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OF THE YEAR**

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WIN A CD-ROM SYSTEM



A superb computer system of the future, featuring a Commodore PC and a CD-ROM drive with audio output is up for grabs... see Page 32.

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And it's goodbye from us.

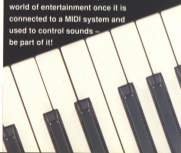
PINKS

Loads of goodies this month, including T&E rebirths of Rigel from Rigel Why? But even after his protracted holiday last month a few of you may be suffering withdrawal symptoms. NGA's still on the rampage to read about his latest exploits. If it's more cerebral stuff you're after head down the Price Crossword (with correct grid this month) and Puzzles. PLUS all the other wizzes, whizzes, wizzes that stand comely year plainer '89 our Rigel grate subscribers...!

A SOUND ISSUE

Making music can be one of the most rewarding applications of the home computer. Thanks to today's technology, you don't need to spend years mastering the techniques involved in playing instruments well. All you need to do is communicate with a few chips and they will do all the hard work of producing violin sounds, harpsichord noises or whatever.

Anyone with an ear for a tune can use a computer to make beautiful music. But where to start? We tell you how this month, and show you how on the cover-mounted audio cassette. The home computer opens up a whole new world of entertainment once it is connected to a MIDI system and used to control sounds - be part of it!



GETTING CD AUDIO FROM THE ENGINE

How does the Engine's CD ROM drive measure up as an audio player? HIFI Choice's CD specialist Paul Miller puts it through his test lab...

To all intents and purposes NEC have pulled out of the UK audio market, so this portable add-on to the PC Engine will be leaving the corporate flag in its foot for the time being. The CDH-30 is equipped with customary

high-quality components such as a track skip and all repeat but often used in conjunction with the PC Engine's variety of other features are accessible. These include A-B repeat, fast music search, direct track access, a 99-track random access memory and intro search - in the sort of features available on all self-respecting CD players costing upwards of £250.

Technically, the CDH-30 is pretty basic with both automatic and manual search capabilities hovering around the 0.1% mark (±0.05) with an output level some 3.7dB below the nominal CD standard at 1.7V. The 30 does use a peak level of 200µV range and highlights these 1M products associated with the 44.1kHz sampling frequency and its multiples (ie 88.2kHz). Those products manifesting to the left of the range fall within the audio range. None,



Above and below: HIFI buffs will spot the full picture from these detailed test results. The Engine's CD player was well through its paces on Paul Miller's test rig.



Controlling the PC Engine's CD player in audio mode from the control panel.

channel balance and repetition are accessible for the sort of machine though the 15 000 levels come as something of a surprise. Note the falling response of the headphone output effect

will sound progressively more dull as the volume is increased.

As for the outputs the player sounded most subtly detailed and tonally neutral, but it was also rather lacklustre and uninviting. Deep bass notes were conspicuous by their absence, while stereo perspectives were mildly flattened lending a flat, insouciant feel to large scale orchestral works. Consequently the rhythm to Tanzi Tikaram's 'Dancing Innocent' was tainted with a feathery quality, the leading edges of tones bereft of crisp clarity and transient impact. Nevertheless the player did not sound exceptionally bright, coarse, tartaric, but not overly forward or aggressive.

In general terms the quality of the player was convincingly obscured by the better full-sized players, such as the Marantz CD66, and portables like the Technics SL 49P. Nevertheless the NEC player cannot be judged solely in the context of those conventional units

because it also offers the flexibility of a fully-fledged CD ROM drive. Buy it for the games potential and treat the playing of music CDs as something of a bonus.



The first licensed CD ROM systems to now available in the UK as part of the PC Engine's range of peripherals. Further to our report in the February issue, yes, the Engine is now officially on sale in Britain.

The CD ROM drive, which costs an additional £400 with the interface if you buy it from Micromedia at the same time as your Engine, is the most affordable CD ROM system available. But, you could always spend between £500 and £1,000 on a CD ROM drive for an IBM PC compatible, but so far Atari's oft-demonstrated CD drive for the ST is still under commercial wraps. Atari, it seems, can't see the point in releasing a drive when there's no software to run on it. Not forgetting Macintosh owners, who can spend lots more money on Apple's CD ROM drive, but as with the PC, the software emphasis is on serious applications rather than entertainment.

New firm Micromedia is currently importing PC Engines from Japan with the blessing of NEC and Hudsonsoft, the creators of the system, and is busy arranging to sell the hardware and a selection of software both by mail order and through high street shops.

Micromedia plan to offer the full range of hardware add-ons, including the Multi-Taps that allow several players to join in the action on selected games, the CD ROM player and interface, and additional controllers and controllers. The basic Engine will be provided in the UK with either a SCAPI video output (the cheapest colour or PAL modulator so that it can be connected to a standard colour TV set. Top of the Micromedia range is the PC Engine Music control, which includes a Philips 800 medium resolution colour monitor, the CD ROM drive and interface, the Engine itself, power supply, joystick and a CD ROM game - 'Fighting Street', more commonly known in the arcade as 'Street Fighter'. If you already have a monitor or TV set that can accept a SCAPI input, the basic pack of PC Engine, power unit and controller - the minimum system configuration - is available for £799.95.

Andrew Simons, the man behind Micromedia's import drive, is closely linked by the protocols for the PC Engine, and has marketed fairly heavily in producing the ultimate PAL interface for UK users can get the best out of the Japanese Engine. NEC have maintained that the Engine is a strategic product so far as Europe is concerned up until now and appeared mouthily uninterested in the European market. The level of NEC interest in Europe is odd, presumably, too, as they have left brand name

● CD-PLAYER:NEC CD-ROM

Frequency Response:
L: 20Hz-14.7kHz
R: 20Hz-14.8kHz

Channel Balance:
20kHz: 0.15dB
10kHz: 0.03dB
20kHz: 0.15dB

Channel Separation:
30kHz: 67.3dB
10kHz: 68.1dB
20kHz: 41.7dB

Left/Right Phase Error
@ 10kHz: ±0.1°
@ 20kHz: 0.0°/2°

De-emphasis Accuracy:
5kHz: 0.02dB
5kHz: +0.02dB
16kHz: -0.04dB

Signal to Noise Ratio:
L: -65dB
L: -65dB
L: -65dB with emphasis:
-65.4dB

TED (L/R) @ 1kHz:
500: -62.5dB-67.5dB
-15dB: -58.7dB-64.1dB
-30dB: -48.7dB-58.0dB
-50dB: -35.3dB-54.7dB
-60dB: -4.8dB-7.1dB
-90dB (unbalanced/differential):
-6.0dB-1.5dB

CDR 660, 194x3.00kHz,
500: -58.0dB
-15dB: -60.4dB

SMPT: SAC 620Hz/7kHz,
2nd Order: -57.0dB
3rd Order: -62.7dB

Suppression of stop-band
re-modulation: -65.3dB

Resolution at 600Hz:
L: -1.2dB R: -0.13dB

Peak Output Level:
L: 1.02dB R: 1.28dB

Output Impedance (dB):
1.60dB/1dB

Track Access Time: 0.5sec

Serial Number: 62182798C

Typical Retail Price: £290



THE ENGINE ARRIVES!

Compact Disc ROM hits British shores with a vengeance, but largely without software. Only three CD ROM games are in existence at the moment... two of them for the PC Engine.



company Microcabin to produce the FM, interface themselves. Some UK software houses are interested in supporting the Engine, in particular Telecresoft, but no-one seems keen to commit development money and actually start writing games for it yet.

In America, however, things are looking rather different - NEC are about to launch the Engine in the States themselves, and American developers are already actively contemplating writing games for the system. Commodore's Dave Koster states that his Interactive Development team are looking closely at the Engine and its CD ROM drive and are already talking to NEC about producing games - more of that next issue, in our round-up of Compact Disc games and their future.

The American interest could lead to a flurry of Engine programming. Simms comments "with the full launch scheduled in America later this year, the plans for software will make the PC Engine one of the most versatile and well-supported games machines in the world".

The current range of Japanese titles includes some really hot arcade conversions from the likes of Sega, Nam, Capcom and Namco, along with some impenetrable games that only make sense to a native Japanese.

LAST The basic PC Engine unit slots into a neat interface unit, snuggling next to the CD ROM drive and playstation. The main 16-bit ROM game, a disc is placed in the player and an accompanying smart card slots into the Engine. A special card is used in the Engine when you want to play multi-compact discs through your stores.

We all know that Actions speak louder than words.

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from



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HOT-SHOT ENTERTAINMENTS LTD.



PC Engine versus ST. The same anti-air system (green) from *Street Fighter* can be used in the SNES and the PSX. Can you tell which is which? Well, the one at the top is from the Engine... Good, isn't it?

system, and two CD-ROM protocols. To start with, Micromedia will be offering a selection of around twenty titles from the library of fifty games available, selling them for £25-30 each. Expensive, but not desperately so in the light of standard Amiga and ST software.

The stock team of games reviewers here on ACE found the Engine's arcade conversions - such as *R-Type* and *College 08* - so effective that the machine had to be locked away and limited to after hours recreational use, without putting our Engine under lock and key during the day. This issue would never have arisen at the printers. Reaction to the CD-ROM game was less enthusiastic - it was loaded and played for a while, and while the CD quality sound effects and music were impressive, the basic beat-em-up gameplay failed to impress. *Street Fighter* was really only a case in the arcade, while the machines had the pneumatic jump pads as controllers, when arcade operators fitted standard joystick controls, leaving for the safety of their expensive cabinets. *Street Fighter* lost most of its appeal to non-pneumatics.

CD-ROM is definitely going to be the format of the future - within a couple of years it is likely to become the main medium for the distribution of games and, if you want to be at the forefront of new technology, investing in a PC Engine with CD drive will prove very tempting. Doubtless, if you don't already have a CD player - the Engine's player doubles as a standard audio machine which is controlled by software running on the Engine itself. We gave the system to Paul Miller, a specialist CD reviewer for the prestigious NFI Choice magazine, and his comments on the audio capabilities of the system appear on the previous pages along with his analysis of its audio performance. NFI Choice plan to run an in-depth review of the Engine in a future issue, so if you want a detailed breakdown on its audio performance, talk to your newsagent about getting a copy.

We also asked Tony Takahashi to give us his opinions on *Fighting Street*, the CD-ROM game. As might be expected, our tone abandoned all reserve and reacted in its normal manner...

LEAP, SPROING, GIBBER, CAVORT

Put a PC Engine connected up to a CD-ROM drive in front of Tony Takahashi, and the result is predictable. Predictable in the extreme. *Street Fighter*, or *Fighting Street*, really took his fancy...

"...press the RUN button which fires up the CD Player and you are welcomed with a Capcom title screen and a young lad thumping his fist through the roof and the *Fighting Street* logo filling the centre of the screen. The abstract mode cycles between the Capcom logo, highscores and a simple *Fighting Street* motif.

On pressing the RUN button you have to choose either your player or player 2 versus player 2 (that is a two player option for you and me). On one player you then go to a mouse select, you can start in one of four countries: Japan, USA, UK or China, there is some scintillating music and the title of the country chosen is announced.

You are then shown a portrait of your opponent with some more really jaunty music and then you go into the game, you walk in from the right and your opponent from the left the phrase MANDEE is bellowed out and you have to die it and let him have it.

The moves are very fast now but the speed of action, graphics, digitised comedy, warpaths and

screaches of pain are a little too close for my comfort, you really FEEL you are being hit out of this guy! Every blow has a digitised cultural gem and the latter blow deciding the round has the opponent collapsing to the floor with a gut wrenching moan. THE MUSIC, THE MUSIC, THE MUSIC!!!

It is starting just late at its best and most evocative it totally enhances the play and makes you want to get up on your toes and kick around the screen in exhilaration! That is about the only way I can describe it.

You have to defeat each opponent over the best of three rounds, you have an energy gauge and if it hits zero you lose completion of each round, so the quicker you are the higher the bonus. On defeating the enemies in each country you get to play a bonus round (breaking like-kicking glands around the screen are just fun) again digitised speech is uttered all over the place. If you are beaten a head start of the enemy appears and a voice booms out, "you have got a lot to learn before you

beat me, by again better" and a monorous laugh follows. Similarly if you beat an opponent he appears and warns you "What strength, but remember there are many guys like you all over the world".

When you have beaten the enemy in one country a world map appears and a little plane flies to the next country.

Each country has its own characters and different backdrops with a discerning kung fu style, you have to watch and learn the moves to progress through the game.

As a debut game it is quite fascinating and still has only touched the surface of the CD format, with companies in the UK and states looking at CD for games it clearly is a sector that has a long way to go and has a great deal of potential for the home games market.

The second CD is not so much a game as an interactive pop story where a young girl becomes a pop star with loads of hits, pop and Japanese pop songs to be enjoyed along the way...

Er, thank you Tony



"HEY GUYS, WE COULD BE IN SERIOUS TROUBLE HERE!"

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REAL GHOSTBUSTERS

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GHOSTBUSTERS HEROES AND SAVE YOUR
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GHOSTS AND THINGS THAT GO BUMP IN THE
NIGHT

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AND SCARY MONSTERS AS YOU CAN — BUST
THE MAD MONKS OR THE GARBISH GHOULS
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PICK UP THE KEYS, ZUPP THE GHOSTS AND
SEEK OUT MORE SPOOKS — OR YOU'LL BE
HISTORY!

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- ★ THOUSANDS OF DIFFERENT CREEPY GHOSTS AND
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- ★ FAST MOVING ANIMATION
- ★ EXCITING AND CHALLENGING LEVELS



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Another month, another collection of views and opinion and another £100 worth of software to give. Only this month, the Editor gets back into stingy mode and dishes out a mere £25 worth. If you have something to say and fancy a crack at the contents of his wallet, put printer or pen to paper and send a missive to our Editor at: ACE LETTERS, THE EDITOR, 4 QUEEN STREET, BATH BA1 1EJ.

HYPER HYPER

Ifly are games continually being generated and not given a straight forward release when they are released? I'm talking about hype - you know, that thing that can make or break a game to matter how good or bad it is.

I'm not saying that *Outcrop*, as a game, didn't live up to the hype of being a brilliant campaign and one of the biggest hits series of the year. This is an example of a game that is 'made' by hype, but take an example of a game that is 'broken' by hype, and you have a different story.

Take *Afterburner*. The hype started as soon as a home computer version was mentioned, an

account of its arcade big brother. When screenshots were available, magazines printed major previews of the game, and again reminded us how brilliant the arcade machine was and how good the game should be. Attention also added to this by printing mega, double-page advertisements all over magazines, but *Afterburner* could not live up to all the hype, and flopped in nearly all reviews.

If *Afterburner* had been an original concept, I'm pretty sure that it would have been given much higher ratings. Instead of this, it received bad publicity that it did not deserve. The hype that causes conversions to rise before their release can do them

harm - it is not always the game that is at fault.

A. Richardson Pilkemansworth

True enough, some games suffer from hype, but others benefit from it as the next computer deal points out...

Major companies have been buying lucrative licences, such as *Afterburner*, and producing games that wouldn't sell well at any price if the game didn't carry the name of a highly successful arcade game. Because of the name, inevitably consumers go to a copy from their local computer store and smaller companies lose busi-

ness because the latest conversion is THE game to have. Nobody waits for a review - you just put back that because it was a good arcade game, then it must be a good computer game.

Good licences can be achieved, like *Operation Wolf*, so why don't arcade game producers go for the company with the best programming team out there and the most money?

M Richardson Barlow on Number

If you buy a game without reading the review or getting a friend's opinion, you are yourself open to being disappointed. Obviously, people should have realised

GIRL TALK

Mandy Flower's letter concerning the apparent lack of female computer users raises some important points. I suggest the reasons there are so few is probably because many females are not interested.

But why are they not interested? After all, during the latter half of this century we have been bombarded with a flood of exhortations as to why women do not participate in any number of activities. It has been suggested that they have been discriminated against directly or indirectly, culturally or in some cases because there has been some distinctly odd by men to prevent them joining in. In many cases these explanations may be valid, but may I venture to suggest that since computers, and in particular computer games, are a relatively recent phenomenon such explanations are hardly viable.

Unfortunately we may now be subjected to a tidal wave of propaganda. Before we know it, there will be a women's page for female computer users, social computer programs that are friendly to women, books in simple language for the lay user, special radio and television items along with special advertising and college courses.

Women need to be encouraged in the continuing degradation of their sex by the type of marketing. Mandy Flower's may express dis-

appointment that there do not seem to be many female users, but already the Editor of ACE has subjected us to the patronising spectacle of suggesting a special female computer club. Wouldn't there be a club if someone suggested an all-male computer club - and suits rights on.

V. Battersill Hartford

Why, hold on there a moment. Women are more likely to be attracted by the continuing degradation of their sex in adverts that show women as gorgeous posing bimboes with huge breasts and slinky clothing who need to be rescued by tough-hand guys. And as for being patronising, you've got the wrong end of the stick again mate. If I did not offer interested parties the facility to get in touch via ACE - which is hardly being patronising - the next correspondent has a rather more measured view on the matters you raise...



I agreed with a lot of what David Carter said in his letter, but found the whole thing rather patronising. Female computer users are quite capable of standing up for themselves without well-meaning

people like David Carter trying to give us, advertising programs. If I be frustration creators and supermarket arcade games need to be marketed.

There is a great deal of sexism in the software industry, and most games do seem to be aimed at pretty fourteen-year-old boys. Your average male player may think it is great to wander around ripping with muscles and spattering everything that moves with his superintending laser in order to rescue the bimbo at the end, but this sort of thing is unlikely to appeal to female users.

I think that all this shooting and blasting is a way for teenage boys to prove how macho they are to their friends. Us girls just don't need that sort of thing. We prefer more intellectual software, and it is an interesting fact that a far higher percentage of females play adventures than arcade games. Infocom have already started tapping the female adventure market with *Murder, Hears*, and most decent role-playing games (except *Bards Tale* - come on chaps!) have a female character option.

The most offensive aspect of the software industry at the moment are some of the Page Three style adverts that even your *Business* magazine occasionally prints. Contrary to popular belief, women are not a bunch of help-less bimboes who depend on men

to do everything for them, which is how they are depicted in these ads. This is a feeble stereotype - we are people too, and we are just as intelligent as men, so stop depicting us as if we only have bodies and no brains.

Emma Huggie Salisbury

Sound opinion we say £25 worth of software, Emma. If ACE were an advertising agent, non-sexist computer magazines then we would refer to our advertisements that ran the risk of "degrading" women. But with a company's assist Ad Manager... er, I better stop right now, while I'm ahead. Another female perspective follows...

Why do some people have to make an issue over the fact that females are a minority in the computer leisure area? Why do they urge us to band together and fight against sexism? Basically, it is obvious that computers will appeal more to men and so-called male interests - it is the nature of the beast. At the end of the day it is a man's world. Men are here to be more adaptable, and not always by choice. We wear men's clothes as a matter of course - jeans, trousers and shirts being prime examples. Can you tell me the last time you saw a man wearing a dress?

ACE LETTERS

that not all arcade games convert equally well to being lifted into computer games, but it still seems that the name sells...
OK

ANOTHER CONSPIRACY THEORY?

I can't believe that you gave a place as both Smith for his letter to start with, the enemy as a computer game does not have to be obvious and totally evil - it just has to be an enemy! To take up Richard Warden's point, simulators, such as P-18 Falcons, Interceptor etc have MIGs as the enemy (presumably Soviet ones). The enemy are not portrayed as obvious and totally evil - just as a load of other pilots seem to cheat you down. The only consistent property of an enemy in a computer game is that he/it's/it is trying to kill you. A game about machine-gunning a navy-ruled playground wouldn't sell because there's no visible enemy present.

Then 'even in peacetime we are constantly being manipulated and taught to regard other nations as a threat - there can otherwise be no justification for the vast amounts of money spent on arms' has all the quintessence of a conspiracy theory.

Exactly which other nation is both Smith referring to? The Soviet Union, perhaps - currently the only nation to have invaded a European country since World War II, or is that another piece of propaganda Mr Smith? Or Libya - supporters of terrorists, or is this a distortion and is Colonel Gaddafi really totally peace-loving? How about Argentina - or do you claim that the Falklands were never invaded?

I don't think you can honestly claim we are manipulated into believing that certain other nations are threatening, unless you create a conspiracy to large that it folds under its own weight.

The idea of ordinary decent

citizens committing acts that would normally depict them parts a wonderful, sunny picture of a tranquil society, but it takes a lot of a battering when you look at the crime statistics. A large minority of people are prepared to attack, even kill their fellow citizens, a far larger number are prepared to use force to defend themselves. Witness the sorry sorry scene for the courts punish everyone for injuring a minor, rapist, or burglar.

I agree with both Smith on one point. The real world is not all black and white. Unfortunately, it is people like Mr Smith who like to see it that way - all people are nice and peaceful, all governments are nasty and evil. If however one day he leaves churchland and enters the real world,

Nigel Cobb
Bristol

What that's the opposing point of view, for once, they're wrong!

NEXT MONTH



The next issue of ACE goes on sale on 4th May - make sure you don't miss out, because there will be another freebie on the cover and pages and pages of the latest news.

◆ Steve Cooke finally makes it back from Cornwall with his definitive guide to the evolution of Role Playing on computer.

