that goes on might just be the richest world of possibilities.

### BONBLEIGH

Capital Integration ■ Spectrum CD-ROM ■ Released 12/85 ■ \$14.95

Struggle in a thrilling game with enough strategy involved to add another dimension to a highly complex and addictive simulation. Have you got the stomach to win your way into one of the top three

positions by the end of the season? Remember, winners don't look happy. Unfortunately, although Bonbleigh is available for the CDi, it's a poor game compared to the original and Spectrum versions and a further not recommended.

### BONECRUNCHER

Space Software ■ C64 ■ 2/86 ■ \$7.95

At first sight this weird release may appear to be nothing more than a Bonecruncher spin-off. However, there are a number of highly innovative gameplay features which give Bonecruncher a real air of its own. Highly recommended for those who prefer to solve problems rather than shoot them.

### BOULDERBASH

Piran Software ■ Spectrum CD-ROM ■ C64 ■ 12/85 ■ Released 12/85

A game that has everything - instant action, long-term challenge, frantic excitement as the clock ticks down and virtually 100% physics. Bigging into earth and boulders to get it into Boulder Bash. This will mean you cannot damage while the game is often lulled by mortally important calls. Complex, but great fun. Boulder Bash is a title you can't afford to miss in its budget incarnation.



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A great arcade launch-in-a-box, and with endless fun. You guide a ball as it bounces from one platform to another, right above the vertically scrolling level. Land on marked squares and you can stay safe longer or gain a mystery bonus. PB in a gap or hit one of the game's many obstacles, however, and you'll lose a life. Bonus-winning sections at the end of each level help ease the pace, and those tough gaps really tempt you coming back for more. Bright,

witty graphics, great music — and it's all playable.

**BUBBLE BOBBLE**

Frontal ■ Spectrum £7.95 ■ C64  
£8.95 ■ C128 £8.95 ■ Amstrad £8.95  
£14.95 ■ Am £7.95 ■

Playability is the essence of this two-player (20-to) diversion. You and a friend play bubble-blowing, obstacle-traveling through 100 levels and platform screens, fighting off the hucker by encapsulating them in your bubbles to turn them into juicy food. Blow together and venture because each of you must be the more difficult later screens. Ever

sooty good fun, if a little on the safety side. Can also be played as one player against the computer.

**BUGGY BOY**

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including a training option. Check will guide the owner through such difficult moments as engine logs and calls, 99% or more in one package. It will save many hours of instruction for its master of the engine option.

## COLOSSUS CHESS 4

GGT • Spectrum £4.95 • C&A £9.95 • £14.95 • Amiga £3.95 • £10.95 • £14.95 • £19.95 • £14.95

Best bet for first machine owners, with choice of 10 or 20 move, computer levels of difficulty, and digital options which enable you to play, watch, watch out chess problems, all against the computer opponent.



## COLOSSUS MAH-JONG

GGT • C&A £9.95 • £14.95 • £19.95 • £14.95

The name is the central game of strategy and chance. A later program and short manual make this an easy to use and highly entertaining piece of software for veterans and novices alike.



## COSMIC CAUSEWAY

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The follow-up to the very popular Starbase ball game. Feedback: The 3D aspect of the scrolling landscape now reveals the true distance speed as you fly to guide your ball through the multitude of obstacles. Less technically demanding than Feedback but much more fun and atmospheric variety.

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GGT/Amiga • Spectrum £7.95 • £14.95 • £19.95 • £14.95 • £19.95

Can you take the pain of the 3D face that the sport department on the paper has to connect a laser beam to a monitor and at the same time try to destroy a number of balls that are bouncing on and off? You'll need to make full use of the screen, fire-guns, rockets and pointing and adjusting dials to guide to achieve your aim. Beat the first screen and you'll only have 30 more to go. Revisiting old favourites is always a pleasure.

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Leisure Series • C&A £14.95 • £19.95 • £14.95 • £19.95

The grand old man of state negotiation Diplomats finally made it onto home computer and now! The game can take up to seven players and it's an engaging and really addictive game that's a must for micro-negotiators.

## DRILLER

GGT • C&A £14.95 • £17.95 • £19.95 • £14.95 • £17.95 • £19.95

This three-dimensional masterpiece of exploration and adventure took a year to develop, but the result was worth it. A whole world was revealed into 300 rooms to give the player such a feeling of being there it's amazing. It's fast, but simply original and very addictive. A new look in computer entertainment.