Read Part One of his in-depth overview.

◆ That Compact Disc Interactive feature in fall - squeezed out this month by the news that the PC Engine is finally on sale over here. Learn what Cinemasoft, Sierra Online and others think of the new medium for games.

◆ Plus the usual mix of reviews and opinions on the hottest software.

Both women have been characterised into believing that computers are for men. By the same logic used in playing boys play with cars and girls play with dolls, I feel that it is important that women do not miss out on this new leisure opportunity just because unrepresented people state 'computers are for men'. I admit that it is also easy to get put-off when you have to fight your way through hordes of school boys in the local stores that stock software or computer magazines. Clear signs, gentlemen, but the result is worth it.

Another myth is that computers are for the young. I am approaching 42 and I own a Spectrum 128, Atari ST and an Amiga. Ladies, the ball is in your court. If you can't beat them, join them and stop moaning about being computer widows. The opportunities are there and the only person stopping your involvement is yourself.

Janet Law
Crowthorne, Ayrshire

In answer to your first question, yes (ACE) it was in Ludlow in the middle of 1988. On the whole, the less said about that, the better.

And that probably concludes the session debate. Unless someone else has something new and dynamic to offer on the subject...
OK

Through a deep market town in the heart of Gloucestershire where American software houses MicroProse set up their UK branch a couple of years ago.

Unlike many UK houses, MicroProse don't use any in-house programmers in the country. Many of their games are developed in the States, but others are contracted out to UK development houses which brings us to some interesting news. MicroProse have employed Third Millennium, a division of Mike Singleton's Mad Street, to work on a couple of games for them. Details remain sketchy, but one of the games will be set in an Arctic-like landscape, if May 17's light-courted 3D effects, which first appeared in *WarEdge*, are employed it seems likely that the graphics will be something special...

Arriving before the final title because it's a game that clearly illustrates a new departure for MicroProse is a console conversion of the 1991 game *Xenophobe*. "What?" you cry. Yes, the simulation fans are producing a console conversion. Whether it actually appears as one of their two new labels is yet to be announced, but watch this space for an update



The art department of MicroProse, hard at work on some new dancing devils...

ACE ON THE ROAD AT MICROPROSE



The MicroProse testing area. This is where all the games are tested for bugs, playability and so on.

on the situation and for the official announcement of the launch of the new label.

Another big release on the horizon is *UMS II: The Universal Military Simulator* first appeared on the CD over a year ago and proved

to be a major step forward not only in engaging, but also in demonstrating the potential of the then-new 3D machines. Now after some arranging, MicroProse are gearing up to launch the sequel in August or September. Although the system remains very much the same, this time the



The MicroProse warehouse. Just up the road from their plush offices you can find a store full of new and new at games, magazines, books, CD-ROMs, etc.

action will be on a global scale, with the player able to roam in or specific battles anywhere in the world and so influence the global scene. More news soon for time.

But out it around the same time is a game with the working

title *Red Pack*. Martin Roth, MicroProse's PR manager, describes this as "a cross between *The Dirty Dozen* and *Alibion Rangers*" with several men to command and an overall objective to achieve. The player will issue orders to the men and leave the computer to control them, but will be able to jump in at any time and take control of any of the men should they need a hand.

Set on a military theme, *MicroProse* are currently working on an Abrams M1 tank simulator which promises to be as detailed and visually exciting as *FOB*.

If you lean more towards the classic style of game you'll be pleased to learn of the imminent release of *Fingert's Tale* and *Reign of Kings*. *Fingert's Tale* is more of a traditional RPG with plenty of puzzles and fighting involved, so sharpen your steel sword and prepare to involve it round a few trials beyond 2400 AD more towards *Archie* and *King of the Kings*, but with a few science fiction role-playing elements thrown in for good measure.

Due to the nature of their past games, MicroProse buyers are very loyal and this is one of the reasons the company are introducing their Combat Crew Club. Because a member and you'll get the chance to compete in player vs player competitions, take advantage of special offers on games, receive newsletters and loads of other goodies. A lucky few hundred members will also have the opportunity to receive special, personalised editions of some games.

"Which just leaves the question of the much rumoured MicroProse console. I don't know anything about a console" Martin assured us. And of course we follow every word he says. ■

A NEW RANGE OF GOODIES FROM THE 'PROSE



Beyond 2000 AD on the PC. Reach in the turbo station.



Wandering through Beyond 2000 AD on the PC.

(Right) A screenshot for afternoon in the great halls on the PC.



(Below) *Fingert's Tale* on the PC. Prepare for the combat.



(Above) *Xenophobe*. *Prose's* first console conversion, on the Amiga, and shipping the Amstrad.



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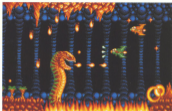
MAY DAZER

EYE OF HORUS

● Logotron

All those who thought that Denton Designs had faded out can rest assured that the Liverpool lads have been hoovering away for the last couple of months on *Eye of Horus* for the ST, a two-way-scrolling arcade adventure set inside a pyramid. There's plenty of shooting, juggling and exploring to be had, and anyone who doesn't like slapping shouldn't worry: the game does it for you.

ST - Horus enters one of the lower levels, using the rope (left) on the left.



Amiga - Blood Money from Psygnosis. Definitely more colourful than its predecessor.

BLOOD MONEY ● Psygnosis

Flushed with the success of *Menace* on the PlayStation label, DNA Design are currently putting the finishing touches to the follow-up, entitled *Blood Money* (set over four large levels, the shoot-'em-up action of this sequel features alternate horizontal and vertical-scrolling sections, plus simultaneous two-player combat). Amiga owners can expect a full review next issue, but you're sure will have to wait a little while longer.



BIO-CHALLENGE ● Palace

This is the first release from French record company Delphine, distributed in this country under the auspices of Palace. Coded by the joint authors of *Blazers*, *Space Hammer*, *Bio-Challenge* is a sort of strategic arcade shoot-'em-up without the shooting. Over six multi-level regions, the player's intrepid intermarries to, say, part a variety of strange creatures collecting ammunition for a showdown with each enfeebled guardian. ST and Amiga owners should prepare to commence battle some time in the next few weeks.

DEMON'S WINTER

● SSI

WPCs are in for a welcome addition to the genre with *Demon's Winter* from wargames' SSI. The quest is carried out in a similar fashion to previous offerings such as *Shield of Spring*, with a party of four characters being pitted over a large map. Whenever enemies are encountered, though, the map zooms in so hand-to-hand combat may be governed in more detail. Interested parties should seek out the ST and Amiga versions any time now, with both Commodore versions appearing about a month later.

ST - Close-up of hand-to-hand combat.



PREVIEWS



KICK OFF ● Anco
BT - Anco's new and very fast sports game. The large screen to the left can be shown when it's needed.

KICK OFF ● Anco

The current renaissance in football games continues with the imminent release of Anco's Kick Off. Taking the usual overhead view of the pitch, the game is unusual in that it features parallel-to-camera scrolling (some clever raster timing going on here) and an on-screen radar showing the relative positions of all 22 players. It's also very fast! ST owners can participate any day now, with Amiga and C64 users next in the queue. IBM, Spectrum and Amstrad versions are also in the pipeline.



STEVE DAVIS WORLD SNOOKER ● CDS
BT - The only thing it doesn't include is £50,000 prize money for the winner.

STEVE DAVIS WORLD SNOOKER

● CDS

Fans of Steve Davis' snooker should be well chuffed at the news of yet another snooker simulation bearing his moniker. Unfortunately, the greatest version of the ruler Steve Davis Snooker is only available on the larger machines due to memory restrictions.

SDWS includes snooker, billiards, pool and carom (no pocket), and boasts the digital talents of Steve Davis himself in solo player mode. ST and Amiga users can take on the champion when SDWS appears later this month.

MARS COPS

● Arcana



WEIRD DREAMS ● Rainbird
Just in case anyone was wondering what had happened to these two mega-projects, they're still in production - hence these two finished-looking screen shots. SDWS owners should be prepared for a launch some time in the next month. Or so.

Delays have been caused by re-designs and a bad case of Watermouth.

WEIRD DREAMS

● Rainbird



STARBLAZE

● Logotron

Logotron's latest shoot-'em-up has been designed by Mr Micro of Manchester, who wanted to employ some of their whizzo 3D routines developed during the production of 1654 Star Wars Studios, in which the player is beset by hordes of spawning, shooting objects of alien design set against five different static backdrops. Starblaze is due for initial release on the ST, with an Amiga version to follow.



STARBLAZE ● Logotron
BT - On the third level, with the alien warship heading in the distance.

RAIDER ● Impressions

New label Impressions launches themselves onto the high software scene with Raider, a shoot-'em-up run in the mould shaped by Grepator, Thrud and Gals. Density of the gun emplacement on each level and colour of the targets. Once four rings have been beamed aboard, the ship is transported to a postscript where the cops must be correctly positioned within a strict time limit. Amiga owners can expect a full review issue next issue.

Amiga - Commodore owners with C64 envy should welcome Impressions' first release.



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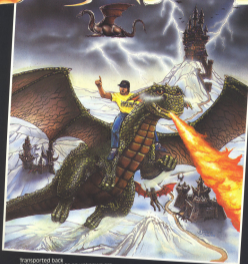
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EXTENDED PLAY

TURBO OUT RUN **SEGA**

Here are still producing games based on their own outdated arcade driving games at a couple of years ago (Porsche isn't for example) so what better than an improved version of the original? Those of you who have been waiting for new classics and new challenges should check out the cabinet classic. Every time you go on the first, it looks set to be another hit.

DOUBLE DRAGON **TECHNOS**

Justified Pin Revenge. Most of the same classic beat-'em-up action for one or two players. Microsoft City Small game was through loads of bad guys, taking home with your various edifice change.



Thought that a gut another good set of action.

Thought up? The graphics are good, the action is frantic and if you can't get enough of the other two, try this one for size.

ASUKA AND ASUKA **SEGA**

This has been a big hit in Japan, where the genre-prizing public just can't get enough of these virtually anything about one-ups with all the usual beat-'em-up genre ups, and ends of level operations, etc etc. The difficulty level is just right on this one, making it highly addictive, so be warned.

MISSING IN ACTION **KONAMI**

This Bruce Willis style beat-'em-up is another big Japanese hit that promises to repeat its success over here. Run along the platform, stab and shoot the enemy, collect the extra weapons from the guys ahead of and not immediately rescue some POW's.

IRON MAN INH STEWART'S **SEGA**

Has been a big hit in Japan of titles of off-road racing in cars, and you'll be a little bit to notice the cross between Atari's Super Sprint and Commodore's BMX Simulator. They give you an around the course (sometimes with bumps, dips and jumps), collect the money items that reward all conditions for the money and bonus (in any way) money you get for finishing the race on a favourable position you can buy goodies including faster tyres for cornering, better acceleration and higher top speed.

APACHE **TECHNOS**

Take this machine and put it in an 8000000 cabinet and you'll see it with a game called Apache 2. The big difference is viewed from behind - through steps after stage of enemy level. Very, disarming enemy attack and present possibilities with your front firing gun and weapons. This appears to be a little difficult to control but it's a fun game, though it does lack the variety of Double Dragon.



ARCADE ACE

Sequels are the flavour of the month in the arcades at the moment. Andy Smith checks out Turbo Out Run, Double Dragon II and Ikari II, and tells us what's new - either good or bad - on the scene.



WHIZZ **Philko 30p**

One or two players take to the skies in this horizontally-scrolling shoot-'em-up. Each player commands a fighter plane, flying left to right across a continuously-scrolling terrain which changes after every two stages: first over sea, then above clouds with mountain peaks peering

(Left) Blasting through the first stage with three-way firing.

WHEELS RUNNER **International Games 30p**

With today's advances in technology - 32bit processors, 267 monitors and the like - this looks like something of a throwback, and an unoriginal one too. And it isn't quite what the screenshots will bring the Atari classic Super Sprint and Championship Sprint to mind, and that's pretty much what this game is.

One or two players can compete against each other and two computer-controlled drivers to be the first to complete a set number of laps around a course. It's not quite that easy though, because each course changes slightly as you drive round it. For example, on the first stage there's a fork at the top of the

screen. To start with, you follow the arrow and turn left. As the game progresses, a barrier suddenly appears over the left fork and the arrow switches indicating you should go to the right. Not later it switches back again.

At random points in the race a large plane or helicopter flies over the screen and drops bonus points and fuel which you can collect by driving over. Fresh fuel and you progress to the next lap.

The graphics are poor for an arcade machine and the gameplay is very dated now. Still, it's easy to play and for only 30p a throw you get a fair few minutes' worth.



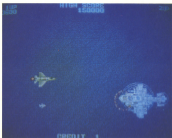
(Left) The first course - but shortly just disappearing to the left of the screen has dropped a load of bonus points and fuel. (Above) Shows Number Four - that red four-wheeled continuous development, allowing you to take a short cut.

(Right) Above the ocean, your plane covers up against the second stage and off-level quantities. Prepare for battle - this fortified helicopter is not going going to feel any prep in your guns and missiles.

Enough, then over land, and so on as the game progresses. Using forwarding guns and missiles, you attempt to destroy the enemy planes, boats and umbrellas that come from all parts of the screen. The gun has a much faster firing rate and greater range than the missiles, but you can't destroy any ground targets - the gun placements on ships - with it, so to progress safely you have to keep pumping both buttons.

At the end of each stage lurks an end-of-level guardian (a giant helicopter in the first stage) which, surprisingly enough, must be destroyed to give access to the next stage. As you might imagine, the enemy gets tougher as you progress: planes start firing homing missiles at you, and missiles suddenly appear from the middle of the screen and stream towards your plane. Fortunately, as with most good shoot-em-ups, you can collect power-ups which greatly increase the firepower available. Unfortunately, to grace your ship with this extra power, you have to collect the symbols left behind by various enemy craft. This is tougher than it sounds, because if the symbol is shot before it is collected it disappears; with so many enemy planes to confront, it can be all too easy to shoot the symbol by mistake.

What is not a bad shoot-em-up. It is a touch too simple, and the graphics are not as exciting as some of the classic members of the genre, but it is moderately tough and reasonably addictive.



Stage Three and you have the benefit of three-way shots once again.



Get on Stage Three, this time with a different kind of three-way firing.



Having survived Stage Three, you confront the end-of-level guardian.

THE WORLD'S LARGEST ARCADE

There aren't many people who know more about the arcade scene than David Sneed, he is, after all, Editor of the weekly paper *Coin Mail International*, which covers the whole industry from coin mechanics to video machines. So there's no-one better to give us a report from the world's largest all-videe arcade, Flashback in Hong Kong.

There are rumors of a bigger amusement arcade in Seoul, but the most famous giant arcade of them all is undoubtedly Flashback. Imagine the learning millions in Hong Kong, pick out one of the giant main street centers - next to Macdonalds - and you would never would dream of the arcade.

That's what "Fat" Freddie Miller has at his disposal and, while it may not be the

largest in the world (the American one is said to have loads of pinball machines), Flashback's is without doubt the largest all-vidoe arcade.

The 10,000-sq area of Flashback is the most densely populated area on Earth and, hardly surprisingly, it's more like a miniature city. Just off Nathan Road,

the basement next to the hamburger joint, lies the 11,000 square feet of Flashback. It contains 300 video games - nothing else. Pinballs, cranes and pinout machines are all illegal in the colony.

But Flashback has an average attendance of 8,000 people every day with peak times (just before public holidays and on Friday and Saturday nights). The all-time record day was

Chinese New Year, when 18,000 people (justified for a place in front of a screen and they had to close the front doors for fear of overcrowding, outside police in flight).

During 1988 the 10 top games were:

1. SuperCop,
2. Choppered Fly,
3. Demolition,
4. J. & B.,
5. Pinballzoo,
6. Sky Soldier,
7. Superzoo,

8. Blastforce,
9. Nightmare,
10. Cyber.

And Fat Freddie gets those all together anytime else. As a part of the Hong Kong based company Blastbeat, Freddie buys and sells pinball and video pinball boards - that's how most arcade games are sold these days, using PC's to link commercial cabinets - and most of the world's main buyers deal with Blastbeat

at some time or other. It means that they get the best price of anything new that comes onto the market and that makes Flashback even more important. Because it's the world's leading ground

Blastbeat distributes a chart of its current top ten games, based on figures from Flashback, to many of the world's leading trade press for the coin-op business, including *Coin Mail USA*, *Money USA*, *Game Machine* (Japan), *Game Line* (Australia) and several Spanish trade magazines.

If you visit Flashback, make sure you've got plenty of time because it would take over 47 hours to spend 15 minutes of each machine (imagine that at 50¢ per game, each lasting five minutes...





Customisation/Settings



The Knight, one of three character classes.



Start ST

Control through simple commands and menus.

DISCOVER AN ARCADE ADVENTURE WITH HIDDEN DEPTHS

Discover *Times Of Lore*, Origin's first adventure on Amiga. Acclaimed British designer Chris Roberts has taken the best of an arcade and adventure – fast and furious combat, stunning graphics and animation, award-winning sound and challenge – and introduced the depth of a classic fantasy role playing game.

Entirely joystick driven, *Times Of Lore* continuously tests your combat skills while you gradually become involved in a compelling plot. With 15,000 screen locations, a powerful but easy-to-use menu and command interface, scores of interactive characters and music by Martin Galway, it scours further than other arcade adventures.

Origin have broken new ground in *Times Of Lore*. Not in time you did too! Available for: C64/128 Cassette £9.95, Disk £14.95, Spectrum £49.189, Cassette £9.95, Spectrum - 3 Disk £14.95, Amiga/486/128 Cassette £9.95, Disk £14.95, Atari ST £24.95, 80486 PC Compaq/486 £24.95, Apple II £9.95, Commodore Amiga £24.95.



CGA/128



Spectrum



Amiga

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DON'T YOU FORGET!

You probably noticed that there was an audio cassette on the cover of this issue. Well, now would be a good time to set up your stereo and have a listen to your new tape - it was specially prepared to be used with this feature.

Side II contains a full-length recording of a tune created using the Atari ST and Steinberg's Pro 24 sequencer, while Side I contains a step-by-step account of how the tune was created. Listen and learn! If you have any problems lis-

tening to your cassette - and don't try to load it into a computer, and - send it off to:

ACE RETURNS, Special Data Ltd, First Avenue, Deeside Industrial Park, Chyolr CH4 2BG.

THE
AUDIO
TAPE

MUSIC

Some things in life have the knack of surrounding themselves with unmerited mystique: you can only approach them, it seems, after years of painstaking study and labour. With computers and music you have two of the biggest 'ivory tower' subjects linked together. So this makes it totally inaccessible, right? Wrong. Given the right computer, the right software, and maybe even a musical instrument or two thrown in, even the most musically or technically illiterate can have a stab at sounding something like proficient. Our new Music Editor, Jon Bates, explains how.

To be honest, I'm not a musician. I can't play an instrument, and I don't have a good ear for music. But I've always been fascinated by the idea of creating music with a computer. It's like magic - you can take a few notes and a few chords and turn them into a beautiful melody. And now, thanks to the power of computers, you can do it all from the comfort of your desk.

There are many ways to create music on a computer. You can use a MIDI sequencer to create a virtual band, or you can use a digital audio workstation (DAW) to record and mix audio. Both methods are powerful and flexible, but they can be a bit daunting for someone who's new to the world of music production.

That's why I've put together this guide to help you get started. I'll cover the basics of music production, from choosing your software to recording and mixing your tracks. I'll also provide some tips and tricks to help you sound like a pro. So if you're ready to take your first steps into the world of computer music, this is the guide for you.

First, let's talk about software. There are many different programs available, but I've chosen a few that are easy to use and powerful enough to create professional-sounding music. I'll also provide some information about hardware, such as MIDI controllers and audio interfaces, so you can get the most out of your software.

Once you've got your software and hardware set up, it's time to start creating music. I'll walk you through the process of writing a melody, creating a bass line, and adding drums. I'll also show you how to mix your tracks and master your final product. By the end of this guide, you should have a good understanding of the basics of music production and be able to create your own music.

So what are you waiting for? Grab your computer and let's get started. You don't need to be a musician to get into music production. All you need is a computer, some software, and a little bit of creativity. And that's exactly what you have. So go ahead and create something beautiful. You'll be surprised at how easy it is.

available under. There are also a certain number of reviews and articles for you get charged. We'll be looking for the success in about 20 weeks. I'm not a professional authority, but I've written a book on it. I'm not a professional authority, but I've written a book on it. I'm not a professional authority, but I've written a book on it.

So how can you make music with a computer? Well, as you'll discover in the following pages, there are essentially only two ways to make a computer work musically. The first is to get a lot of control of electronic musical instruments, such as a synthesizer, and play music through the instrument. The second way is to use the sound chip inside the computer, and play music straight from the machine.

THE FIRST
DIGITAL

GET THE COMPUTER TO CONTROL AN ELECTRONIC MUSICAL INSTRUMENT, SUCH AS A SYNTHESIZER...

CONTROLLING MUSICAL INSTRUMENTS

Modern electronic instruments, such as synthesizers, employ very much the same technology as computers, so it's a obvious step to utilize the processing power of the computer to organize music created on these instruments. The initial problem is to persuade the computer to communicate with musical instruments, or with any of the other gadgets common in modern music.

Fortunately, some years ago a bunch of the major synthesizer manufacturers in the world got together with a view to do in mind. Although they had quickly discovered

that the ability to connect one synthesizer to another was

incredibly useful, they had progressed to the point where all their instrument communications systems were contradicting one another and the all-important sales figures were decreasing rapidly. Thus it was that MIDI - Musical Instrument Digital Interface - was born. MIDI turned out to be a life-saver. From about 1984, pretty well any instrument worth serious consideration has MIDI ports fitted on the back. So, too, does the Atari ST - and simple add-ons provide MIDI communications for all other computers, as explained in the 'talking up of them' section of this article on page 32.

In outline, MIDI allows the notes of music, the sound of those notes, and all other information concerning the sound of the music, when played by an instrument, to be turned into a computer code and transferred in real time to another instrument. Since the information that is being transferred is in

digital form, a logical step is to put a computer in the chain. Not only can the computer act as a storage device, holding the data in memory, but it can also be used to display and edit the information, and to give the user the ability to change or reorganise the music that it represents.

As a consequence, there are two ideal uses for a computer in the MIDI music chain. **Firstly**, it can act as a **sequencer** - a device that stores and plays back performance data much in the manner of a tape recorder. In this role, it can be used to alter the structure of the music, changing individual notes, changing individual notes, changing when the notes are played, and replacing or repeating whole sequences of notes. **Secondly**, it can control the sounds that the notes represent when a key is pressed on a synth. It can make almost any sound you want, and these sounds are known as **voices**. The computer can create entirely new sounds to program into the synth directly, or can draw sounds, thereby acting as a sound library for the synth.

SEQUENCER: THE COMPUTER AS SOUND ORGANISER

The Sequencer: a device used to store, play back, edit and re-organise music...

Without the sequencer, there would be a considerable difference to the music produced and written too. There are dedicated standalone music sequencer devices but for our purposes we are talking about the software that turns the computer into one.

The basic function of a typical sequencer is to act very much in the manner of a cassette recorder: you can record, say, the chords to your piece by pressing a 'record' icon, then play it back. Better still, it can act like a multitrack recorder: while you are hearing the first track, you can backwind another instrument, hit a 'solo' line, on a separate track. Because MIDI can distinguish between 16 channels of separate musical information it can not only distinguish between the chords and the bass line, it can also play each track on a separate synth set to receive on the appropriate channel.

If we were using a multitrack tape recorder instead of our sequencer any mistakes would have to be corrected by going to the



► Sequencer: representative of the hardware kind, the Roland MC-505 is a MIDI Composer.

beginning of the track and starting the bugged track all over again. Even one note out of place could ruin the track. Oh - maybe you should prefer a lot more, so you don't play too many notes. But if you are using a sequencer, and the faults are not too severe, then even the most basic software will let you dive into the data and correct the offending notes. How the program does this depends on its degree of sophistication, which in turn is relative to how much you have coughed up for the package.

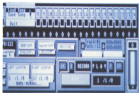
There are many ways to display this information. Often a form of moving bar graph is used, usually aligned with a displaced data stream as well. At the top end of the market is a floppy option that shows your piece in traditional music notation, but for that you have to start taking serious money.

The basic display, though, is usually a string of numbers that relate to the notes

played set against the bar and beat number. Suppose you found out that your blunder was in Bar 7. Flip through the string of notes until you get to Bar 7 and look through the data. It might look like this:

Bar	Beat	Note	On	Velocity	Duration
7	1.00	C3	64	96	
7	1.00	E3	64	96	
7	1.00	F#3	64	111	
7	1.02	G3	64	75	

Each line of the display represents an individual note. Since a chord is a group of notes played at the same time, all three notes have been played on the same beat, numbered 1.00. A quick look at this tells me that I have cooked an incorrect F# and tried to slide to G so that you would notice. Wrong. It sounds heavenly. How do I know that? Well, with the benefit of musical training, I know that the chord I wrote is a C chord and that F# is unexpected here. If I wasn't too sure I can scroll through the notes individually and, since we are in edit mode, it should sound from us on the synth — then it would become obvious, even without a knowledge of chords. Also, look at the length/duration of the notes. That F# is suspiciously short. Coupled with the fact that the correct



Recording and editing music using Steinberg Pro 24 empowers software on the Atari ST. Make the most of your system, play your own tunes, and review, exactly the same as an ordinary tape recorder.

note, G, occurs later at 1.12. I think I have located the problem. By the way, the beats are usually subdivided for repeat accuracy; in this case each beat is subdivided into 96 pieces.

Depending on the facilities made available to me by the software, I can either simply knock out the offending note and the following notes will shuffle up to close up the gap, or I have to adjust the time and note value individually. One more thing, you will notice that the velocity readings are all the same of 64. This would indicate that I have been using a non-touch-sensitive synthesizer — they always

output at a level of 64. If I had been using a touch-sensitive keyboard tone when the value of the note is controlled by how hard you hit the key! All these values would have been different from one another.

It even the most basic of sequencers there is one other facility: Quantize. Suppose my playing had been a bit sloppy. The notes were correct but not at the right time — say the chord was played at about 1.30 instead of 1.00. No problem. Look for the quantize button and set it to round up all notes to the nearest whole beat. This will shuffle the chord back to

MIDI (Musical Instrument Digital Interface)

The international communication language of digital music instruments. It was born at the beginning of the 1980s as the better than home instrument systems to digital synthesis was under way. Manufacturers wanted to make their own individual interface systems in the '70s and some up against the major players. The sales of instruments dropped since no one was willing to connect themselves to one brand or another type of synth. In addition, they were buying more synthesizers, hence the need for the Musical Instrument Digital Interface.

The international agreement means that although there are complete communications in common ground such as notes, pitch-bend, string pulls and other things that synths and drum machines have, there was room for manufacturers to develop their own individual communication systems as well — known as the Systems Exclusive part of the code. This can transmit configuration data, drum patterns or any other set-up parameter to a particular type of instrument. This is what makes notes from programmed from a computer



MIDI sequencing system using the synth as master sequencing keyboard and the computer as sequencer/controller of synth, drum machines and tone modules. Before the 'delay chain' effect using the 'new MIDI parts'.

The bottom line is that MIDI is a very well standardized communication language with several levels of sophistication. It means you can instead of blowing away your air gun into just add-on, it becomes a major or up to sixteen separate channels — in theory this means that you can control sixteen different instruments or devices independently. Each channel is identified by a channel flag, and each receiving instrument is set to pick up information via the channel/channel flag as its header. So unless you might be in channel one, others in channel two, four, pro-

gram or channel three and ready to channel four — the four remaining synths will play their independent parts and the result should be the complete band.

The bottom line is that MIDI is leading towards common compatibility. In other words if you record a sequence on one piece of software it can be stored in a MIDI file format that can be loaded into another sequencer directly. Other compatibility issues are the ability to sample to be stored in MIDI sample dump format and that, depending on a different sampler but hopefully using

the same sound.

There are also programs that will transfer files from one format to another — e.g. DAT records to a computer, MIDI format and vice versa. There are plans also to create a wide synthesizing MIDI code that will work in software only and thus do away with the expensive hardware now needed.

As well as the main host and computer being fully connected, MIDI is finding its way into other pieces of equipment, such as sound processors — these devices that alter the sound to add reverb, echo, and

many other 'wacky' things effects known in the trade simply as 'FX'. Thus FX can be selected on and off from a sequencer just as quickly as sounds can be changed on a synthesizer bank, especially if you have a multi-track FX unit which can apply its effects to a tone, which is common at present.

You can expect to see MIDI on more and more interesting devices in the future — at the moment this is expensive hardware — and this will mean that sounds will be a semi-autonomous process both live and in the home studio. Great! You can turn about a guitar of time to the live of your track without having to wear many buttons; MIDI will transmit the settings to the bank and allow them as the track is playing. In the future the distributed-based sound to light unit — The 88 Keyer — as featured in the March edition of ACE, it was interesting to notice that MIDI was used to print vast quantities of data at high-speed from one computer to another. Speed heads will know that MIDI data travels at 31.5 bits per second.

1.00. First, in practice, the quarter figure is set by the value of the selected note you want in that particular track.

OK. So we know how to knock out the staff notes using the sequencer's editing capabilities. The remaining genius of the sequencer lies in building up a piece of music, by copying and pasting selected sections of your settings and then organizing them into some sort of shape. The cassette mounted on the motor's front cover goes through the basics of building up a piece in this fashion. The idea of being able to just punch out and repeat them is responsible for a large amount of the chart material board tools, and also a certain Monsieur JM James' wealth...

PDS

Goodman, Schifano, and Rosoying SE PD Series carry a professed 32 track Canadian MIDI sequencer which, for the price of the disk, is an absolute steal.

VOICING: THE COMPUTER AS SOUND GENERATOR

A Voice: any sound that the synthesizer can produce when the keyboard is played...

So, having dealt with the use of the computer as a music sequencer, we can take a look at its use in voicing. Today's instruments are a wonderful technological achievement. Each month brings a new batch of products into the market, often heralding new ways of creating and recreating sound. Sadly they all have one factor in common, unless you sit at the keyboard with your fingers, or have a phenomenal memory for figures, and if you're limited as to by required, you will have great difficulty in getting the best out of them in terms of creating new sounds. Even the most expensive instruments have only a headline 24-character LCD in which you can try and flip from one part of the sound to



Maat 87 - Editing one aspect of a voice, displayed as a bar graph.

SYNTHS, SAMPLERS, INSTRUMENTS

The idea of sounds created by means other than analog is one few resistors the 1970's and the first synth was built in 1968. Since it weighed about two hundred tons it was not exactly for bumping from gyrocups. As the technology improved price and decreased in size so the instruments kept pace first with the transistor then the integrated circuit. The first commercially available synth was marketed in the mid-1980s thanks to one Robert Moog. The 1970s saw a rapid expansion of the synth market, with the arrival of drum machines and sequencers.

However, these areas of analogue machines—they all used electricity directly to create and manip-

ulate sound. The development and integration of the digital processor led to a radical rethink and revolution in synthesis and the digital age was born in the form of this decade. It comes as no surprise to find that these are components common to the synth and more internally.

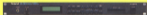
There is no single approach to creating sounds digitally. If you like, each manufacturer has its own 'brand name' of synthesis. Frequency Modulation (FM) is the province of Yamaha while OMS' synth has undoubtedly earned other synth. Phase Distortion was chosen popular although they are now marketing a type called Vector Synthesis, and recently Roland used a hybrid method.

whereby sounds were created by analogue means but converted and stored digitally. This for lack of the marketing using Linear Arithmetic synthesis, in simple terms the use was very few parts of real sounds digitally sampled and combined in various patterns. This process is also used to

setting these a much easier proposition especially when it comes to storing all the sounds up with varying volumes and sensitivity. Some Modules are a space saving addition to any existing set and offer a complete synth will have a keyboard-less system in the form of such a module.

Music program from Action looks like setting an industry standard.

Although there is sampling available for the 87 and other computers, for the real serious business of sound creating you will need to purchase a separate dedicated sampling unit. Prepare your credit cards for some



■ The Roland D-15 sound module can possibly way to expand the sound capabilities of a computer music set-up, and a useful space-saver.

Real but called OMS Wave synthesis. All the sounds in a synthesizer are taken into account, including the air. As indicated elsewhere though, with the right software it becomes very simple simply a matter of trying out sound shapes on screen until something emerges.

Apart from the synth equipment, with keyboard at all there is the Syn Module. This is what is known as a Multi-Timbral device - capable of producing several sounds at the same time, with each sound assigned to a separate MIDI channel. Here the well-known 128-voice program makes

The main feature of the synth's memory is the Sampler, the ubiquitous device that does its sound with a color-digital sound as an image. Having stored the sound up at a rate of approximately 10,000 times a second, the sampler will let you edit any of all of the sound's elements, and generally stand it on its head. Most Amiga owners can smile easily to their heart's content, safe in the knowledge that the Amiga can not only play back and manipulate samples with ease but at the same time run sequencing software. Multi-reading programs that are capable of this and quite a lot more are just hearing themselves into use and MIDI has been having a few small problems. There will not be a single fact on these in future issues. Better to say that for the Amiga the

serious damage as even the most humble sampler will get you back about £700 and the well-tuned and tested Wave range will come in at about £1,700 plus. This is without more power you will have to shell out at least double that figure for 1990 Waveforms and 3. Max samplers.

Without getting too much into the technical side, the thing to look for on a fast sampling rate of up to about 65K, at least 12-bit data handling and some smart editing facilities. It goes without saying that additional handy software is a welcome bonus when it comes to turning the sounds out personally. I would be very loath to buy a computer that would not handle MIDI sample dump format.

However, a number seems sampling on your computer could be you back as little as £25.

■ The Maat 81000 sampler can use an Amiga in the same old 16T



another. As there can be up to a hundred variable factors which go to make up a sound, this is putting the quart into a pot with a vengeance. Couple this with a few wild cards like, for instance, stacking eight separate sounds together to make a particular "patch" for a tone module and you will seeer that that water torture is a pleasurable alternative.

And by using the appropriate voicing software for the instrument you can specifically set the shapes of the sound on your screen.



Atari ST - Editing is sound by using voicing software. This time the information is in hexadecimal form.

With any full-featured software you can reduce the shape and tone of the sound. You can hear your results instantly, usually without having to replay the instrument, and can compare them with the original version which is stored in a temporary buffer.

The voicing programs also have another money- and labor-saving facility. You can save all the sounds you create into libraries, not unlike a data base. To do this on the fly may well mean shelling out on KMM cards and cartridges which will certainly cost you at least the same as a decent voicing program—about £30 sounds. The programs are available for most systems and have modules and sensors, although if you have something obscure you might encounter some difficulty in getting hold of suitable software. ■

PDS

Softlab have some synth programming software for the ZX 100 and ZX 100 which works reasonably well and will generate all the values for you to tick off. All these ST 80 libraries have internal voice programming software, it would tend to avoid the more expensive professional packages which are on offer as they usually cannot store anything you create and, although the ability to edit and, in the final analysis, store as much as a standard file system, the Amiga is also well catered for. Softlab and the Amiga team group have a similar pattern of software to the ST but of course the sounds from the Amiga will be far superior. The PC market, although possibly, for far less music software available than the internal chip programmers.

THE SECOND OPTION: USE THE INTERNAL CHIP TO PRODUCE ITS OWN SOUNDS...



USING THE INTERNAL SOUND CHIP

At first, the tones and effects that computers generated were hard to say the least. Until the rise of the popular music programmer, armed with his carefully-guarded and usually left untried "player program", the games music programmer has been able to turn the internal chip on its head. However, these programs are not commercially available and will, in all probability, never be. They are usually extremely complex and would need a good deal of sophistication so that the average user could get anything from them.

For us mere mortals with no knowledge of machine code or the internal workings of sound chips, the only way to gain access to the internal chip is via a simple and straightforward equivalent of the professional's player program. The quality of the program and the facilities available through it very much depend on the type of chip the machine uses.

In fact, there are not that many internal music chips around. The most popular is a direct descendant from the first generation of arcade games. It is the ST 6802 (or closely-related one built-in by Texas Instruments). This chip, which I personally dislike, has seen the inside of many a computer. To wit, the BBC, Amstrad CPC, IBM PC, Atari ST, Commodore 128, MSX, Dragoon, the list goes on. There were some full-on libraries

containing this chip for the multi-colored Spectrum 48 with its world-beat command. However for such of the above-mentioned machines, there are programs about that allow you, the user, to play around with its capabilities: three channels of sound, any of which could be chosen to generate noise.

Many jobs done with the Commodore 64 which had a specially designed SD chip. The sound was a lot more varied, with four channels to go at, and the filters, those devices that clean up the sound, were certainly more effective. Hence the games had much better sound tracks. The real breakthrough with the OSA came with the realisation that real digitized sound samples could be stored and played back through the chip. However the memory limitations, limited to using the style of the programmer although the advantages in the average user came in the form of rather real drum programs, that don't take

up too much space in memory.

Perhaps the best computer's sound at present for making music internally are the Amiga and the Archimedes. Both these machines have 100 channel, custom-designed music chips. The Amiga is ahead on points, probably because of its transcendent origin and slightly longer time in the market place. The chip, although named Paula, is a clever chip that is very adept at playing back sampled sounds. So a program that has a library of sounds to go at, and that is capable of using those sounds to create a tune will sound pretty good. The Amiga stores its sound in a common RAM format, which means that they can be used by another things program.

The ups to the Archimedes are more better. An eight-channel internal chip, a similar ability to play back sampled sounds with good fidelity, but with the added advantage of being able to handle more sounds simultaneously. As yet, though, there are few programs on the ground for the Archi-

Using the internal chip, although has its limitations, also provides a good lead into the world of music and the macro. It is certainly the cheapest start, since many music programs are available in the form of Public Domain Software. And it is also the most generous, offering an investment in extra hardware, interlocks or instruments. ■

PDS

The most annoying are the sample players. Usually for the ST or Amiga, these play back sampled tones. I am not sure that I would really want my ST to turn out like Joe, but if this is opportunist on your list of things to achieve, then don't let me stop you. More fun comes with the Star Trek program available from Goodson PBL, who are ST specialists, it quite enjoying the various spaces from the series, including the opening "space, the final frontier". All players looked on target, etc.

A BRIEF ROUND-UP OF WHAT YOU NEED TO GET STARTED, AND WHAT'S AVAILABLE FOR YOUR MACHINE.

STARTING OUT AT HOME

SETTING UP AT HOME: WHAT YOU NEED

Quickly enough, not a lot of space. It's amazing what you can cram into it if it's with a little thought. The most important items you will need are a decent set of speakers. You can improve over the most moderate (and is different) sound system by shopping for a large and decent set of speakers. There are many names to compare with but look out for: Ken, Calsonic, Wharfedale, Tannoy to name but a few. If you have to work late at night then the same would apply to a decent set of headphones.

For amplification, a decent domestic hi-fi amp will do provided that it can take an "aux" input. This would be much better than a stage amplifier, which is quite noisy when you get up close. Next item on the shopping list is a mixer. Don't get too low-budget here, as the cheaper ones tend to add lots of noise. Finally, something to preserve your efforts on. You could go for a decent cassette recorder, and if distributing copies of your efforts is one of your goals then a twin cassette deck is preferable. However you can combine the mixer and recorder if you wish by purchasing one of the many multitrack cassette recorders. Although limited do have a unit as the market that professes to do all that I have mentioned above, it is inherently noisy and has no way of getting rid of it—in other words it has no Dolby or B&B noise reduction systems, which are essential in any home recording system. Finally, you will need a computer, maybe an MSX interface, and an instrument or two.

COMPARISON OF COMPUTERS: HOW THEY SHAPE UP MUSICALLY

SPECTRUM

Intensely not too well, although the 128K version has the three-channel chip and other relevant MSX out as the MS 128 just.

As for an MSX gene, there are a fair amount of interfaces floating about although some actually make from city mice. Look out for the Hammer Master Machines, the MS controllers and the Danish interface. The software is not compatible from interface to interface and probably the best bet is the Music Machine. However you are usually restricted to 48K and cassette taping and, although there is smart software about, it does require patches. But as a licensed entry into the MSX market the Spectrum is probably almost parallel. Interested parties could contact the newly formed Spectrum Music Group on 02042-52258.

BBC

Similar story to the Spectrum, internal three-channel chip will not match the way of useful playing programs about nowadays. MSX interest for now then. Perhaps the MSX company are selling

MSX software and hardware for it are IBM who can be contacted on 0202 325 341. One IBM to go at a memory item but it could have the advantage of a disk drive. One anomaly in this is the IBM2, a 160K based program that was under a restricted MSX packaging package. Look out also for the both an IBM 300 and 5000 music packages from Hybrid Technology. They are quite innovative but looking at MSX and should come in at a price well under £200 now.

COMMODORE 64

Impressive internal sound chip with one or two notable MSX programs still looking on market status. Nobody making any MSX software or hardware currently however. However, Seagull Socket products can be had if you look out for operating the 26, latest Music Systems, Joseph Music software, Sound Card expansion. There are only a few external products. There will be attempt to make an industry standard interface by adopting the 261, interface. Sadly this fashionable company went to the wall some years ago and

so it is to the independent column that your efforts are to be directed. The C64 is quite adept at handling samples and one or two programs exist that read this facility - the Microton being one of them.

MSX

Good if you get the Hercules 128 which boasts a multitrack 16K internal chip, two 160K ports and some very good cartridge based software for it. No longer made but a very good and comprehensive entry into MSX if you don't want to actually use it for anything else. Problem is that the disk drive was very expensive so a lot of them are cassette storage only. However it is an excellent addition to an existing system, costing under £200 second-hand.

AMIGA

Needs MSX interface for communication with the outside world. No compatibility problems and the Amiga interface which costs £40 is about as good as any. Excellent internal chip and data handling capabilities. Watch out for superior software in the very near future. I suspect that it could well rival the ST on the home front, not only for sampling capabilities and (once) superiority from now, most software developers carry a variety of sequencing packages for it.

ST

As software problems thanks to the original MSX ports. It is well established, especially in the professional over-land Software world, at about £75 and steps at about £200. Possibly the most versatile MSX computer about, but not so hot on the sampling. The card interface and sample it the same time, however.