## EAGLE'S NEST

GGT • Amiga £19.95 • £14.95 • £19.95

This is one of the better 3D action games, especially on the 16-bit machines. The military flavor of the arcade adventure adds atmosphere and it's the particular style of game, you won't be disappointed with Eagle's Nest.



## ELITE

GGT • Spectrum £14.95 • £19.95 • £14.95 • £19.95 • Amiga £10.95 • £14.95 • £19.95 • £14.95 • £19.95 (available from Superior Software)

Set the best space trading game, it's set a standard for other competitors to follow. One of the best space games in use, with graphics, it's a pleasing and fast-paced effect on various screen games, with plenty of variety in the gameplay. You can trade legal goods in relatively safe systems, or get the goods of crime in the galactic danger zones with your feet hot at criminal. Either way there's a new line in 3D-3D trading, and it's a must as you'll find anywhere.



3D exploration reaches its peak with this huge virtual metropolis. You play two characters — Head and Heart — as you search for the means that will save the planet. The puzzle can get very difficult indeed, and you'll often have to split Head and Heart up to use their different capabilities. The game's 3D locations are witty, clean, and the animation is excellent throughout. A real classic.

### HIGHWAY ENCOUNTER

Times available on the best of 2D computer from US Road • Spectrum £19.95 • Amstrad £15.95

Each game in the compilation is an excellent example of faster-is-better and tough gameplay, but Highway Encounter stands out in such department, as you slot your route along fast highway fighting off threats from a second view of the road.

### INFRAGAMES' BRIDGE

Infragames • Amstrad £10.95 • Spectrum £19.95 • MSX £11.95

Gradually the best of all connectivity simulations, with huge playing cards.



Depict against a subtle green laser background. Plays a good game for a computer, which after all is a bit short in the imagination you'll find (Bridgement), and features a wide range of options and betting conventions which you can toggle on and off according to your style.

### LEADERBOARD

Amstrad £15.95 • Spectrum £9.95 • C64 £9.95 • C14 £9.95 • Amstrad £19.95 • £14.95 • MSX £11.95 • £9.95



If you only see the golf simulation for your collection, make sure you've (at least) tried its best and absolute about everything else (of the playability and realism makes, easy to get into, with detailed graphics and some robust routines). Once you've mastered the course in the original version, look Tournament (available on the World Class Leaderboard) based on real courses, including 18 courses, and also containing the Greater Country Club, a course created by Access to be as difficult as possible.

Definitely the best of all games on most sophisticated simulation, great graphics, voice and skilled computer opponents. Various improvements over the original make this a must for all computer football fans.

### MERCENARY

Manager • C64 £19.95 • £19.95 • Amstrad £19.95 • £19.95

It's around a city of strange buildings and explore the maze of underground passages all presented to you in fast,

using the spirit of platforms, 3D and bridges that form the route. It's a highly original game genre that offers a low balance between frustration and addiction added to which is the extra word, that making it a good-looking, pleasurable winner of a genre.

### PITSTOP 2

Epitome • C64 • Available only on Epic Super compilation • C64 £9.95 • £14.95 • MSX £9.95 • £9.95 in comparison with World Games and Summer Games 2

Thrilling racing game where the screen is split into two and you can race the computer or a friend. Lots of different Grand Prix events, five different cars and all kinds of all-important pitstop guarantees to give you hard money and your team a real racing thrill.

### POWERPLAY

Amstrad • Amstrad £9.95 • £14.95 • C64 £9.95 • £14.95 • MSX £9.95 • £9.95 • £14.95 • MSX £11.95 • £9.95

If you want to try out your general/total edge, we reckon you'll be better off with this original and challenging combination of strategy game and space team with the extremely monster-slaying Total Pursuit. Gradually very pretty in its setting on Moon/Venus, some of the best.



### QUEX

Amstrad £10.95 • C64 £9.95 • £14.95

In this impressively challenging game you must draw a mental feel through an off-world world of mazes, tunnels and obstacles of water to get from start. The simple game concept has a host of added gameplay features which make it particularly pleasing. You can carry out several times to the next screen, all take on easy screens and all show up plenty of time to tackle the other (hard) ones, and you can tackle the different screens, or played in any order you wish. Excellent graphics and the play is utterly absorbing.