PC

Programs with interfaces. The industry standard interface, the Roland MPU401, costs about £250, so it is fairly expensive at the moment. Cheap or interfaces will not get software other than that written for it. Although a worthy computer in its own right, it is not really a good starting point for budding musicians. The internal chip

is the same as the BBC. However, if this is what you have intended that use for the interface there is quite a lot of software of all types that will run on it.

ARCHIMEDES

Software still in development stage, most of it from IBM. However, the internal sound chips excellent and the ability it should be able to record the Amiga. Again will a MSX interface for it and as this is the only one about there are no compatibility problems. It

PUBLIC DOMAIN SOFTWARE

Possibly the cheapest and easiest entry into the world of music via your computer. For a paltry fee, which is usually around £3 per disk, you can get software of several varieties.

Contact

Flanagan ST	0204 681824
UK Amiga Direct	0512 520963
Schmitt	0705 266009
Goodman PDL	0782 328450

the product as a whole takes off, the music facilities will be a force to be reckoned with, which will interest it the most of those.

SAM

This one is so new I haven't even seen it. The software are that it can cope with all the Spectrum software and it can also deal with the hard ware before then. MSX wise, this could also be an suitable controller with some very cheap software already available. The internal chip specs look good with enhanced stereo on offer and there is a 20-track MSX sequencer already on the planning bench from MSX.

CPC

Limited MSX software and no 16-bit format, the three-channel 16K2 sound chip on board. Still not have some MSX software available. For really a serious musician for the just music but will require if this is your machine. *

This has been an overview of the musical possibilities of your computer. Let's hope it has given you some insight into what you can do with your machine for quite a modest outlay. Next month we will see some in-depth reviews of sequencing and mixing software, plus a good look at some of the synths and tone modules that represent a good addition to any home system. As the new boys here behind the ACE music desk I would welcome any letters, problems etc. you may have. I'll do my level best to sort them out and get your name in print.

In future issues I will be reviewing all aspects of computer music making and recording. After all a CD may
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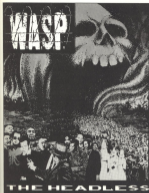
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Last month we told you how Microsoft and Cinemaware worked together to produce a new version of Defender of the Crown - a version that runs on a CD ROM drive. A specially produced stereo soundtrack enhances the experience of waging territorial war in Saxxon England, and a narrator explains what is taking place. The CD ROM Defender sells for \$95, but then you'd need an EGA PC to run it, as well as a new-generation CD ROM drive that can provide audio output to your stereo.

Not many people own that sort of computer hardware. The total bill for such a set-up would be at least \$1,500, but soon you could be the proud owner of the ultimate computer system, courtesy of ACE and two forward-looking companies who are already producing the hardware and software of the future: Commodore and Microsoft. Everyone knows that Commodore produce the C64 and Amiga, but did you realize that they also manufacture a range of IBM PC compatible machines?

Cinemaware are about to release their next interactive movie entertainment - Lords of the Rising Sun - which is the follow-up to Defender of the Crown in terms of gameplay.

Lords features a much improved game design that sets the player the task of taking control of the islands that make up Japan in the days when it was ruled by warlords. Strategy is combined with arcade sequences in the quest to become the leader of the most powerful force in the land - and of course the usual glossy Cinemaware graphics complete the package.

Cinemaware are currently putting the final touches to this, their latest interactive movie, and twenty copies are on offer to the runners-up in this prize-laden extravaganza.



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MILLENNIUM 2.2

ELECTRIC DREAMS colonise the cosmos



This is a colony on Triton. Resources are the same as the moon base except that they lack resources and production costs, which are handled from the moon.

MOON BASE - THE CENTRE OF OPERATIONS FROM WHICH YOU CONTROL

The Moon screen can only be accessed by hitting the right mouse button. It is handy for easy fast access - particularly when you are under attack and need to get to the defence station in a hurry.



LIFE SUPPORT - the capacity of the base to dispense and run its programs by adding more stations like the one already located on the moon base (initially one location) but other developments allow improvements to the station. There is a number of other strange items.



PRODUCTION - this is where all the equipment is manufactured. Not only are new equipment created, but enough power from the generator is used. Here it is hard to work making a base to collect resources from the resource base.



DEFENCE - fighters are launched from here and orbital bases can be set up. The fighters are used to intercept an intruder and give a chance for some strategic action in a complete space combat system.



RESOURCES - the resources available from the already mined are given. This includes not only the amount of resources but also the amount of resources. There is a number of other strange items.



Stone pillar - absorbing these provides valuable energy for land alteration.

Eggs - when they hatch they can infest or destroy a whole island.

Neocromator - he drifts along the coastline burning land into sand, securing essential links.

Arboreal trees - spring up and down and move towards you, leaving behind a trail and leaving land behind.

even dumping you into the quicksand. Blood eggs can quickly infect a whole island when they hatch, or cause it to be eaten away entirely. Last, boats spin around the landscape trying to collide and steal your food.

All these features mean that it's much more of an arcade challenge than *Simtris*, but with a lot more strategy than *Virus*. Frequent thinking to get to safety must be mixed with careful landbuilding and searching in order to gain success.

The maps get very big and just finding the stores and obstacles can be a problem, so, too, can be locating uninfected areas, through which to hop back to the obstacle in time on many of the levels. Maps can't just be increased at will, though - you have to play through them in a particular order, determined by your progress in the game. As in *Simtris*, out of 10,000 hours to be played, and moreover the game saves your position to disk for later games. It's a delightfully-recreated game that, despite borrowing ideas from all over the place, stands out as a great game in its own right.

■ **Rob West**

ARCHIPELAGOS

Marooned with LOGOTRON

910

How does one come up with a scenario that computer game? Take elements from two of the most unadvised acclaimed games of all time and roll them into one. That's a fair description of *Archipelagos* - two classic games, *Simtris* and *Virus*, mixed in with a twist of new ideas - but don't think this is just a rip-off because, despite some influence on the ideas, it has gameplay all of its own.

The aim is to remove the alien presence from 10,000 different archipelagos. Each archipelago is an island or series of islands on which there are a number of standing stones and a single obstacle. Destroy the stones and the obstacle, at will - archipelago completed.

You have a 3D view from a short way above the ground, which can be swivelled through 360 degrees to see all around. The landscape is a flat checkerboard, no hills or depressions, with a number of objects that can be based on it. Actions are performed using a crosshair cursor to click on the object or square concerned.



That's a standing stone in the foreground with a visible spine and on the left.

Stones can only be destroyed if there is a direct land connection to the obstacle. On all but the early levels, this involves building land between islands to connect them - chains of *Populus*. Once all the stones are destroyed a time limit starts, within which the obstacle has to be returned to and absorbed.

Creating land costs energy which can only be gathered by absorbing the stones and score points. Moving around is much easier and costs no energy at all. You can move to any land square within a certain distance, even if it means going over water.

There are three sorts of area that can't be moved on - water, land and infected land. The sand, logically enough, is at the border between land areas and the sea. Infected land is caused by 'arboreal trees' (shambling mounds of tree-like trees) which move slowly towards you, infecting the land around them as they go. If they get too close, the square you are on will be infected and you're history.

Later levels have even sadder surprises awaiting. *Neocromators* remove areas of coastline, potentially severing a land bridge or



A forest of arboreal trees closing in. The moon in the sky is always to the south.

RELEASE BOX

ATARI ST	£24.95	OUT NOW
AMIGA	£24.95	IMMINENT
IBM PC	£24.95	IMMINENT

No other versions planned

ST VERSION

The checkboard graphics and features are reminiscent of *Simtris* and *Virus* and have the same colorful and abstract qualities. The action is fast when moving around the islands - certainly so far as moving around waiting for things to happen - and is complemented by an atmospheric soundtrack written by Steve Wobbeson.

GRAPHICS	5	100 FACTOR	5
SOUND	7	100 FACTOR	5

AGE RATING 910

PREDICTED INTEREST CURVE



From the first day it's fascinating. The many levels and excellent play maintain a high level of interest through to the year mark.

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GAHIN	£9.99 - £12.99	AMPOC
IBM PC	Not announced	
ARCH	£19.99	AMPOC

BACKED by the talents of 'Master' Joe Barbera, Firebird's innovative pool game gives the bloodline of green table simulators a welcome shot of adrenalin. Instead of the tired and dated overhead view, the designer has opted for a 3D display, where the game is visualised from a first person per-

CGI VERSION

The single four colour screen suffices for the job in hand, and the nice drawback is the 32K160 resolution display, which makes fine tuning of shot and stick slightly tricky. Limited sounds are used to accompany the action and, although they are quite clear, the volume has to be turned up to get the full effect.

GRAPHICS: 6 **HD FACTOR: 4**
AUDIO: 6 **FHM FACTOR: 6**
ACE RATING: 608

PREDICTED INTEREST CURVE



Not the sort of game to set the pulse racing, but it will still be worth looking up this title next year.

3D POOL

FIREBIRD on stripes

spective and viewed in more or less the same way as a real pool table.

Shots are lined up by sighting the white ball along an imaginary line directly away from the screen, just as if looking along a cue, or the shot is played directly forwards 'into' the screen. To make this possible, the table can be rotated around the white ball, and the screen can be zoomed in and out for clarity.

Shot strength is adjusted by setting a sliding meter, and a crosshair cursor shows the

point of contact between cue tip and white: side is effected by moving the cursor to either side of the white. Tip and club depend on the angle of attack of the cue on white, following the 'locking down the cue' approach, is altered by moving the table less higher or to lower down.

Matches can be played in direct competition against another human, or solo versus seven digital pool sharks in a tournament, the winner of which then faces 'Master' Joe. The opposition vary in proficiency, and play in a very human fashion; for 20K, the solo player gets a nicely balanced game. More flamboyant players are also catered for with a trick shot section, including 'problems' to solve, and an edit screen for customised setups.

Ball movement in general is pretty realistic, and shots are made with little hassle, although the maximum shot strength is a bit on the weak side. Nevertheless, 3D Pool is a great simulation, and deserves attention from more than just the 'God Hand' fraternity.

• Dave Jandt



(Above) A low angle view of the table, looking through a queue. Best to estimate, but looks to be aimed for a clear shot next year.

(Right) The aim of this shot settings is to launch the red into the centre bag, with deep screen compensating the white ball down the table. This should leave the red into the far right or one of the four into the bottom right bag.



I LUDICRUS

Actual Screenshots, ST version reviewed, £19.95dk

As the result of a drunken bout, Ludicrous the arena-fighter took himself to the gladiatorial ring with three vicious opponents separating him from death, or his usual place knee-deep in dog-dung.

Armed with a wooden shield and sword, Ludicrous has an array of defence and attack manoeuvres at his command, ranging from jumps and crouches to sword-thrusts and a head-butting chop.

Each opponent must be beaten over a hot foot contest, with swords signalling the entrance of the next combatant. Should Ludicrous be beaten, though, he has to face a lion



Ludicrous goes for the throat of athletes against Ben (2-Age) - much to the delight of the inebriatedly audience.

which he must defeat to stay in the tournament (but which he does easily, with repeated mowing).

Ludicrous features bold cartoon characters and some fluid animation, and the single background is pleasing enough. However, the scripted effects are weak, and in truth, no amount of aesthetics can improve upon the flapping of not entirely feathered-penguins.

Apart from the obvious deficiencies of limited adventures and scenery, the combat is also made frustrating by inconsistent collision detection in the enemy's favour. And following in the footsteps of Barbarian, King and the rest, any new beat-em-ups must be pretty amusing to succeed.

• Dave Jandt

GRAPHICS: 6 **HD FACTOR: 3**
AUDIO: 5 **FHM FACTOR: 4**
ACE RATING: 415

SEGA SPECIALS

Y'S ● £32.95crt



This is the town of Moss where the quest begins. Straggling into the town, people will bring up a message window, with useful information on what to do next. Outside the walls, bumping into strangers will put you in a fight.

Armed adventures are becoming more popular on the consoles, with flying back-up now allowing games to be saved for a later date. No longer is play restricted to shortbursts when back-games is relatively quiet.

Your task in this example is to track down



Entering one of the town's buildings, you find yourself in the local inn. Talking to the man here may elicit useful information, but before it is revealed you may have to perform a task or be willing to watch them an object.

The six magical books of the Goddess of Y's. These books will enable you to save the kingdom from the terrors of the evil sorcerer, who also wants the books. The game starts in the town of Moss, where bumping into other characters will bring up a message window

and a piece of generally useful information.

In most of the buildings you can buy things, or get information, to help on the quest. One of the first tasks is to acquire a sword, armour and shield. On entering the side the town, there are many crystals to fight - just by bumping into them - and there's plenty of exploring to do.

There are many other areas to discover - the palace, mine and several hideouts - and other towns. In each place there should be useful information or objects, so it's just a matter of finding them.

It's going to take quite a while to work this one and the save game feature is essential. The graphics are not very attractive, but are functional. The music changes between locations and is generally quite pleasant.

● Ed/Rob

GRAPHICS	4	IQ FACTOR	5
AUDIO	4	FUN FACTOR	5
ACE RATING 784			

BOMBER RAID ● £24.95crt

Reminiscent of games like Flying Shark and 1943, this is another of those shoot'em-ups where gunnery is attempted. It's a vehicular (or composed) of two levels, each with a major military target - oh all right, and a level guardian - is destroyed.

Enemy waves are made up of the usual military hardware: planes, tanks, submarines and battleships. The wave structure is very similar to Flying Shark, but the bonuses are different.

Shooting certain bonus items will reward a P, S or I. P increases firepower, S speeds up

the plane and the I produces a dash. Shooting the I cycles through four numbers, which determine when the drone attaches fuel and which way it shoots. You're also supplied with cluster bombs which are handy for taking out large enemies or when multiple attackers are on screen.

It's not too difficult to get a fair way through the levels, and it's an enjoyable blast along the way. Nothing special about the graphics or the sound.

● Ed/Rob



The planes jet back and forth and there's more than a touch of firepower.

GRAPHICS	7	IQ FACTOR	1
AUDIO	4	FUN FACTOR	7
ACE RATING 872			

CYBORG HUNTER ● £22.95crt

Second of the year so far is outside, and the latest one is a beauty buster on the ground.



The chief Cyborg on the left is being bashed down to knock the energy level down.

for Cyborgs and their boss Wilson. On the trail to victory over these heinous interlopers there are power areas to battle through, with a final confrontation in the last one.

Each area is a multi-floored building connected with lifts. The areas have to be tackled in order, because completing one provides an ID card for access to the next. There are several types of Cyborg - two in each area. The Chief Cyborgs are the ones that have to be destroyed.

Using the map and a tunnel scanner, the Cyborgs can be tracked down and destroyed using one of several weapons. You only start with two types of punch, but guns and bombs

can be picked up along the way. There are also a shield and a jet engine that help to get past obstacles.

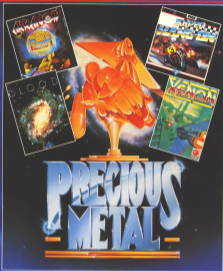
Hit from Cyborgs and other obstacles reduce the life meter, which can be replenished by picking up capsules. Psycho power operates some of the weapons and this too has to be topped up.

Gameplay is limited to running around and blasting the Cyborgs, and the graphics are not that hot either, but one of the better efforts around of the moment.

● Ed/Rob

GRAPHICS	4	IQ FACTOR	3
AUDIO	5	FUN FACTOR	4
ACE RATING 478			

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FEDERATION OF FREE TRADERS

GREMLIN's Elitist space adventure

OVER two years in production, and the victim of lengthy delays due to recurring bugs, Gremlin's premiere 3D slot release finally hits the streets. Coated by Paul Byrne, author of *3D Galax*, *Federation Of Free Traders* deals with intergalactic space trading on a huge scale, and boasts an explorable universe containing over 8 million planets.

Starting from space station F3, in orbit around a technoworld called Ios, the newly-drafted Federation member sets out on the long, dark road to fame and fortune armed only with a battered old Hawley Mk II starship.

Guidance of the isolated members of FORT is achieved via Galnet, an intergalactic communications system driven by teletypes. The system is accessed in the same way as a normal console setup: each user has his own identification number (an unwieldy 12 digits in this case) which must be entered each time the system is entered. From Galnet, the pilot can communicate with other ships, purchase goods and repair his vessel. The console used to access Galnet doubles as a programmable computer, running its own SIMPLE language.

Contact with the Federation facilitates the provision of missions for the rookie pilot to undertake. Successfully executing a mission between systems, destroying major satellites and similar missions earn the pilot credits which are vital in refueling and improving the vessel's performance.

Ground help comes in the shape of a plastic navigation chart which displays an impressive 3D representation of the host galaxy. This can be rotated vertically in two tiers, and is used to plot hyper-space jumps. Courses between planets are plotted automatically on receiving a mission, but should an



The first Galactic Spiral in all its glory. Hyper-space jumps are plotted by simply moving the cursor to the required planet.

alternative route be needed, planets must be located by hand using only a crude number guidance. Missiles and raytracers frequently bring to mind...

Moreover there's no space station in operation, the ship can be flown down to the planet's surface (which takes absolutely ages) where a beacon is then followed to the landing zone. Although a bold addition to the proceedings, this sequence is marred by limited control and an impractical targeting system.

In fact, this multiplatform Elite-looker is liberally peppered with omissions, flaws and bugs. Compounded by a woefully inadequate manual, the game proves extremely inaccessible to the uninitiated and is frustratingly inconsistent: enemy ships move too quickly in combat, the player's ship moves too slowly during interplanetary travel.

For those who are willing to stick at it, there is plenty to see and do in FORT, but the gameplay is seriously flawed. You have been warned.

—Steve Grant



An exterior view with space station and local planetary system in the background. Working with the orbital platform is carried out automatically, to prevent visible glitches from damaging the station. When finished, Galnet can be contacted once more, allowing the player to buy reinforcements, trade in a variety of merchandise, and be faced with the next mission.



Planet surfaces are displayed in 3D, complete with hills and trees. A map of the area is shown on the center screen.

RELEASE BOX

SYSTEM	COINOP	DATE NOW
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(No other versions planned)

BT VERSION

The fixed 3D graphics are adequate, although copying ships move too quickly for any detailed viewing. Only the planet surface seems unique to the subject, but even there little was impressive with subparms and.

Scenes limited to a number of better scenes that can be played at will from a second disc. However, in-game effects are unimpressive and there is the preferred option over the best have been played out.

GRAPHICS	5	INFORMATION	5
AUDIO	4	PERFORMANCE	5
ACE RATING 507			

PREDICTED INTEREST CURVE



totally high topics are dictated by user-submission. Particularly impressive many of the best review handles, but the 'value' value of the game title, long-term interest.



Jag encounters (left) — one of the few nice characters who inhabit the city.



All the quantal belongings, an alien prisoner gives Jag a path to the west.



A section of the escape ship has been found, an object in the bottom-left panel.

PRISON

CHRYSLIS breaking out

FRAMED by the authorities for a crime committed in the call of duty, undercover law enforcement officer Jag Edwards has been sentenced to life imprisonment on the makeshift penal colony, Atlas.

Never one to roll over and die, Jag decides to act upon a rumour that tells of a pleasure craft which drifted off-course and crashed, relatively intact, on Atlas. If only he can track the vessel down and find the components needed to get the craft working again...

Beginning his campaign from the barren desert point in space country, Jag is directed

around the full-screen landscape to left and right, into and out of the scenery. His route takes him into town and through the desert to alien wastelands, which is inhabited by gangs of alien convicts. When confronted by hostiles, Jag simply resorts to physical violence to diffuse the situation: a series of kicks and punches normally fells the opposition.

In an effort to resolve his plight, Jag is forced to collect and use specific items along the way. A search of the immediate area is initiated by accessing a menu screen; any items discovered may then be picked up and utilised by selecting the correct action from the menu, which appears automatically according to the item(s) in question. As Jag nears his goal, parts of the escape craft are also discovered and a small screen partially filled to signify their collection.

Another good product for all teen-grade adventures, this one. The graphics are reasonably logical, but do become increasingly obscure as progress is made (especially those

ST VERSION

Lonely landscape and animated characters add a subtle ambient atmosphere, which is enhanced by the change from day to night. Sadly, there is very little sound to speak of, save for menu loops and atmospheric footfalls.

GRAPHICS: 3 HD FACTOR: 3

AUDIO: 2 FHM FACTOR: 3

AGE RATING: T84

dependent upon the time of day). Mapping is easy enough and the combat, although quite limited, is comfortable and adds further interest to the proceedings.

—Steve Jansal

PREDICTED INTEREST CURVE



Enough of a challenge to hold interest until completion. Throughout, reimagined to the back of the data base.

RELEASE BOX		
IBM AT	£19.999	IMMEDIATE
AMIGA	£19.999	IMMEDIATE
IBM PC	£19.999	Summer '84

For other versions, contact...

EMMANUELLE

Tomahawk, ST version reviewed, £19.95dk



This lady clearly isn't why — say the right things and a shallow, meaningless relationship will result. The couple in your corner — correct, huh?

Warning: any part of this review that might cause offence to public decency, will be preceded by a red triangle thus ▲. When it is safe to continue reading, this sign will be displayed ▼. Fill: a condom need not be worn when reading this review.

Emmanuelle is travelling around France and your task is to meet up with her, ▲ get your rocks off ▼, and accompany her to Paris. In order to ▲ satisfy such lustful desires, the three laws of emmanuelle have to be obeyed, in an attempt to build up your erotic potential sufficiently to attract Emmanuelle. ▼ This involves visits to several cities in search of three statues, and ▲ encounters with other women that obey the first law ▼.

Each city has several locations where

there are other characters. Talking to them can reveal information about the statues, Emmanuelle's whereabouts and ▲ most of the women can be sweet-talked into giving their all ▼. However, most of the ▲ casual fornication ▼ does not do your energy, erotic or cash levels any good. There is plenty of entertainment to occupy your time, like visiting the casino, taking helicopter trips, going to a garden party or jumping down to the beach — ▲ nearly all of them are potential scoring zones.

The sex scenes are tastefully done in silhouette, although there is a fair bit of nudity throughout. ▼ The quest is enjoyable, tongue-in-cheek and very attractively presented. It's not offensive but rather could be described as risqué in places. It will not take that long to take, so it's strictly short-term entertainment.

—Rob Ross

GRAPHICS: 2 HD FACTOR: 3

AUDIO: 4 FHM FACTOR: 3

AGE RATING: 636



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... Steve Jarratt

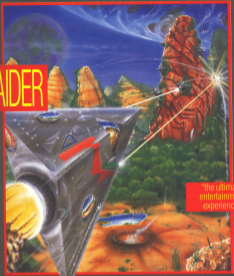
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MicroProse Soccer



MicroProse shocked everybody when they released MicroProse Soccer for the C64. Not only had they produced a non-militaristic product, they had done it with such expertise that MicroProse Soccer has become an instant classic on that format. Now, MicroProse have released the sixteen-bit version. Just how do they compare with the original version? Read on...

The simulation provides both indoor and outdoor action with American rules six-a-side and standard eleven-a-side respectively. The time for each game can be varied between 2 and 12 minutes. Players may play against each other or one play against the computer. Selection of your team is the World Cup Competition is crucial, as it is in real life - it is much easier to win if you are a notoriously good footballing nation, such as Brazil than if you are Oman or Algeria. Conversely, if you get too good, you could try taking on the might of West Germany with yourself playing as Poland. Other control options allow for extremely varied games, with effects, such as, rain, thunder, overhead kicks and banana shots coming into play.

You are presented, on kick-off, with a look-down view - not a common one, but one that works well. On the 32-bit versions, you get no-holds barred, full screen, 8-way scrolling (so smooth). Control your player nearest the ball with your joystick, using the function to kick the ball in the



direction your player is facing. The position of the joystick when kicking the ball determines the path that the ball takes, such as, high tops, banana kicks and overhead kicks. Recapture possession of the ball with a sliding tackle (the wider the pitch, the longer the slide). Should the opposition get within range, you gain control of your goalkeeper to prevent the inevitable shot from roosting the back of the net.

Theraps, corners and goal kicks all play their part in the game. Attention to detail is one of MicroProse's hall marks and MicroProse Soccer has not been left wanting in any respect. The colour of the



players strips, strength of banana kicks and an action replay when a goal is scored are all excellent finishing touches to an already brilliant game. Overall, MicroProse Soccer has to be the definitive football simulation - be there for the kick-off!

C & VG Game of the Month - 95%
 "Undoubtedly the best football game ever produced - rate it at your peril!"
C & VG

Zzap-Soccer - 90%
 "One of the best soccer sims I've ever seen. Little touches like the rain on the pitch and banana shots really make it something special."
Zzap

TOM Star Player - 80%
 "MicroProse Soccer is of the highest quality - its fast action makes it far more playable than other soccer games."
TOM

RELEASE SCHEDULE

AMIGA	SOON	AT&T
SPEED 128	OUT NOW	£ 9.95
SPEED +3	OUT NOW	£ 14.95
AMSTRAD	OUT NOW	£ 14.95 / £ 19.95 (uk)
AT&T ST	NEW	£ 14.95
IBM PC	SOON	£ 14.95
C64/128	OUT NOW	£ 14.95 (uk) / £ 19.95 (uk)

RATING OUT OF TEN

GRAPHICS	8
SOUND	7
STRATEGY	9
PLAYABILITY	9
OVERALL RATING	9



MICROPROSE



Play back in the days of the Spectrum. Flight simulators were very limited in scope. Most consisted of a take-off followed by a long and tedious fight to another airfield where you usually crashed or landed. Nowadays, things are much different. Digital Integration are the latest software house to bring out a flight sim modelled on favour of the most recent, the F-16C Fighting Falcon.

There are four basic games: training (which is a good place to start), a set of five missions, a campaign game and a one-on-one dogfight. Before opening up a pilot's log to do the thing for real, you can practise with a few training flights. Once you're confident you can handle the game correctly, in the five missions you familiarise yourself with the multi-rol-

RELEASE BOX

IBM XT	CD-ROM	GRAPHICS
GRAPHICS	CD-ROM	GRAPHICS
IBM PC	CD-ROM	CD-ROM

Details of other versions TBA

capabilities of the F-16, learning secondary wave, interception and ground attack. You have to complete at least one of each mission before Fighter Command will allow you to take part in a full-on campaign, which is where things really start to get tough. As untimely death during any of the missions means starting from scratch with a new pilot, so it's worth while studying the manual carefully.

In the campaign game you are picked as Squadron Leader and, come rain or shine, day or night, are put in the front line protecting friendly forces from enemy invasion. You'll need to be pretty sharp at strategic planning,

BT version - Would that's taken care of that plane. At 20,000ft you'll show up on the enemy's Early Warning radar. Through, you mission for other fighters to know your. Performance your should close to 2000 and although it costs away.



CGA PC version - Flying on the Tomlinson version, in which you are providing close air support.



Reading on the ground. All these AIRRAMS mean someone's preparing for a dogfight!



Running away after the dogfight. Some fighters on your tail are intended to let you escape, though.

F-16

COMBAT PILOT

DIGITAL INTEGRATION lock on

ties, because you'll also be responsible for assigning other aircraft to fly missions parallel to your own, requiring effective coordination of where to hit the enemy in order to hit his hard. After successfully completing any campaign you will be offered the chance to transfer to a squadron of higher status (three and eight squadrons in total).

Enough of the role stuff. If you feel you can handle it, why not take on a remote human player in a one-on-one dogfight via a modem

cable? Even this is possible in F-16. Everything has been thought of: the mix between action and realism is terrific. For instance, a safe landing requires much more than just pointing at the runway and plinking the bits down: even with some Ground Control Assistance, it's unlikely you'll pull it off without several hours' practice and then try it without help if you only buy one combat flight via. F-16 Combat Pilot must be on the shelves.

Andy Smith



PC VERSION

Running in VGA mode is no problem despite the limited colours. It's fast, and top is a flying. Forget the spreadsheet, this is what IBM would have been thinking of when they invented the PC.

GRAPHICS 0 10 FACTOR 0
AUDIO 0 10 FACTOR 0

ACE RATING 952

PREDICTED INTEREST CURVE



Easy to get into and easy to keep playing.

ACE SCREEN TEST SPECIAL

"An even more enjoyable game to play than *Elite* or *Zarch*." Not our opinion, but that of David Braben: and he should know, because he wrote them both. The game is called *Exile* and, in an unusual departure for ACE, Pat McDonald takes a look at the BBC version.



You will need the grenade and weapon from the abandoned spaceship *Pericles*.



Face the hazards of the pit, and now exploring the mysterious labyrinth.



Blinks don't actually kill but they do have a tendency to frustrate and annoy.

EXILE

EVIL genius. This, aided to the planet Phobos for the crime of genetically engineering monsters from normal life forms, has created a huge underground complex. Mead with his creations. Many years later, the spaceship *Pericles* touches down on an isolated area of the planet; its mission is to explore and determine whether the planet has anything to offer to our planet, but not before warning Earth of Star's strictly disconcerting intentions to put teams of invading monsters onto the moonplanet.

This is where you come in. En route home from a mission in which you have lost most of your equipment, you have been diverted to Phobos to stop the *Exile* from carrying out its distant plan. Oh yes, and as you visit the planet, Star, talks your destination, without which you are going nowhere.

You visit the mission in your ship. The only real items you have are an environmental suit, a jetpack and a teleprobe. The latter is a very handy device, as it can remember up to five locations, and teleport you back to any of them if (ahem) you run into trouble.

The environmental suit is an excellent

piece of kit. The backpack can store large amounts of energy; you start with 5 mega joules (that's five million joules, or roughly three car batteries' worth). This energy can be transferred to weapons such as the blaster and plasma gun, which use it up when dealing with monsters. Energy can be regained by using special energy pods which are scattered around the labyrinth.

The suit has a built-in cloaker which blinds sounds, but unfortunately when being blasted at by a turret-mounted laser cannon or similar device, you take so much damage that the cloaker can't cope. So you are automatically teleported back to the last remembered location. Meep!

So, off you zoom to the planet's surface, confident that you can deal with any threat sounds a lot like the *Marne Caspi*. The trouble is that, although you can approach the abandoned *Pericles* and even go underneath it, the door's locked! Then you notice that the automatic defenses have been switched on: a sinister turret is rotating under the wall, which covers a deep, dark pit.

In the game world, getting you optro-

ted, logical problems. The laws of physics are obeyed throughout: if you shoot a bubble, it moves slightly. This effect varies with the weapon used: a good use. Three teleprobe (1000 joules of energy, which isn't very effective compared to the 500 teleprobe that a million joules blaster.

Moving boulders and pook-pooking isn't the whole story. A lot of skill is needed to manoeuvre through the labyrinth, and a light touch is needed to avoid banging your head too much in the process. Also, you have to savegame equipment including hand grenades, so a bit of common sense or chess-stuff is started helps a great deal.

Control is excellent, and the sound exceptionally good for the machine. Best owners with sideways habits can have digitized sound samples (there's a very good scream). The movement awareness is very fast, although a slight slowing at the edges can be off-putting at first. The sheer depth of things to do, places to visit, and quest to take put *Exile* into the megagame league. Lucky D&D and Archonoid owners should soon be able to join in the fun, although version plans are as yet sketchy. ...

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SPECTRUM
AMSTRAD
COMMODORE

ocean

CASSETTE
£14.95

NINTENDO NEMESIS

CASTLEVANIA ● £29.95crt



One of the more striking adversaries encountered on the way to the Count's lair is the beam-breathing skeleton...

Scary monsters abound on the journey through a haunted castle in which an evil vampire Count has made his home. The hero's quest involves getting as rich as possible while making his way to the Count's lair for a final showdown.

Armed initially only with a fairly feeble whip, the hero can collect hearts, potions and extra weapons as the journey to the count's lair, and can improve the lasting power of his weapons. Whipping the combatants on the walls reveals hidden goodies which may be collected by walking into them. Hearts are worth gathering up as they add to your individual bonus score, and are needed to activate some of the additional weapons, like the fire traps which trap ghosts in their traps for a while and makes lights oscillate.

In true Super Mario Bros style, hidden bonuses are revealed when certain sections of the scenery are given the whip treatment. Look out for energy-giving coin chips, blocks that double the power of additional weapons, and super-visible bands of treasure. Special dis-

ks and trap blocks increase the performance of extra weapons, and come in handy when sparring up to one of the end-of-level guardians.

A real platform collecting game that keeps you coming back for more. Castlevania has all the features that make a good arcade game. Tempting when you die the game allows you to start again at the beginning of the current level rather than forcing you to back at the way through again. Plenty of juggling stunts to learn - and there's a small strategic element involved in the collection of the extra weapons: you can only carry one, and it's important to have the appropriate action at the right time.

● Game Mail

GRAPHICS	7	10	FACTOR	8
AUDIO	6	10	FACTOR	8
AGE RATING 8/7				

GOONIES ● £22.95crt

Conflict with the Fratelli gang continues - now the bad guys have captured Anne the friendly mermaid and are holding her hostage inside their hideout. One by one, the Goonies have entered the Fratelli HQ on a rescue mission, but they have all ended up prisoners. Only Mikey is left, and he embarks on the arcade-adventure quest to rescue the prisoners.

Play is divided between action sequences and adventure sequences. The action element of the game involves exploring the Fratelli hideout which consists of two maps made up of screens crisscrossed with platforms and ladders. Strange creatures patrol the platforms and do five levels to touch Mikey and rob him of energy - at the start the hero has a yo-yo which is used to kill off the enemies, but more powerful weapons may be added to the inventory. The



Scavenging along the platforms and ledges makes up the Fratelli HQ.

Fratelli themselves are also wandering around, and are made of much sterner stuff...

Doorways dotted around the massive sub-basement of screens that make up the play area lead

to chambers in which helpful people and useful items are often hidden. Making through a door gives access to the adventure part of the game, where a timer system allows objects to be manipulated. Some of the screens link the two halves of the platform map, while others are like more than walk-in copycats.

Fans of 'traditional' arcade adventures will find plenty to keep them amused in Goonies II. It is a large and complex collection-up that will take ages to complete, even if you have access to the full solution. The action and adventure sequences are both unimpressive, simplistic even, but the real challenge lies in discovering where everything is and then mapping a route around the game.

● Game Mail

GRAPHICS	4	10	FACTOR	8
AUDIO	5	10	FACTOR	8
AGE RATING 8/7				

GRADIUS ● £24.95crt

Great probability of the horizontally-scrolling progressive shoot-'em-up. Gradius for Nintendo (as it was known over here) has survived the conversion from arcade to console pretty much intact, and comes as a welcome - if somewhat overdue - highlight in the Nintendo Game Boy collection.

The aim is simple: progress as far as possible and stay in one piece, all helping hand in the matter comes in the shape of bonus accessories needed for the real tokens left behind upon the destruction of specific attack waves and also vehicles. A panel at the bottom of the screen shows which item is currently available, and a job of the second button enables the device. In this way, additional equip-

ment such as lasers, drives, missiles and a shield can be fitted to the player's ship.

Subsequent levels feature bizarre landscapes inhabited by hostiles, ranging from walking gun emplacements to missile-spraying Easter Island heads. And at the end of each level, a guardian mothership drifts on and must be annihilated before the mission is allowed to continue.

This latest Konami product is an intelligent conversion, tailoring the game to suit the console's capabilities (there are only two drives available, for example). As a result, it's colourful, smooth and pretty much flicker-free. It's also very addictive. A definite must-buy.

● Steve Dent



Even with a well equipped ship, the Easter Island level can still cause the player plenty of grief.

GRAPHICS	8	10	FACTOR	8
AUDIO	8	10	FACTOR	8
AGE RATING 8/7				

BLASTEROIDS

Breaking rocks in the IMAGEWORKS

NOSTALGIC memories of things past can often be shattered by someone trying to re-release or reinterpret them. Many a record, and many a film, has been raised this way. Is the same true of computer games? The arcade meaning of Asteroids certainly kept players happy, so will the computer versions live up to the reputation of their grandparent?

The aim is to battle through a series of sectors to a final confrontation with a large alien named Blaker. The sectors are arranged in a grid of nine or sixteen squares to represent a galaxy, and each sector takes the form of a single weaponed screen. The asteroids in each sector must be destroyed before access can be gained to another one. Clear the whole grid and battle with Blaker again.

The craft you control can be transformed into any of three sizes: Speeder, fast but vulnerable; Fighter, heaviest firepower; Bomber, heaviest armour but with slow firing and movement. Movement is achieved by spinning left or right and applying thrust. The basic weapon is a forward firing gun. The ship can be transformed at any time, and the Bomber and Speeder can be ducted in two-player mode to provide a ship with greater protection and power. One player controls the movement, the other blasts away to the gun turret.

RELEASE BOX

AMIGA ST	£19.995	8845547
AMIGA	£24.995	6217408
SPEC 102	£9.995 + £14.995	8845547
AMSTRAD	£9.995 + £14.995	8845547
CGA132	£9.995 + £12.995	8845547
IBM PC	In version planned	



Amiga - The blue 'paper' asteroids gun bigger every time they are shot, until enough hits are made to stop them.

As well as quantities of rocks to blast, including red ones that release energy crystals and blue 'paper' ones that take several hits to make their ship, there are other surprises like eggs that release leeches, seekers that home in and ships that shoot at you.

When an alien ship is destroyed it sometimes leaves a bonus capsule giving special powers: shields, double shots, stronger shots, extra fuel capacity, increased thrust, invulnerability, a magnet to attract energy crystals, and a fire-able capability that spins the ship around, leaving all valleys of bullets in all directions.

Blaker is a big blob with tentacles, each one of which needs multiple shots to destroy it. If he is destroyed another galaxy can be

ARCADE ACCURACY



Only minor changes have been made, and they are far from being significant ones.

GOIN' UP SCORE 8

AMIGA VERSION

Looks and sounds OK but isn't that impressive for the Amiga. The only one also on ST too sorry.

GRAPHICS 7 IS FACTOR 4
 AUDIO 5 FUN FACTOR 6
ACE RATING 748

SPECTRUM VERSION

Graphics are good considering the hardware limitations. Unfortunately the action is slow, but the Amiga just about gets the gameplay right.

GRAPHICS 7 IS FACTOR 3
 AUDIO 4 FUN FACTOR 7
ACE RATING 693

entire. Blasteroids is a very entertaining game with lots of interesting features but in the long run the sectors and galaxies are all very similar and the gameplay becomes unexciting even when there are two players involved. **Bob Robinson**

PREDICTED INTEREST CURVE



Peaks after a day, when you have mastered Blaker and drops off fast at the month mark because of repeated action. Blasteroids means a lower interest level for the Spectrum.

THUNDERWING

■ Cascade, ST version reviewed, £19.95dk

What plot there is, is reminiscent of *Top Gun*: you have stolen a plane and have to fly it back across enemy territory to other worlds. It's a virtually non-plot, shoot-'em-up in which everything looks like the aftermath of a car engine after the local DVV expert has reassembled it.

The first thing that is noticeable about the craft is it's very sluggish in moving around the screen. This is a source of great frustration when trying to avoid bullets - you can react fast enough but the ship does not.

The attack waves are familiar from the *Flying Shark* genre - groups of fighters, tanks

that appear from buildings on the ground, and large vehicles that take multiple hits to destroy. The weapon power-ups, left after certain waves of fighters are shot, are also familiar - they protect a wider field of fire from the gun.

Deviators act like ocean bombs, producing a spinning field around the ship that hits anything that touches it. All these features are standard fare. It's competent, but has nothing remarkable about it in graphics, music or gameplay. Much better can be found in previous games, such as *Flying Shark*.

Bob Robinson



If this wave of pink fighters is destroyed it will leave a weapon power-up which can then be collected.

GRAPHICS 5 IS FACTOR 3
 AUDIO 5 FUN FACTOR 4
ACE RATING 617

MIXING

Business

WITH

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A REAL

EDUCATION

Commodore computer show

Britain's brightest event for Commodore computer users is back! And there's more to see than ever before.

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Business

Many companies will be demonstrating their latest software and hardware, specially designed to release the full business potential of Commodore computers.

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Leisure

The Commodore Amiga computers are the most powerful 8 and 16 bit micros for producing top-action arcade quality games. The range of new software on show

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will demonstrate how these machines' power is continuously being stretched, producing faster and even more addictive games with superb graphics.

If you're a keen game player, you'll find there's so much on offer at the show you're guaranteed a real treat!

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packages are making real breakthroughs in the educational sector, and be able to try them out for yourself.

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Keep picking up fuel containers to keep your tank rolling, and collect these stars to trade in for ammo.

VINDICATORS

TENGEN take to the spacelanes and tank it

EARTH

is under attack from (would you credit it?) three godly aliens, again (what is it about Earth that they love so much? Megadeth? Satan's lady's choice?) who (where?) (where, they're on their way and it's clear to you to stop them slipping through the hole in the ozone layer and murdering us all in our beds.

ARCADE ACCURACY

The graphics and especially the responses are superb. It plays well and is as close to the original as you can reasonably hope.

COIN OP SCORE 5

RELEASE BOX

ATARI ST	£ 9.99	CUT 90%	
AMIGA	£ 9.99	88%DM	
SPD 108	£ 9.99	£14.99	88%DM
MSX102	£ 9.99	£14.99	88%DM
GENDS	£ 9.99	£12.99	88%DM

ST VERSION

Good graphics, good graphics based effects, well as fast and a spot of thinking required that led to results what more do you need from a tanky shoot'em up?

GRAPHICS 5 10 FACTOR 5
 AUDIO 5 FUN FACTOR 5

ACE RATING BOX

These aliens are traveling in 34 space stations, and the only way to stop them is to visitate each space station in your 5058 Strategic Battle Tank (known as a Vindicator) and destroy the tank's command center.

Now that's a bit easier said than done, because your 5058, powerful though it may be, is not much of a threat to all the alien defenses on board each station. There are roaming alien tanks to contend with as well as gun emplacements and flying saucers, all of which pump out shield-depleting shots with amazing accuracy. To protect yourself from the onslaught you're armed with a firing gun with which you can try to annihilate them before they annihilate you.

To boost your effectiveness, the aliens have kindly left bonus stars on each level that allow you to purchase extra benefits including extra tank speed, extra range and strength of shots, force fields and smart bombs. To collect the stars, simply trundle over them, and trade them in for the bonuses at the end of each sub-level (about three per station). To make it to the end of each level you have to collect stars that are lying on the floor once collected, they come down that you simply drive through.