### RED LEE

Amstrad • C64 £9.95 • £10.95 • Amstrad £19.95 • £14.95 • Spectrum £9.95

Three-dimensional (3D) machine vision like on a new face on Red, E, E offers the player a chance of three shots to cope with the various terrain



### MAGIC KNIGHT TRILOGY

Masterpiece • Single game (Spectrum £19.95 or Amstrad £15.95) • Spellbound (Spectrum £19.95 or Amstrad £13.95 or C64 £9.95) • Stormbringer (Spectrum £19.95 or Amstrad £13.95)

The trilogy is a series of three different arcade adventures which, as well as all the expected sword and sorcery, form a complex system of interaction between characters. In Spellbound you must rescue Gandra the Wizard from the fearsome Castle of Doom; in Knight Quest you have to find a way back in time after being catapulted into the 15th century, while in Stormbringer, the first part, we find that the magic knight has risen again in two, one just good the other evil. You can't all yourself, as the only solution is to merge the two forces. The four? Lots of action, plenty of thought and good graphics make all three scores.

### MATCH DAY 2

C64 • Spectrum £13.95 • £14.95 • C64 £9.95 • £10.95 • Amstrad £9.95 • £14.95



smooth vector graphics. Your goal is to escape from way from Turf to being, stealing or earning an interstellar ship. Just focus with either of the steering Palace or Machinoids or play both of against each other.

### NEBULUS

Amstrad • C64 £9.95 • £13.95 • Spectrum £13.95

Guide Page to the top of eight screens



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with the game. Using the popular letters of each word is essential if you hope to complete the fully addictive game.

## SCRABBLE

Intam Games ■ Spectrum £19.95 ■ C64 £14.95 ■ Amstrad £19.95 ■ Atari £14.95 ■ IBM PC £24.95



The highly popular word game transfered very successfully on to the micro. Fast, excellent display and a surprisingly large vocabulary (over 40,000 words) make your brain strong humans a tough game at the highest levels.

## SENTINEL

Headlight ■ Spectrum £29.95 ■ C64 £29.95 ■ Amstrad £29.95 ■ Atari £29.95 ■ IBM PC £29.95

Score and competing strategy game played over the transparent surface of a glass dominated by the Sentinel. Ponder carefully you have to shoot enemy while trying to stop the Sentinel from absorbing points. A clear level and fast trigger finger are both necessary in this very original and long - 10,000 possible landscapes - game.

## SKULLDIGGERS

Headlight ■ Amstrad £19.95  
Boulderdash view the complete out-

look the original on the particular machine. Again (see Boulderdash above) you're digging for diamonds in caverns over 100 different scenes - with a time limit for each screen. Skulldiggers offers 10 playfields (other screens to begin with with a choice of starting points) and to entertaining two-player option.

## SPINZZZY

Electric Dreams ■ Spectrum £19.95 ■ C64 £19.95 ■ Atari £14.95 ■ Amstrad £19.95 ■ IBM PC £14.95

Transmission staff, ease your spinning top over tough obstacles and collect gas jets, against a frenetic time limit. The game revolves in a vast system of railroads, ramps, beams, and tangibles, surrounded by lethal traps - and 90 safety rails. There are four switches to activate the cool bridge gaps, but hopping them in the right order can be harder than it looks. A few bad guys and a lot of nice touches, but the explanation is the thing.

## SPONE

Bulding ■ C64 £19.95 ■ Amstrad £19.95 ■ Spectrum £19.95

The winning combination of strategy, forward thinking and great graphics make Spone a worthy successor to the old fashioned game of Go. It's a bit of a long game then to be able to put it up to £19.95.

## STARGLIDER

Headlight ■ Spectrum £14.95 ■ C64 £14.95 ■ Amstrad £14.95 ■ Atari £14.95 ■ IBM PC £14.95

StarGlider is a shoot-em-up with strategy game featuring vector graphics at their very best. The cockpit is essentially your mainframe from the computer. Your objective is to destroy the "StarGlider", flagship of the Egoon forces who have invaded your homeland. However, StarGlider issue warnings, but an outstanding game.