As well as avoiding fire from the enemy installations you have to ensure your tank keeps rolling by collecting fuel drums which can also be found lying around the place. Once you reach the final level of each space station you have to locate its command centre and bomb it (before driving through to the next level).

Vindicators was a great concept and this



Think your run through those paths (last right), or you'll probably be smoky through your exhaust.

conversion does the game justice. The control method is not terribly easy to pick up but you'll soon get the hang of it and it won't be long before you're addicted to this out of the ordinary shoot'em up that offers a fair bit of being smoky.

• Andy Bell

PREDICTED INTEREST CURVE



A well-conceived and playable game.

OPERATION NEPTUNE

INFOGRADES fathom it out

MING, the Yellow Submarine, is out for world domination again, this time via a network of underwater bases. The task of teaching the plot on the lead has fallen to Bob Meane - is he really in, or is he out and let's go play with the sharks.

To destroy the network of bases on the ocean floor you must sever them off energy either by blowing up the links between them, or by bombing the bases itself enough times. In the meantime Ming will be trying to build more bases and destroy yours.

Swimming around the ocean floor in the battleship, you find many watery hazards awaiting. One problem is that your supplies of oxygen and energy are strictly limited, and need to be frequently replenished back at a base. The underwater life is made easier by



A forward view reveals one of your own bases. The instrument panel is accessed with the mouse pointer.

decoy drones that draw enemy patrols away and an autopilot that saves having to drive everywhere manually, but decoy drones and

mines for blowing things up are also limited and have to be stocked up at regular intervals.

There are two separate arcade action screens - one puts you at the controls of an underwater cruiser to battle enemy patrols in Great Harbor style, and in the other a frogman must accurately plant time bombs on the enemy installations. The frogman is at risk from enemy divers with spear guns, sharks and giant loach.

Although the game is nicely presented, there isn't much variety or depth. What's there is good, but would benefit from having a touch more substance.

■ **Fun Rating**

RELEASE BOX		
ATARI ST	£14.99	OUT NOW
AMIGA	£14.99	AMAZON
SPEC 128	No version planned	
AMSTRAD	£12.99 + £4.99	To Follow
EGA/CGA	£12.99 + £4.99	To Follow
IBM PC	£14.99	AMAZON

ST VERSION	
The underwater scenes include many real sound effects. The graphics and animation are not quite as impressive as your others, but are still attractive and effective.	
GRAPHICS	IQ FACTOR 4
AUDIO	IQ FACTOR 6
ACE RATING 596	



DETECTIVE Dick has picked up the scent of illegal alcohol, and the trail leads him from the port, through the city centre to the city outskirts, and to a showdown in the gangster's neighbourhood.

The route is fiercely guarded by hordes of hoodlums, who appear from behind parking cars, at windows and out of the sewers. They are all intent on stopping the dick ahead in his tracks, and so Dick must use the arsenal of gunfire and hand-to-hand explosives.

To protect himself, Dick jumps, ducks and

CHICAGO 30'S

US GOLD bite the bullet



Spectrum - Detective Dick's efforts are rewarded as if in stages. As lives are lost, his proximity to death is signposted by the speed audience leaving the show!

fires his Tommy gun, which he can point in five directions, covering himself from attack in front, behind and above.

A brief respite from the assault comes as intervals when Dick climbs into his customised Duesenberg and zooms across town, safe from the hail of bullets. He can still gun down the opposition, though, by sliding his head out of the window (it's Harry style).

Not really a bad shoot-em-up, but Chicago 30's is simply lacking in variety. There's little difference in gameplay throughout the four levels, and extended play soon grows tiresome.

■ **Fun Rating**

RELEASE BOX		
ATARI ST	£11.99	AMAZON
SPEC 128	£12.99 + £2.99	OUT NOW
AMSTRAD	£12.99 + £4.99	OUT NOW
AMIGA	£12.99 + £4.99	AMAZON
No other versions planned		

AMSTRAD VERSION	
More colourful than the Spectrum, but lacks size and much less entertaining. Enemy shots are a bit more difficult to see than on the 280 (white), adding a good dose of frustration to the proceedings, and causing its ready sale.	
GRAPHICS	IQ FACTOR 3
AUDIO	IQ FACTOR 4
ACE RATING 464	

SPECTRUM VERSION	
Clear, technical graphics with smooth parallax scrolling. However, enemy fire is frequently difficult to see against the detailed background. Control of Dick's fiery pistols, and the speed of play makes the game easily accessible. Sound is fast to a rhythm, simply gunshot effects only.	
GRAPHICS	IQ FACTOR 3
AUDIO	IQ FACTOR 3
ACE RATING 536	



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REMEMBER the game *Crucial!*

The one with the small plastic pellets you had to fill with ball bearings to fire at a small puck in order to get it into the opponent's goal? Well, here's a computer game based on the same idea.

The game can be played by one or two players. The idea, again, being to hit the puck into the opponent's goal by firing balls at it. In the two-player game there are 80 screens or pitches to play over, with each match made up of a predetermined number of legs (between one and nine). The pitches vary for each game, with new elements introduced for many of them. For example, red arrows on some pitches push the ball in the direction of the arrow should the ball roll over it.

There are also jet-like bumper affairs that the ball can bounce against, making it difficult to hit, especially if you opt for the fire at sight option. The easier fire from arrow option allows you to fire at the ball from the op-

BALLISTIX

PSYCLAPSE's ball blaster

screen allow that you move around. The fire at sight option means you move a sight around the screen and the balls are fired from your own goal mouth. As well as the method of firing, there are also options to allow you to alter the ball speed, the firing rate and the ball's lifespan, i.e. how long each ball remains on the pitch before it disappears back into either your or your opponent's mouth.

In one-player mode there are some 80 pitches, but you don't actually take on a computer opponent. Instead, you're battling against the forces of gravity on a pitch tilted towards your goalmouth. There are a number of bonuses that appear on the pitch and can be collected by firing balls over them, including a shield and a bomb that explodes into lots of balls that fly across the screen knocking your puck everywhere.

Ballistix starts off well, but it lacks addictive gameplay. The differing pitches add variety, but it's all very similar stuff that you'll eventually get tired of.



In one-player mode you're fighting against gravity as opposed to a computer-controlled opponent.

RELEASE BOX		
STAR 87	£19.95	AMVIC
AMIGA	£19.95	OUT NOW
DATA2	Version/possible details TBA	
MS PC	Version/possible details TBA	

AMIGA VERSION			
Graphics are great, as are the sound effects, but it's not got the reputation or graphics to rate as anything more than reasonable, and for it's worth to you'll be playing much in a year's time.			
GRAPHICS	7	IS FACTOR	3
AUDIO	7	FUN FACTOR	3
AGE RATING 600			



—Andy Smith

JUG

MICRODEAL with an intergalactic vessel

ST VERSION			
Excellent graphics, scrolling and plenty of chase scenes. Race and effects are up to SCORCH too.			
GRAPHICS	7	IS FACTOR	3
AUDIO	4	FUN FACTOR	3
AGE RATING 500			



A key with-screen removes a barrier, right.

JUG is so called because of the main sprite's barrel-chested appearance—nothing to do with ears, horns or prongs. Its task is to locate the tumour that is killing off the living core of the planet and wipe it out. Dirty problem is, the planet's defence systems are Jug's foe, both in and attack.

The playing area is a 3D maze of rooms split up into sectors and zones. The layout is similar to *Cybernoid*, as is the gameplay, but there is more of an arcade adventure element. Moving around the screens there are objects to be picked up including keys, weapons and fuel. The keys open up new sectors for exploration,

the weapons enhance your already-weak firepower and the fuel allows the craft to fly and repair its shield.

The defence systems are everywhere and, as well as patrolling particular screens, waves will fly on from monitors and shoot you up. The shield can take a lot of hits but will eventually give out. The ship moves around slowly, so steering is speed things up considerably.

The gameplay is simple, educational stuff, well programmed certainly, but lacking anything out of the ordinary to pay it up.

—Bob White

RELEASE BOX		
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No other versions planned		



S C R E E N T E S T

SUPPLEMENT

As ever, the Supplement supplies all the added extras for the gamesplayer at no extra cost. We nose out the most exciting Budget bargain buys, Steve Jarratt offers a Sega special along with the usual top-of-the-range Tricks 'N' Tactics maps, hints and tips, and the ACE Updates team checks out the latest versions...

BUDGET BARGAINS

CHASE

MAGNETRONIC • Amiga, ST, CDS

It's been a while since the days of *Sidewinder* it is, but Magnetronic have decided to slip their toes back in the 1980s budget waters with the unusual shoot-em-up, *Chase*.

Featuring four separate sections, *Chase* puts the player in charge of a space fighter, battling against the *Dogmatrons*. After the fourth, the sections cycle round again.



Taking a horizontal view of the action, the player has to chase the enemy through a meteor shower, fly through lasers and ionisation, pass through a *Master of the Labyrinth* series of squares, and finally continue the chase along a road corridor, avoiding between obstacles and shooting *Dogmatrons* en route.

Apart from superior sound on the Amiga, both versions are identical in looks and gameplay. The 3D graphics are smooth and fast, and although the action is rather repetitive, *Chase* isn't a bad return for a fiver.

ACE RATING 4/5

REBELSTAR II

SILVERBIRD

• Spectrum £1.99

Take charge of the Rebelstar Raiders once more in this sequel to the originalised-out demomake game *Rebelstar*.

All the old laws are there, this time set to destroy an alien race on the planet *Thery II*. Points are awarded for each alien killed, with extra points for the alien-queen who's the

prime target. Use the available limited movement points well, and keep pushing because there are only 26 game turns in which to achieve the objective and get the Raiders back into the shuttle before it starts off.

Rebelstar II has everything the first game had: all the addiction, excitement and fun. If you loved the original you can't afford to miss this. And if you missed the first game, you'll find *Rebelstar II* so playable and enjoyable you'll be waiting on tenterhooks, like the rest of us, for *Rebelstar III*.



INTO AFRICA

MIGHTY • Spectrum £2.99

Any adventuresome longing for the heady days of *Janet of Marigold* should welcome this budget release with open arms. *Into Africa* is menu-driven and features a landscaping technique almost identical to Mike Singleton's megagame.

Taking individual control of up to 48 characters, the player must coordinate their combined efforts in an effort to protect an area of Africa from invading rebel tribesmen. How ever, the tribes indigenous to the region have been divided by the lines of the Golden Mark. Only once the mark has been found will the tribes be reunited and strong enough to fend off the rebel forces. And just to make matters worse, their leader *Chief Masala* is dying from a rare jungle fever. Oh, dear.

Into Africa isn't quite as easy to operate as was its inspiration, due to a tedious menu system. However, the game is pretty captivating, and at only three quid...

ACE RATING 5/5



TWIN TURBO V8

CODE MASTERS • Amstrad £2.99

The Ferrari on the pack gives away the fact that this is an *Out Run* clone. The stay also provides the enlightening information that it is an F40 and that there are only four in Britain, two owned by members of Pink Floyd.

There are four stages to drive through but no junctions at which to choose the route. The chunky graphics are colourful and fast-moving, but the inclusion of left-rear view is sometimes impossible to see where you're going.

Other cars don't move around much, but they can come in sufficient numbers to cause problems. Each stage must be completed within a time limit and there's also a limit on the number of crashes allowed. Stages don't vary much, except for one at night. You'll finish the game quickly, but enjoy it while it lasts.

ACE RATING 80%

SOCCER Q

CULT • Specs, C64, Amstrad £2.99

Here's a new twist in soccer management games, entirely based on quiz questions, with five outdoor divisions of eight teams each, and both FA and League cup competitions.

There's no messing around picking the team, but training can improve what's there to start with. The quiz questions all take the same form: a multiple-choice selection of four answers, one of which has to be picked before a time limit runs out. In the training rounds a correct answer improves the team's rating and a wrong one reduces it.

During matches, the questions determine whether a goal is scored or not. If the opposition are attacking and you answer correctly it's a save. If your team is attacking, a correct answer will score a goal.



A base of 2,000 questions should keep the game fresh and interesting for a while, but there is little else to draw you back after they have been exhausted.

ACE RATING 80%

ON THE HORIZON

ZEPPELIN

Next off the Zeppelin production line are re-releases of Full Throttle for the Spectrum and Rascal for the Spectrum and Amstrad, both at £1.99. Jobby Wilson's Clerts Challenge will be appearing for the Amstrad and Amstrad at £2.99. All three should be in the shops by now.

Zeppelin's original offerings are limited to the C64, Amstrad and Spectrum versions of Ninja Commandos, another £2.99 release.

Coded by Kevin Harkin and Mike Quinn of Jubes and Chaoswise fame, this should be worth adding to adding to the proceeding software collection.

ROCK-IT

It's fairly quiet on the Rock-it front, with the one notable exception being a new release, called *Rocky In Space*, from the Sorbelle Software team.

C64 owners wanting to



Rocky in Space.

purchase of the latest product of Chris's and Jon's (Cudley and Jovial, respectively) brains minds should check out the local software-shop specialist-own the new month, a 446-ling £2.99.

CODEMASTERS

There's a quartet of new games to watch out for from the Darling camp, all at their recently-revised price tag of £2.99.

Grand Prix Simulator 2 is a follow-up to... well, guess. Featuring improved graphics and control plus a three player mode, this is one for Amstrad and Spectrum owners to keep a sharp look out for.

Commodore owners feeling left out can always take comfort in Rally Cross Simulator for the C64. With a bit of Game Rainers, this



Grand Prix Simulator 2.

rightway simulating, but feel' suitable) contains high-quality sprites (with colour in its-rev), intelligent opponents and progressive customisation of the player's car.

Meanwhile, the profile: *Over Turbo* has *Fast Food* ready to serve up for Amstrad and Spectrum owners. Basically a Fun 800000000, the game looks smart and has a few nice touches



Street Gang Busters.

SOCCERBALL

Finally, football fans wishing to add just one more soccer game to their bulging collection can play *Street Gang Football*, where the opposing teams are two gangs of kids. The inevitable arguments and fight scenes are included in the proceedings.



Fast Food.

ENCORE

There's given 8 letters the chance to catch up on some earlier releases with *Grand National* (Spec), *Batty* (C64, Amstrad), *Spec*, and *Bauer's Turbo* (Amstrad, Amstrad, Spec). All three are due for a mid-April launch and a £3.99 price tag.

Meanwhile *Donkback* if C64, Amstrad, Spec) roller coaster (*Spec*), and *1942* (C64, Spec, Amstrad) should all be sitting on a shelf near you now, just waiting to be bought.

PLAYERS

Interceptor's Budget section is about to launch a new label, called *Players*. Premier Gaming will initially new software for £2.99, they offer which new games to watch out for, including - deep breath - *Street* (*Spec*) *Football* (Spec, Amstrad), *Eagle* (*Spec*) *Street* (*Spec*), *C64*; *Gate* (*Spec*) *Street* (*Spec*), *C64*; *Street* (*Spec*) *Street* (*Spec*), *C64*; *Street* (*Spec*) *Street* (*Spec*) and *Street* (*Spec*) *Street* (*Spec*), *C64*.

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GALDREGON'S

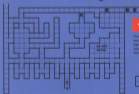
THE LAND OF MEZRON

- 3** Tower of the Necromancer
- 4** Viking's Hut
- 5** Lord Thrall's Tower
- 6** Ghast's Tower
- 7** Arch-Mage's Hut
- 8** Cleric's Hut
- 9** Wise man's Hut
- 11** Tower of the German Master

The Lich and 2 has one of the Gems. The other Ghasts and 3 has the key to the door at 1, the other Ghasts only have light scrolls.



The Castle of King Rohan



- 1** Locked Door
- 2** Lich
- 3** Wraiths
- K** King Rohan

1 Various potions and scrolls can be gained by killing the Priests and Archbishops in the rooms to the south of the castle. However, fighting in the castle is not recommended to win the game, and wastes health in the process.

Head for the Arch-Mage's hut and get the Spell Book, go to the Viking's Hut and get the sword, and then go to the Wise Man's Hut and collect the Teleport Ring.

Go to the Tower of the German Master, kill both the Demon and the Master before getting the cross and any other objects. Go to point 3 in Rohan's Castle, kill the raven, Ghast and get the key. Go east, open the door and kill all the characters, including the Lich. If there are too many Ghasts with the Lich, wait outside its chamber until most have left. Collect Gem One, Wand, etc.

Go to the Temple and pick up all the objects at point 1. Stock up on weapons, food, potions and scrolls by killing Ghasts. Get the dagger and key from the Priests in Room Two. Use the scrolls where possible, since the Priests inflict heavy damage. Go down into the catacombs and head for point 8, killing the Snake God on the way. Kill the Demon and Ghasts. Collect Gem Two and any other items.

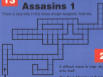
Go to the Caves of Doom, wander around killing Goblins and other creatures until the Gemard is found. Head for point 4 and kill the Rock Monster. Collect Gem Three.

Go to the Labyrinth, kill Witches, until the Mirror and Key are found. Move to point 4, kill the Medusa and collect Gem Four.

Finally, enter the Forest (10), find the Elf Lord at point 6, and kill him. Get the Silver Cloak. Go to the Forest of Assassins - One (13). Go to point 8, kill Assassin Elite, collect Gem Five and then return to King Rohan. Game over.

13 Forest of Assassins 1

There is only one in the forest except weapons, food, etc.



2 The Caves of Doom

A difficult maze to map, any of the dot marked routes eventually leads back onto itself.

The Rock Monster at 4 has a Gem. The diamond needed to kill it is carried by a demon or goblin elsewhere in the level.



'S DOMAIN

JOAN OF ARC



OT and Amys owners should now sit quietly and read the following solution to Rainbow Arts' 18th strategy arcade game...

At the start of the game select 'Start A Campaign' from the main menu, then select 'Displacement' from the second menu to enable movement of the army into another province.

Moving into Orleans sees the 'Battle in Open Country' arcade game begin (see hints below).

On defeating the enemy, select 'Offence' from the 'Start A Campaign' menu, and choose Orleans. The 'Tury Into Town and Taking of the Wall' arcade version begins (see hints below). Orleans must be taken before Joan can move to Blois to crown the King.

After the fall of Orleans, move into the Province of Champagne. Move the army north and attack each Province in turn, taking all towns and fortresses in each before moving on. Once the northernmost Province has been taken, move southwards repeating the process.

Use hostages to make money to pay the army. Select 'Liberation' from the 'Diplomacy' menu, deal with Henry II exclusively, use Isabella and Reginald of Cheshire as ambassadors and use the following list as a guide to the amount of ransom to demand:

Duke of Bedford	£4,000,000
Duke of Warwick	£2,000,000
Duke of Gloucester	£2,000,000
Captain Goustauff	£1,000,000
Count of Suffolk	£1,000,000
John Rastor	£1,000,000
Cardinal of Winchester	£1,000,000

Ransom these characters only; if any other people are captured simply execute them using the Royal Justice menu.

If there are no hostages in the prison when it comes to pay day for the armies, select 'Helping Hand' and let out one. Do not try for the Duke of Bedford, though, since this attempt is the one most likely to fail. Remember to pay the Helping Hand well: £20,000 ahead of it.

Joan does not need an immense army to succeed: 2,000 archers and 3,000 troops are enough. Mortars are also useful, but don't waste money on knights - they are expensive and aren't really needed.

Don't waste time on taxes: collect only the Tithes tax when it is due in September. The amount

10 The Temple of Set (Ground Level)

Food and other items can be found at points marked '1'. Quacks in the Temple are a good source of food, weapons, potions etc. The Ruqz offer immortality, but don't rely upon the Barbarian.

The Temple of Set (Colombes)

- 1 Objects
- 2 Main Hall
- 3 Snake God
- 4 Locked Doors
- 5 Demon of Set
- 6 Ruqz

Enter Main Hall 1, the Priests and other characters must be killed to reach the Great Holyed Dragon and the Ruqz in rooms 6. The demon at 5 has no Gem.



14 Forest of Assassins 2



17 The Labrynth of Medusa



- 1 Locked Door
- 2 Blackbox



Forests

12 15 16

This maze should be the last forest, unless for one of the 'Good Guys' the 'Good Guys' the 'Good Guys' with the 'L1' Lord at point A.

GENERAL TIPS

- Don't fight anything unless objects are needed or the Barbarian is attacked first.
- Keep strength and stamina levels high. It is often possible to kill an enemy before it hits the Barbarian at all.
- The most effective weapons are the Hammer, Death Spell and Wand.
- Lord Thul and his men can be killed for extra weapons, and the same goes for the creatures in the Neutronium's Tower.

The secret to solving the mission is that a specific object must be carried to kill each of the characters owning a gem, thus:

- Cross - Lull
- Diamond - Rock Monster
- Emeral Clock - Assassin (Clap)
- Mirror - Medusa
- Caromental Dagger - Jaron of Set

can't enough to pay the armies, but at least it avoids any savings.

If a large army is in evidence, remember to remember it during any diplomatic bargaining, or else lots of money is lost unnecessarily.

THE ARCADE SECTIONS

ENTRY INTO TOWN



Once this has loaded it, and before the screen changes, push right to get the man off to a running start, and keep pushing right at the time. When in combat range, press the fire button and keep it pressed until the enemy is defeated, and release it. The man then runs forward again until in combat range, and so on. Repeat this process until the town is entered.

TAKING OF THE WALL

As with Entry Into Town, start the man off before the screen changes and pull the joystick forward. The man should be halfway up the ladder before the first stone is thrown. Keep pushing up for the whole of the game, and use the fire button to shoot the soldier from rocks.



DEFENCE OF THE WALL

This is the one to master, since more enemy soldiers are destroyed this way than any other. Push the joystick forwards and press fire before the screen changes, to immediately start launching rocks. Use rocks whenever possible, otherwise use of a fire is a shot. Although the manual states that if it is limited, there are at least six castles of oil at Jan's disposal.

■ Dr. Rambert, Inverness & P. Gregg, Surrey

WINNERS

The £150 Top prize this month goes to T. Baume of Manchester for his complete solution and maps for *Castles of the Domain*.

£20 runner-up consolation are awarded to Andrew Hancock, Essex; Andrew Manning, Leighton; Bill Wardham, Invernesshire; Mike Macmillan, Essex; and Ole Brydahl of sunny Norway. And many thanks to everyone else.

DRAGON'S LAIR

THE SOLUTION



Judging by the amount of interest caused by this release, almost anyone with an Atari and 1Meg upgrade already *must* possess this game. The following tips on how to defeat Grog might also come in useful if and when the BT version appears.

Tip: In initial levels contained just before Dirk has executed the last. Note that many scenes are played twice, the second scene simply being the mirror image of the first.

DISK 1

The Washbowl

When the enemies approach, swing the sword. As they dodge away, push up to climb through the hole.

Room

After the Disk Mr. eye flashes, the door will flash. Immediately push right.

DISK 2

Dirk enters either a room or a cave containing a monster.

Cave

If entering from the right, go left, right then left as soon as the steps flash. Do the opposite way if entering from the left.

Room

If the door is on the lower right-hand side, as seen as the tentacle flicks down, press the man push-up, right, down, left and up. If the door is on the lower left, press fire, and push up, left, down, right and up.

DISK 3

The quest continues with other entrapments and traps, or a room with a cauldron.

Witchpots and Rapids

Simply move left and right away from the witchpots. Dealing with the rapids requires more precise timing if the fire

witchpot encountered was on the left, then Dirk will emerge into the rapids on the left, and vice versa. Push right and up to get to the next section, then press up once more to get the tentacle flicking on the right. This procedure is repeated four times.

Cauldron Room

Watch Dirk walk over to the tentacle on the rock. As he picks one up, a monster appears, grabs him and the screen changes. As soon as it has changed, press fire to stop the dragon's head off.

DISK 4

The Knight

If the knight is holding no sword in his right hand, move right, left, up, left, right, left and right. Should the sword be in the knight's left hand, then move left, right, up, right, left, right and left. When a close-up of the knight appears, press the fire button. Timing is essential in this section, attempt to enter the next command just before Dirk lands on the floor.

The Ball

Positioning dirty, just press down when the small one passes Dirk. Repeat for up six balls.

DISK 5

Room

Keep pushing up until Dirk has left the room. This scene occurs twice.

Dragon's Lair

A pile of moving objects appear. If they are on the right, go right, then left and down. If the objects appear on the left, move left, then right and down. On the final screen, press down to catch the falling objects. Finally, keep pressing fire when the princess says "I've the magic sword".

DISK 6

The Final Battle

Always attempt to keep the distance of the dragon, then move either left or right as necessary to avoid the dragon's head. When Dirk has taken the magic sword, press down to avoid the dragon's attack. On the third time, and on the screen changes, press the fire button to throw the sword at the dragon and hit him.

■ Dr. Rambert, Inverness



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CHICAGO 30's™

Chicago - city of gangsters and guns - where
some criminals have become big-time
and the police don't. Turn the dingy streets
into the money markets and take the show
down. Use Rocky the Street Sweeper to
take a job that's not just a job - it's a
mission. In the name of justice, take the
city by storm. Along the way, you'll
meet some interesting characters, like
the Mayor and the Police Chief.

It's a wild, wild world out there. You'll
find a lot of things that you don't
see in real life. It's a wild, wild world
out there. It's a wild, wild world out
there. It's a wild, wild world out there.

**YOU'RE TOP
OF THE HIT
LIST!!!**



topo
SOFTWARE

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SEGA SPECIAL

TNT has had a tremendous response, over the last month or so, from Sega owners sending in hints and tips for a variety of games. And so, to do them all justice, here's a special section for Sega-loving games players everywhere...

ALEX KIDD
IN MIRACLE
WORLD

At the end of Lake Pottun, Genesis appears. To win, choose Stone, Scissors. On the head of St. Martin, the shop sells the Super-Ale of Miracles, the Master Power and the Flame Guard. At the end, when Saint Martin appears, take the helicopter.

At the start of the Village of Hanoi, there is a shop which sells the Petrifier. Magic Capsule II and eggs or life for Alex. At the end of the level, a laser hole can punch into the next level. Next, Saint Martin appears again. On reaching the end of Mount Alois, Christian appears, choose Scissors, Paper. The shop sells the Meteorite, the Cure-of-Illight and Magic Capsule 5. In the Blackwood, Larkin comes up. He hits eight times when he is used in winning up.

On the Bridge (Landscape), the shop sells the Petrifier, Magic Capsule II and the Super Power. At the end of the level, Pottun appears (choose Stone, Scissors).

In reaching Redaction Castle, the right arrow and up the ladder, since a ghost immediately comes after Alex.



To get the crown, enter the room with the spinners on the floor and jump on them in the order that they are shown on the "Secret Shop", when read as shown.



The game may actually be completed without obtaining Genesis. Run to a flag, face the Location Staff Head, when the Phoenix first appears, run it straight away. Fly up to the ladder in the corner and Larkin cannot hit Alex.

■ Andrew Hadden, Essex & Leon, Dudley

ALEX KIDD:
THE LOST
STARS

Whenever Alex is low on energy, collect an (S)C symbol, then fall off into the air. When Alex respawns, go back to the location where the (S)C was, and collect it again. Continually repeat the process until Alex's energy is back up to maximum.

On reaching the end of a level, edge slowly towards the end sign. When it is just on screen, allow Alex to fall and then make a dash for the wall, without stopping or taking anything. This works on all levels except the final level.



■ Daniel Bostock, Manchester
■ Andy Murray, London

FANTASY
ZONE II

On Level Two, walk along the ground and continue to battle, until a red force appears. Pick it up and the ring is rewarded with extra hit capacity.

Just the red ring on Level Three, then go to the shop and buy a Spirit Head for the journey which is made up of all the uncompleted levels. Then position the ring at the bottom left of the screen. Stand, and a rock should appear which will collect, plus make up 30 items when dealing with the world level garden.

On Level Four, there is a wall built in the way with lots of straight edges and barriers, and above the floor. The Guide is located to the left of the way hole near the top of the screen. Once collected, it requires all the other rings.

Keep shooting the stars into Level Seven to collect another block, and there is also a red barrier located on the way with the red ring. Just keep shooting the ground as a Level Three.

■ Leon, Dudley

Famens and Babarans can be spoken to using "Talk" Commands which may not be spoken to include: Gumbars, Antlers, Golems, Seals, Guard Men, Stars, Scorpions, Bats, Wolves, Elephants, Frodoons and Mantis.

Battle with the following creatures can be considered by using "Talk":

Talk Chat
Refined Chat
Conquer Talked
Discipline Chat
Big dragons Talked
Ironed Chat

The second time in the shop is a morning bag on (one) bag and demanding it.

To see Miras, take the 4 or 50 to the island on the second planet. Say "hi" and then battle the cat. Head home and enter the cave, south of the wall.

When reaching (S)C, enter the 4th floor, then find the compass in the trade.

The Governor's lake is in

Pharia, in Lake north of the starting position.

The Nights is found by walking through the blue lake.

If you do not have the Stone Shield, get Miras to collect the Stone shield, which drops her from (S)C back.

To get to Larkin's Palace, go to the Area of Blue Miras, use the Phoenix, use the ring and kill the Golden Dragon.

Get the Rosewood by placing the signpost in Castle Town. It can be found near the Ruins.

Go south of Stone in the water and get the Sun, Daniel from Adams.

The Mirror Shield is on Redwood. The ring will give you the Sun. Then, then go into the lake. The Shield is found by standing on a southern castle.

Don't drop the Starburst items immediately. Keep shooting and the game should soon be complete.

LOCATION OF
ITEMS:

LAC SHIELD
 South of a Mountain cave.

LAC AMMO
 The far side of a pit trap in the Mountain caves, Gumbars.

PEEM
 Found by killing the two Stars in the Mountain prison camp.

GOVERN
 The Beer in Baya (Miras) has it.

TORCH
 Trade the Guide gun for this in (S)C. It's in the red mine, inside the screen.

LAC KEY
 Miras guards it in the cave town.

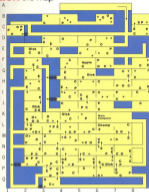
MIRAS KEY
 Found near the top of Baya Miras.

■ Andy Murray
 London

PHANTASY STAR

ZILLION *the map*

○ LEVEL UP ■ ELEVATOR □ COMPUTER ♣ POWER UP
 ◆ MOVING WALL ✕ GUN POWDER Ⓢ SCOPE ✦ CARD



ZILLION

To beat **D**, **Ape** or **Clamp** indestructible, follow the method.

Start off by getting a few 50 credits. Bring an **AI** machine over to the map, the top floor elevator to the main lobby, where there should be a **level** (or a **level** in front of the boss). There's usually a **level** (or a **level**) in the main lobby. If you fall back into the room before and lose no energy, he will come to indestructible. However, while indestructible, **AI** can get up to the status screen.

■ Andrew Haden, Craig & Paul White, Colin

ZILLION II

To defeat **Blaze** without being hurt, move to the right-hand entrance, as he approaches, take remaining credit as the boss is touch **AI**. When the missile, take around and shoot him while jumping.

■ Andre Martley, London



KENSEIDEN

In **Level Two**, climb up the big building and push up. A secret coin is then entered where energy can be replenished. Using the same as **Level Two** transports you to the next **Stadium**.

Take the **Fireball** Demon anywhere.

Take the **Robot** Demon with the star in the lower. This can be done by standing on the floor, so there is no need to jump.

To kill the **Hydra** monster, hit her in

the face (arcade) or very effective).

Destroy the **Level** **AI** Demon by first attacking its abdomen, then hitting the abdomen when its back is turned.

The **Ball** Demon should be killed only once a machine called **Ball** (or **Ball**) is used and again the **Ball** when it is used. Use the **Ball** tactic for the **Ball** (or **Ball**).

Notes - the **Warlock** in **City** - is

killed by destroying the **Ball**. The **Ball** movement is most effective when you go up and left.

The **Blaze** Demon is the last to be defeated. Ignore the **Blaze**, stand up close and wait for her to fire. When she stops, quickly jumping and strike her in the face. The **Blaze** should fire then she eventually into a **Ball**. He may then be critically wounded while in **Ball** form.

■ Andre Martley, London

SHORTS

ACTION FIGHTER

To get out of the helicopter when driving the car, simply turn into the motorcycle and back again.

■ Andre Martley, London

GHOST HOUSE

Place the lightbulb in every all the character on-screen. This only works three times per level.



■ Andre Martley, London

THUNDERBLADE

When approaching the end-level fortress, turn up to either the corner and hit there. The fortress should now blow up without having to touch it.

■ Stefan Roman, Manchester

TRANSBOT

On reaching the first **AI**, three **AI** robots appear called **AI**. If they are faced with weapon system **D**, the **AI** robots should then continue on the underground level.



■ Steve Collins, IT Hampshire

CAPTAIN SILVER

To allow the **Captain** to push up and across both the top of the same **AI**, this works on all levels and the **AI** moves, and starts the game at the start of each level.

■ Paul Foster, Gates

CHOPLITER

Shoot the enemy a few **AI** robot base several times, and after a while, **AI** appears. The **AI** robot will then continue to fire.

■ Axel Hobb, Sheffield

WONDER BOY

Watch out for handbags or other items when gathering the fruit. If the main object is collected, **Wonder Boy** is transported to a bonus level. If he should do them no less are lost. He will get transported back to where he collected the object.

■ Steve Collins, Hampshire



SEGA TIPS NEXT MONTH: GOLDEN LIPS, WONDERBOY IN MOOSEHILL AND MORE...

PERSONAL NIGHTMARE



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UPDATES:

AN AT-A-GLANCE GUIDE

PROSPECTOR IN THE MAZES OF XOR

LOCATION: CIBIB&B

Spectrum version reviewed Issue 1 - ACE rating 8/11

Back in Issue One this was just known as *For*, now on the Amiga it has gained a much longer title and many extra features.

The graphics and sound have of course been massively improved. It's boy-toy to chickens and fox and hells to rocks and Zeppelins. Along with ladders, walls, teleports, power fields and teleporters these combine to form some of the most devious arcade puzzles known to mankind.

You control two characters but it's definitely just a one player game who have to collect balloons from the mazes. At some points they have to do things separately and at others they need to work together. The objects that form the puzzles all have different behaviour patterns - Zeppelins move to the left when alone, rocks fall down, spheres keep rolling when pushed, power fields can only be removed from one direction, bombs can blow holes in the walls and teleporters do what they always do.

Up to now, for players will be on familiar territory, but here come the extras. There are 15 entirely new levels already programmed in and a construction set with which you can make yet

more. The construction set extends the life of a game that is rightly addictive anyway. There's even the ability to multi-task with other programs, but frankly you will probably be too absorbed to want to do anything else. A superb development of what was already a classic game.

■ **Get Wide**

UPDATE SPECIAL

AMIGA VERSION

The graphics and music are appealing, making it more accessible than the MSX version. It's not stretching the Amiga's powers that much but the existing gameplay is the main thing.

■ **ACE RATING 9/12**

(Right) Complex puzzles abound.
(Bottom) Trapped! To blow up the dynamite, the walls have to be dropped on it by getting the map.



AMIGA

CALIFORNIA GAMES

EPFX 0388

Complete with up to seven friends in half a dozen Californian sports. There's skateboarding on a halfpipe, the foot bag for hocks back as it's known over there plus a hoop of surfing, roller skating, BMing and Frisbee taking. Graphics are colourful but look very CG-like. It's fun to play occasionally and can be quite a lull when you play with a group of friends, but it's not advanced computer entertainment and it certainly doesn't push the Amiga to its limits.

■ **ACE RATING 6/10**

FIREZONE

FM 124.958

Amstrad version reviewed

Issue 9 - ACE rating 7/9

Scrolling and sound effects are much better than the DOS version, but then that's only to be expected. It's a simple, well presented wargame that provides plenty of scenarios and a design option to keep you busy.

■ **ACE RATING 7/10**

GAUNTLET II

US GOLD 124.958

Amstrad version reviewed

Issue 11 - ACE rating 8/10

As with the ST version, you can have a four player game using a special interface. Smooth multi-directional scrolling, detailed and colourful graphics, and good effects and music. Gameplay hasn't altered - same maze chasing around, shooting and collecting things.

■ **ACE RATING 8/10**

HOSTAGES

INFOGRAVES 124.958

ST version reviewed Issue 10 - ACE rating 8/9

As in other versions, the graphics and sound are great but there's



Speedy Gonzales on the Amiga: holding still for a sea-through beat.

not much in the way of gameplay since the novelty has worn off. It's also far too easy to complete to keep you playing for very long.

■ **AGE RATING** 600

IN A SYSTEM'S CHANGE

The latest enhanced, improved and jacked up version of a combat game that gives back a long wait. There are three fighters, two of whom can be player-controlled. With only one player the other two



are computer-controlled, so there's still three-on-one light action.

In between every couple of bouts there are interlude screens where bonus points are scored by deflecting incoming balls with a shield or taking bombs off the screen. This is the basic action, but bouts of 10th-century hand-to-hand combat are in the background scenery and odd control toggles.

The animated graphics are good and the presentation is superb. The gameplay is the same old combat stuff, the best of its kind, but its kind is dated.

■ **AGE RATING** 700

INCREDIBLE SHRINKING SPHERE

ELECTRIC DREAMS (EA 000)
C64 version reviewed issue 17
— **AGE RATING** 600

The maze and the same as the

Old version. The graphics and effects are (obviously) greatly enhanced to make an even more convincing 3D effect. Gameplay is once again very tricky and the Sphere itself is slightly harder to control than its Old form.

■ **AGE RATING** 600

JOAN OF ARC

CHIFFRE GOLD (CA 000)
Amstrad 517 version reviewed issue 18
— **AGE RATING** 600

Amstrad is pretty to look at, and the



same mix of strategy and arcade action, as the ST. The sound and graphics have hardly changed. Anyone who liked Joan of Arc of the Cross will find this much more satisfying.

■ **AGE RATING** 610

SPACE HARRIER

ELITE (EA 000)
Amstrad 517 version reviewed issue 18
— **AGE RATING** 700

It's fast, graphically excellent and as close to the arcade version as can be expected. Still one of the most enjoyable shooters made around. As ever it's a shame that the Harrier himself often obscures the view of incoming enemies. — how about a transparent head?

■ **AGE RATING** 700

TECHNO COP

CREATIVE COMPUTERS
Spectrum version reviewed issue 18
— **AGE RATING** 600

The driving action has been well

put together — smooth motion and fast engine noises. Action inside buildings, reminiscent of Death Wish 4, features exploding bodies that hatch post-mortally. The buildings map out the same, so if you can put up with the fairly gory graphics it's got plenty of interest.

■ **AGE RATING** 600

ZANY GOLF

ELECTRIC ARTS (EA 000)
Amstrad 517 version reviewed issue 18
— **AGE RATING** 600

Same rules and graphics as the ST and like the other versions the disk accessing is annoyingly slow. Great fun until the terrain course is completed, which will not take that long.

■ **AGE RATING** 600

AMSTRAD

INCREDIBLE SHRINKING SPHERE

ELECTRIC DREAMS (EA 000)
C64 version reviewed issue 17
— **AGE RATING** 600

The poorest of all the versions, because it's terrible slow, making the control difficult and inaccurate. The map top has been changed. Graphics and sound are poor.

■ **AGE RATING** 600

JINKS

PANORAMA ARTS (PA 000)
C64 version reviewed issue 17
— **AGE RATING** 600

A novel and addictive game about a leaping ball and an angled ball. The ball has to be guided through-popping levels of obstacles, to an exit gate. Bonuses can be picked up on the way, but there are also hazards that can kill both ball and ball. The ball can be flooded to present a flat or angled surface

apart. It can be moved freely around the screen to raise the ball up to objects, or squash it down. The levels get more complicated, demanding more skill with the ball. The gravity and speed of the ball can also be altered. Previous versions have been graphically impressive, which the Amstrad falls down on, but it has smooth horizontal scrolling. Fun for a time but falls fairly quickly.

■ **AGE RATING** 600

SDI
ACTIVISION (AV 000), (TA 000)
Amstrad 517 version reviewed issue 18
— **AGE RATING** 600

A straight port-over from the Spectrum, so very disappointing



for both graphics and sound. The gameplay holds up well, though, in both the offensive and defensive stages, making it rather fun to play, even if it does look busy.

■ **AGE RATING** 700

THUNDERBLADE

US GOLD (UG 000), (CA 000)
C64 version reviewed issue 18
— **AGE RATING** 600

You will be pleased to hear it's not a straight port-over from the Spectrum version — it's actually very colourful — but this has been achieved at the expense of speed. Like other versions, collision detection's iffy but not playfully so. Tough and entertaining.

■ **AGE RATING** 700



ATARI ST

BARBARIAN II

PALMAGE II (1992)

C64 version reviewed Issue 13
— ACE rating 794

Palms have done a fine job in converting their original best-seller to the Atari, although it still suffers from the same frustrating



complex and annoying lack of moves. Graphics haven't improved a great deal over the original, but that's simply a testament to the quality of the C64 version. Great updates from the lady touchscreens.

ACE RATING: 790

DISMARCH

PDS (1993)

The job of the German flag (the Wehrmacht) in 1941 was the monstrous Bismarck, which not only became the operation in May 1941, but also sank in the same month. Now is your chance to recreate or reshape history as you become commander of the British forces assigned to sink the ship, or the German commander desperately trying to fly to the Atlantic. It's a simple enough game with the German PDS movie sequences. Movie present, but the game's very limited and won't be absorbing for long.

ACE RATING: 640

GALDREGONS DOMAIN



PANDORA CYCLES

Amiga version reviewed Issue 18 — ACE rating 704

So all interests and passions, identical to the Amiga in look, sound and feel. Only the need to swap between those disks during play sets this apart from its Commodore counterpart.

ACE RATING: 704

WAR IN MIDDLE EARTH

MELBOURNE HOUSE (1993) (14 disks)

PC version reviewed Issue 17 — ACE rating 644



Q&A — The main map screen which shows Middle Earth in its entirety. The finger-look is used to access the Campaign Level.



Q&A — On the Campaign Level the cursor becomes a magnifying glass which is used to call up detail on units and places.

Frodo has the same aim in the 3-D version of War in Middle Earth as he does in the 2-D: game reviewed three issues ago, but the way the player gets involved is radically different.