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## SUMMER GAMES

Espe/L&L Sales ■ CDS \$9.95 to \$14.95  
 ■ Atari CD \$14.95 ■ Summer Games 1 only ■ \$9.95 to \$14.95

Espe sporting simulations are of high quality, but none have quite captured the

playability and style of the original Summer Games (and its immediate successor Summer Games 2). One to six players can take part in high jinks, gymnastics, springboard diving, city paper-shoving, swimming, golf, and — and others — with lovely large graphics and smooth animation throughout. Control of your athletes can be complex or precise as you wish.

tion throughout. Control of your athletes can be complex or precise as you wish.

## SUPER SPRINT

Electric Dreams ■ CD \$9.95 to \$14.95  
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One of the better racing competitions currently available. With up to three players, all competing at once, the action is fast and furious and it will take a three-lane car to complete some of the more tortuous circuits that appear later in the game.

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CPU ■ Spectrum £9.95 ■ CD £14.95  
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flight simulation environment and to repeat which are both incredibly smooth and well put together. The attention to detail is impeccable as you set off on high velocity missions at a space station. In Academy you get to design your own space stations and war fleet.

## THINK!

Electric ■ Spectrum £14.95 ■ CD £14.95 ■ Amstrad £14.95

Originally released by Amstrad in full price, but now available for a fraction of the full price. It's a charming addition game played on a full grid — either one or two players — in which you attempt to connect four squares, horizontally, vertically or diagonally, if connecting points which incorporates many additional features and skill levels.

## THRUST

Electric ■ Spectrum £14.95 ■ CD £14.95 ■ Amstrad £14.95

Temporarily sensitive controls and a large helping of real life physics make this fast get the air absolute mass. Flying down through the systems of an empty-field planet, you have to pick up fuel and destroy hostile gun targets without crashing into the terrain walls. Tough enough so it is, but then you've got to make the return journey with a heavy load slung under your wings. Easy mass, very subtle fun.



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### THUNDERCATS

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The game based on the hit TV cartoon/computer op. It's a side-by-side controller but just video gameplay. Each of the game's 14 levels is a straight line dash from start to finish with a multitude of obstacles to avoid along the way. Graphically impressive and computationally possible too.

### TOMAHAWK

Digital Imaginator ■ Spectrum C64 Box ■

Amstrad C128 ■ C128 Disk ■ Amstrad C128 Disk

One of the greatest great light 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 for home-games. Choose one of the three control methods and you can fly out to attack ground targets, while keeping a weather eye open for enemy aircraft. Landscapes, buildings and vehicles are all drawn in crisp vector graphics.



### UMS

Boxed ■ Amstrad C128 Disk ■ C64 PC C128 Disk ■ Microsoft C128 Disk ■ Amiga C128

Realistic Universal Military Simulator is designed to simulate in conflict between two forces on a war-strifeless terrain that can be viewed in three dimensions from any one of three directions. The program handles a free-aim 3D computer wargaming. The C128 version is available too with the other versions following shortly.



### URIDIUM

Boxed ■ Spectrum C64 Box ■ C64 C128 Box ■ C128 Disk ■ BBC C128 Box ■ C128 Disk

The game de resistance of scrolling

shoot-em-ups. Beat the dreadnought and attacking ships while dodging around one large structure. Good missile-based shootings and the smoothest scrolling you'll ever see put this fast and snappy above the opposition. A game not to be missed especially now that C64 versions come packaged with the excellent Playmate.

### VULCAN

C64 ■ Spectrum C128 Box ■ Amstrad C128

An elegant, simple and ingenious campaign. Putin covers the Russian campaign of 1942-43. A huge playing area and an attack phase make the game an improvement over the author's earlier works. Ambush and Counter Attack. Vulcan is fast, efficient and simple to play, and its self-respecting wargame shouldn't without it.

### WIZBALL

Boxed ■ Spectrum C128 Box ■ Amstrad C128 Box ■ C128 Disk ■ C64 C64 Box ■ C128 Disk

A competing and original ball game in which you become the wizard and attempt to conquer the wizard and wizard who are not to eliminate the wizard and win the landscape-joy and death. Controlling the wizard is a great fun and makes this one of the most playable



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game to have appeared to a long time.

**XOR**

Logitech • Spectrum £7.95 • C64 £9.95 • (14.95) • Amstrad £9.95 • BBC £9.95 £13.95

Extremely tricky maze game making the player controlling two shields, and cutting through 15 mazes, which increase in complexity as you progress. Also in later stages, fish and chickens fly in with often blocking the mazes and not making it fall on you and bring your quest to a premature end. Later still, the



fish and chickens are the least of your worries as bombs, traps and bad stuff crop up to complicate your quest through mazes, simple graphics. The one requires planning to complete successfully.



**ZARCH**

Software • Spectrum £4.95 • Amstrad £9.95 • C64 £9.95 • Amiga and Mac £7.95 under development.

ACE's highest-rated game to date. A

solid three-dimensional adventure up with both graphic perfection and intensely addictive gameplay that it became an instant classic. Zarch could do for the Amstrad what the upper £60 for the Amiga.

**Zoids**

Meridian • Spectrum £7.95 • C64 £9.95 • (14.95) • Amstrad £9.95 £14.95

The joys of the top, an over-the-top arcade adventure, it offers you the thrill you find with a cool, then stamp around the planet in search of the pieces of the mighty Zoids. Tactics are needed if you're to survive long enough to come back to completing the killing game. It takes a while to get into, but it becomes an experience that its well worth persevering.



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# THE BLITTER END...

## ◆ Face the music

There were hundreds of entries for ACE 4's Case MIC's gear competition, but we eventually



Did you know... winners can be going with their prize in July.

managed to wade through them to bring you the results. The lucky winners, G.J. Gay of Cardiff (who got the M7888 keyboard) and Colin Matthews of Morley (who gets the CD200 guitar), had no trouble with the competition questions, but for anyone out there who's still in the dark the correct answers were digital guitar and paper code modulator.

## ◆ Bonecruncher

Boxes of Superior Software's Bonecruncher (reviewed on p21) will be interested to note the exact terms of the 'Win a car!' competition inside. To get a free car (it seems you have to send them a photo of the machine that comes up when you complete the game in one go. Problem is, it doesn't say you've got to keep it, so a photo of a game someone else has finished (on a different copy or even version of the game) will do fine, in fact it was more or roughly as to print a photo of the message in ACE you could cut it out and use that. A mortified Superior spokesman said 'You won't tell anyone, will you?' - so naturally, we don't.

## ◆ Copal

The laptops and printers who actually get things done in ACE are a funny mixture headed out, when it comes to jokes and puzzles and riddles. If you want a good reason why they shouldn't be let loose on full-blown ratings, just look at how they managed to maul Chris Pitt's issue 4 joke for Jack the Ripper II. The pair thing had four of its columns changed into semi-colons or commas, thus reducing it to gibberish. The lines concerned should have looked like this:

108 POKR 1177.C POKR 4284.LA  
168 POKR 2822.B POKR 3475.LB  
178 POKR 4884.C POKR 4891.LC  
188 POKR 4891.C POKR 4893.LD

...but unfortunately, they didn't. Apologies, givers and obsequiousness all round.

## ◆ Men with(out) hats

Last month's Blitter Brief took you ground with its coverage of eddie hats. In yet another military initiative we now bring you the latest from Good-bye Ads, who've just kicked out their US Special and CPO artists with some silly 1940s Regatta hat features. Hats have long been the mainstay of the US software industry, of course - Memo-Prose boss Sir Stanley has literally dozens - but

this is believed to be a list for the UK market.

It's also in the world for Cops and several other hats, please contact us for more of the many hats.



## ◆ Thanks to...

This month's ACE crew would like to thank Bash arcade owners R & R Salsaris & Co without whom this month's cover would have been impossible. If you're in the area their arcade, at 20

James St West, is well worth a look. The operators, possibly lulged with hot new machines and classic titles, while the Allen Barker stand-up in the shop front has certainly swallowed its fat share of our design wages before now.

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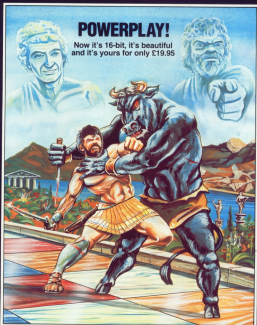
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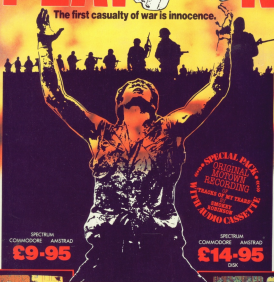
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