For a start, there simply isn't room in 3-D for the detailed 2-D location graphics based on character level; indeed the character level is not present. The adventure element is also missing: there's no need to go in search of items to give to leaders of the races of Middle Earth before their forces see out under your command. All forces allied to the cause of good accept your orders the moment the game starts.

UPDATE SPECIAL

The main map screen gives an overview of Middle Earth, and action takes place while it is displayed. Moving a pointer over a location on the main map and pressing fire calls up the more detailed, scrolling Campaign Map. Here orders can be given to units, locations and armies, can be examined in more detail and status information on your allies called up. While the Campaign Map is accessed, game time is paused. The strategic element of the 3-D version is true to life — you don't get to see the deployment of Sauron's forces on the Campaign Map, so the only way to find out where his armies are is by turning into them.

The combat sequences are much more detailed. Rather than just selecting a couple of options from a menu, you can click in and pan the map. When two opposing armies meet, the display can be changed to give a view of the conflict and the player is allowed to influence the outcome of battle by using a cursor system to direct the actions of individual soldiers. Four troops don't go into attack on a battlefield, but wait patiently until they are either attacked or told who to fight.

As would be expected, there's not so much graphic detail in 3-D versions of War in Middle Earth, but if anything there's more of a challenge, with the option to set levels of difficulty. Fans of the Mike Singleton approach to games design will recognise his touch.

SPERMATOR VERSION

Present a little problem to load at first, but apart from the Spermator's graphical limitations, every bit as good as its 3-D counterparts.

ACE RATING: 801

Q&A VERSION

Clanking sounds that accompany battles near the after a while.

ACE RATING: 656

AMETRADL VERSION

The game is marginally better suited to the Ametradl's capabilities.

ACE RATING: 604



Animated — 3-D versions of War in Middle Earth allow the player to readily enter in during battles. Your troops don't attack opposing creatures — they just stand still, standing themselves if attacked. It's up to you to direct individual soldiers by selecting them with the cursor and giving them an objective to attack. The best game naturally ignores orders...

INCREDIBLE SHRINKING SPHERE

ELECTRIC DREAMS C14.99db
CDi version reviewed Issue 17
— ACE rating 900

Very similar to the Amiga version, which says a lot for the quality of the ST programming. Smooth scrolling, smashing graphics and the same wicked gameplay.

TEENAGE QUEEN

SPR INTERNATIONAL C14.99db
Amiga version reviewed Issue 18— ACE rating 400

Amazingly enough, some of the pictures differ from the Amiga version. She plays the same level of strong poker and you will finish the game and be bored with it just as quickly.

■ ACE RATING 400

C64

DAD DUDES VS DRAGONNINJA

SHOGUN EB.99cs, C14.99db
AmiSoft version reviewed Issue 18 — ACE rating 800



Minimal stopper scrolling instead of the usual push-scroll of the other 540s, which proves less comfortable to use. Graphics are superb, especially the characters. Beautifully-detailed multi-color sprites worked with 512s. Probably the most difficult version so far, but proving at even greater challenge.

■ ACE RATING 900

MINI GOLF

MAGIC BYTES C6.99cs, C14.99db
Ami ST version reviewed Issue 18 — ACE rating 600

The rules are extremely the same as on the ST, but some have been changed because of the reduction

in graphic detail. This also means it's harder to judge the strength and path of the ball. Like the ST version it only really holds up as a multi-player game.

■ ACE RATING 600

SPACEBALL

RAVENSOP ARTS-EMULCS, C14.99db
Amiga version reviewed Issue 19 — ACE rating 900

It's faster than the Amiga version but with exactly the same screen layout and features. This means there is a bit more interest in play against the computer, but in the long term it's still only enjoyable as a multi-player game.

■ ACE RATING 900

TECHNO COP

GREMLIN EB.99cs, C14.99db
Spectrum version reviewed Issue 18 — ACE rating 800

The driving sequence is not that hot and the interior action is sluggish. Each section takes longer than on other machines, probably to offset the long wait when loading from tape. An adequate conversion but not an exciting as some of the others.

■ ACE RATING 750

REBEL CHARGE AT CHICKAMAUGA

Amiga version reviewed Issue 18 — ACE rating 800

A great tactical wargame based in a famous battle of the American Civil War. A limited number of turns and precise objectives leave you in no doubt as to what you've got to do and how long you've got to do it. Only the one scenario but three levels of play make it well worth a look if you're a novice or a veteran. On for the collection, especially if you like the C64 system or are particularly keen on the period.

■ ACE RATING 800

ROCKET RANGER

CHENNAHRS C14.99db
Amiga version reviewed Issue 18 — ACE rating 800

Obviously they could not emulate



the graphics of the Amiga, but it's a pretty good attempt. All the action sequences are there and essentially the gameplay is the same. One annoying thing is that it was prone to crashes — very annoying in a long game which can't be saved.

■ ACE RATING 750

STRIKE FLEET

ELECTRONIC ARTS-CDiEM
CDi version reviewed Issue 8 — ACE rating 900

LucasArts' intensive naval warfare simulation finally appears on the 68k and has survived the transition more or less intact. The action more or less intact. The available scenarios have been increased to 500, with additional ships for authenticity. The minimal graphics are well suited to the PC format, and prove adequate on all standards. Its speed of use can be slightly frustrating in frequent times of crash, though.

■ ACE RATING 700

ZANY GOLF

EM ELECTRONIC ARTS C14.99db
Ami ST version reviewed Issue 18 — ACE rating 800

The holes are identical to the ST version and play the same as well. Unfortunately it won't run on C64 machines — but it does look good on C64 and VGA. It's got a nice default calculating strength and direction, but that doesn't harm the gameplay much.

■ ACE RATING 800

SPECTRUM

BAD DUDES VS DRAGONNINJA

SHOGUN EB.99cs, C14.99db
AmiSoft version reviewed Issue 18 — ACE rating 800

The role Bad Dudes continues to do the efforts against Dragonninja on the monochrome stage of the Spectrum. The playability is all there, although the control method isn't as accessible as on the Amiga and the screen tends to look cluttered at times. Dragonninja is multicolored on the 48K, with just a single level on the 128.

■ ACE RATING 700

CIRCUS GAMES

TYNESCOTT C6.99cs, C14.99db
ST version reviewed Issue 18 — ACE rating 500

Other than monochrome graphics the only real difference between the Spectrum Circus Games and the 16-bit versions is that the tiger training takes place over a single screen, with only three tracks to perform. However, limitations of the gameplay in general are compounded by the obligatory monochrome multicolour, and its appeal is even more short lived than that of its relatives.

■ ACE RATING 400

INCREDIBLE SHRINKING SPHERE

ELECTRIC DREAMS C6.99cs, C14.99db
CDi version reviewed Issue 17
— ACE rating 900

Does not suffer from the speed



problems of the Amiga version and is consequently much more playable. The detailed, monochrome graphics work better here. Not quite the same feel as the C64 and 320K version, but still plenty to get to grips with.

■ ACE RATING 900

WATCH OUT!



Next month we bring you yet more news of the latest releases of new versions for YOUR machines...

PC

CIRCUS GAMES

TYNESCOTT CDiEM
ST version reviewed Issue 18 — ACE rating 500

This version is almost identical to the ST original in gameplay — if a little faster — and only lacking in the visual department when set on the lower-end graphic systems. It also sports surprisingly good resolutions of the circus themes, courtesy of the PC's mammalian internal design. However, the 68k version also identifies the limited variety and short-lived appeal of its Amiga predecessor.

■ ACE RATING 500

Sort out the **MEN** from the **BOYS!**

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FORMER #1 **WINNER** **1990** **1991** **1992** **1993**



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SONS OF LIBERTY - WAR IN RUSSIA

THROUGH THE ARCHWAY...

Acorn's progressive Archimedes is a much-ignored machine, but one of its already-proven strengths is an outstanding graphics capability. Brian Larkman takes a look at ProArtisan from Clares, and wonders if this package can open up new realms for anyone lucky enough to have an Archie for domestic or professional use...

When a new machine is revolutionary as the Archimedes is reputed, you can be sure that the first flood of software for it will show off all the easy tricks. The more operators for (not more difficult things, like this, because the programmers are learning the innermost secrets of the machine only a few steps ahead of us less brassy folk.

Artisan from Clares was one of the first 'third party' software products for the Ac. ProArtisan, produced with the benefit of experience, shows many improvements and yet retains many of the things people dislike about the user interface. It offers a range of painting tools, which, with a few simple (although not simple) mouse movements, allows you to draw, fill, copy, paste, delete, and so on. You have to look at it to see how it works. It does one, just of all, a job that comes on screen at once.

PHILOSOPHY OF THE BOOK

The manual is rather good. It provides clear instructions for every function, plenty of practice exercises, colour examples produced by a professional designer using the Pro-Artisan package (some of the best

bring computer pointers over than a mouse, and even an index. You will need to read at least some of the instructions, especially if you are unfamiliar with the rather clunky three-button Acorn mouse. This is not a package that you can just bump into, but let's face it, go.

PROCEED INTO THE INTERPACE

The first thing to greet you after the traditional BeBox view of the ShiftyBreak boot is a blank working screen with contrasting border and a small, rather pretty and colorful window which is the Main Menu. The eight icons displayed in this window give access to all of the features of the program, or exit to Desktop.

Before selecting anything else, clicking the Help icon opens a prompting window across the bottom of the screen displaying the function of any key pointed to with the arrow cursor. This is extremely useful in the early stages, while learning the program.

PROBLEM: THE MENUS

Selecting an icon from the main menu brings up a secondary menu offering a range of available functions, far most of which there is a tertiary menu of options or parameters. The problem is that every time a new function is required the menu structure has to be backtracked through and then reentered again. To make matters worse, the status always disappears when you move off them and require two mouse-clicks to bring them back: one brings up the palette, a second the current menu. Then a third click is required to select the new function and a fourth to set the new required parameter. For too many clicks for fast, but



BEZIER BEZIER is a wonderful tool that allows objects drawn in one range of colours to be changed to another range without disturbing the drawing effects. In this example, a black and white picture could be coloured or selected areas of a coloured picture turned to monochrome. *Wonderful With With Shader!* illustrates the magic brush effect in rather gaudy fashion. More subtle changes ARE possible. Note that the highlights, tints and shadows are unchanged from the original with the white tints (ie magenta brush) painted directly over them.



drawing action! Even when the process is completed, a drawing session can sound like a beginner's tap-dancing class.

PRODUCTION: THE TOOLS

The majority of the production tools - those used most frequently - are accessed with the Draw icon at the Main Menu. Tools such as featured draw in any shape or size, flood and different fills, erasels, 'magic brush', smoothing, patterns, (includ or key-color and zoom) are all gathered in this menu.

Once you overcome the menu problems, the tools provided are good, if rather lacking in interesting options. The different fills, for instance, look exceptionally good, but the degree of other cannot be varied, only the position of the highlight. Most of the tools have

a similar lack of fine tuning, but this may be deliberate policy in an attempt to keep the program relatively easy to use. Smoothing and the 'magic brush' are simply implemented, yet quite powerful. Nevertheless, most professional artists will require a great deal more control over some of the tools if they are to overcome the constraints of style imposed by the system.

PROFILE: CONTROLLING SHAPES

The 'drawing Menu' provides all of the usual standard tools for outlining shapes and filled shapes, plus Bezier: a method for defining controlled curves. Most of the tools work as one would expect: rubber-banding to get the correct position and shape then being down or cancelling with a click. Filled shapes can only have a solid fill or be filled with the current pat-

OBJECT-ORIENTED BEZIER CURVES

In *Production*, a Bezier curve is effectively a user-defined outline shape that can be dragged out and positioned on the screen to match the same way that a circle or rectangle might be in other systems.

A particular Bezier curve is defined on a separate screen, which can have an enlarged version of any 'spoke' (defined as a branch) positioned on it to trace around. Up to 10 separate curves can be used to trace an object, each of which has four points: two end points and two 'control' points. The relative position of the two end points defines the curvature of the curve. The resulting outline can be moved to slide on a block of object-oriented or windowable for later use in this form it can always be modified by loading it to the Bezier screen and then moving the control points, which are saved with the curve.

Once the outline has been placed in the screen it becomes part of the fill map and can only be changed with the normal screen tools.

The drawing below illustrates the difference between a Bezier curve, enlarged and reduced, and a normal (un-mapped) curve, enlarged and reduced. 'A' shows the original (lower) taken from the curve block. 'B' is a normal curve copied from 'A' and enlarged slightly. This

enlargement also enlarges each individual pixel. By contrast, 'C' is the same Bezier as 'A' enlarged greatly. 'D' and 'E' are similar distortions using Bezier and found methods. The differences in the outlines are obvious.

In some ways, this method of using curves has great advantages over the

usual 'draw' over the picture approach. Bezier outlines can be finished and saved to disk as part of a library of shapes. It is a pity that all the standard shapes were not included in this system or that some complete libraries (such as that for computer-aided design) could not be used in this and shape without the limitations of pixelation. In fact it is really only one step from this system to that employed by Super Painter for the simple Macintosh which was not implemented screens, one to spread un-mapped point images and one for CAD-like object-oriented drawings that can be moved into the pixel screen.

Beyond that, the ultimate drawing system could provide a wide range of special vector tools similar to those provided by Adobe Illustrator 3.0 or Adobe Freehand, (both also for the Mac), as well as paint tools. This would need to be the separate path for *Production* in future months you will be hearing more of this sort of program, vector-oriented but not CAD.



ADVENTURES

In anticipation of next month's truly awesome Adventures Special, Steve Cooke pauses for breath. In the meantime, he offers news of the latest in fantasy/role-playing releases, a **fabulous competition**, and the eagerly-awaited ACE Adventure Conference...

IT'S A MYTH!

Great prizes for adventurers up for grabs in our exclusive **Official Secrets competition!**

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Not feeling for a life stamp, ask how best to be firm and the conditions:

1. Official Secrets members get a free copy of Myth by Magnetic Scrolls. Name two other Magnetic Scrolls games.

2. Which software house released Ingrid's Back a 1988?

3. Which of these is the software staff title, Merv, Peon, Sentinel, Lunatic?

YOUR NAME _____

YOUR ADDRESS _____

YOUR AGE _____

YOUR COMPUTER _____

WHO OH WHAT IS OFFICIAL SECRETS?

Official Secrets is a mail-order software club started by Tony Rainford - the man who began Telecomputer's Painted label, since responsible for bringing out games like Magnetic Scrolls' Jester and Lovers & the Avails of Sorcery.

The club normally costs £18.95 for a year's membership (£24.95 in the UK) and brings you a top bi-monthly magazine, Confidential, five free games on joining, a Politics, competitions, and a host of other club activities.

What's more, Official Secrets members get free membership of another mail-order club, Special Forces, which saves especially on arcade titles and gives a 24-hour discount delivery service.

You can contact Official Secrets for more details at 2 South Block, The Maltings, Riverside Way, Gwent, Gwent, WENTY GENT GPO.

NEW INFOCOM TITLES ARRIVE...

And as we go to press, copies of Infocom's long-awaited Shogun and Journey drop onto our desks. We'll be bringing you a full review of both titles next month.

Shogun is a game we'll all have to watch it



(Above) Infocom's Journey: RPG meets text adventures. (Below) Shogun: graphics apart, it's still the best Infocom traditional adventure!

It currently has the only one title in the Infocom range that adheres faithfully to the old adventure recipe without any role-playing or arcade skills. Les there are in Journey and Gateswept. The only concession to 1989 is the addition of graphics, albeit very impressive ones. Whether this will be sufficient for today's market remains to be seen.

If Shogun fails, we may be looking back on it as the last pure Infocom adventure. Tempest, Night, or Claps?

Journey, on the other hand, is almost as important, but for another reason. This product is the company's main stab at the RPG-type-



market, in which most other companies are currently netting megabucks. If Journey makes the grade, that amount can have a real impact. If it doesn't sell...

Micro computing is a worldwide market because it gives us some idea of the state of the software market in the US. Right now, the signs are not encouraging. The company released several new games (Warrior's Den, Plundered Hearts etc.) in 1987 and have published almost nothing since. Now owned by Medagonic, they are not having an easy time, while companies like Origin, Electronic Arts and West Gate continue to reap large rewards.

Maybe the old time adventures should just lie down and die...See the Adventure Center next section for other points of view...

LEVEL 9 ENTER ROLE PLAYING ARENA

Level 9 have almost finished the development of their own animated adventure system which will enable them to produce a fully-fledged fantasy RPG by the end of this summer.

The first game is already under development, making Level 9 the first major UK software house to produce an RPG in several years. "We've already done a lot of the graphics," says Pete Austin, "and we hope to launch at the end of the summer. The game will be for the 16-bit machines only."

Meanwhile, Level 9 have set about to launch their latest graphics adventure, *Jaagepoot*. The player takes the part of a ghost believed responsible for committing a series of crimes. You must locate the victims and free their haunts.

"The puzzles in the game are all to do with you being a ghost," Pete reveals. "So surely you can't die?" "No, exactly," says the Level 9 master. "But you'll die quite a long time - and the part 2 you can't see is increased if you're not careful."

Jaagepoot's graphics are reputedly even better than those in *Argoth's* Black Watch. Use space for a review in the very near future.

NEXT MONTH

Next month's section is an adventure in itself. Not only will you get exhaustive reviews of the latest in-house products, but also a complete guide to *Role Playing Games* currently available in this country. These games cost money - make sure you get the right one by checking out the unique RPG guide in next month's ACE...



As the release of *Microbot's* *Shogun* shows, money isn't all holding our breath wondering what's going to happen to the traditional text adventure. Pete Austin of Level 9, Ty Newton from Australia, Craig Ryder of Bargaed, and Ian Urquhart of London have all got something to say about it.

What about you? This month's topic is 'The Future of Text Adventure', but you can always open a topic of your own. Your opinions will be printed here on the page, together with those of others in the adventure industry. There are prizes too - Ian Urquhart gets this month's prize for the best letter. Next month it could be you!

Topic: Ian Urquhart, London
Topic: Future of text-only games.

Text adventures have come a long way since the early days of few locations and puzzles so simple that they frequently defied solution...

In those heady days of yore, I was battling through the darkness in my CEMET. I've got nothing against the adventures of those days, but now - after the pleasures of slams dropping from the ceiling in *Jurking Horror*, or the marvellously crafted Floyd in *Starob*, *Planethal*, I can never look up a *Shogun* adventure again!

As for graphics, where else could a picture NOT be worth more than a thousand words? Just as I get bored with the likes of *The Hobbit* and *The Hulk* (remembered with fondness, even if there were THREE *demons!*) along came *The Plan* on the ST. Here the graphics and the adventure were so well synchronized that I felt *Microbot* would have over-

ACE ADVENTURE CONFERENCE

and shudder - which they seem to have done! On the larger machines, there can no longer be any conflict between text, puzzles, and graphics.

Graphics are going to oust the text-only games from the market. I don't necessarily think that's a good thing - I don't think looking forward would be quite the same if you could actually SEE the horror, and Floyd will always be sacred to my imagination.

From: Craig Ryder, Bargaed
Topic: Text adventures

Instead of the player picturing the character, world, and other creatures he meets in a game in his mind's eye, it's now all thrust into the screen in front of him.

This is a shame as no two people have the same imagination, so with the text-only games, the adventure was different for everyone who played it. Not any more...

The text and error three days don't involve playing the game, but finding one that tests the intelligence and imagination.

From: Ty Newton, Australia
Topic: The Future of Adventure

16-bit systems will create a new adventure scene with the true competition of the multi-user game. However like *Magnetics*, *Starob* and *Level 9* will still delude dedicated readers with their programs.

Finally, CD-ROM will enable software houses to create game environments only, into which the players can put their own characters and create adventures of their own...just the real life.

From: Pete Austin, Level 9
Topic: Text Adventures

Text adventures are going to keep on selling, but the real growth area is fantasy role-playing rather than 'pure' adventures. Our own animated adventure system is almost finished and I've been looking at the other RPG's currently available. I prefer to have a single character myself rather than a party. It just seems less obvious a choice as to which character you should use in which way.

Pete has also pointed out, on another occasion, that one problem with traditional text adventures is the puzzle element. There are a limited number of effective text-only puzzle possibilities. You can expand these using interactive characters, but role playing and attributes seem to offer more scope.



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Express your own opinions, argue with the experts, and even win a prize! Every month we'll send a mystery software adventure prize to the writer of the best letter. Write with 100% more love to:

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Don't forget to include your name, address, and details of your computer. There's no need to write a book - just a few words will do. In fact longer letters will almost certainly be edited for length. Be punchy!

ACE WARGAMES SPECIAL

Board wargaming has made the transition to computer screens fairly smoothly, and there's a wealth of military simulation software available. Andy Smith dons his general's uniform to check out the latest batch of wargames, while Zog contemplates the prospects of the pixel battlefield...

WARGAMES of the future will probably incorporate the lessons learned by such games as the Wargame Construction Set, Universal Military Simulator, Blood and The Ancient Art of War. Players seem to want realism in terms of how the landscape and units are modeled, but also like to get involved in the actual fighting in some way. My own personal favorite was always Art of War for the, since its simple use of the 'scissors/ paper/rock' idea for troop types was mostly grasped and still left lots of room for the player to make a total mess of everything.

Until very recently, some elements of conflict were simulated quite well in computer wargames while others were hardly addressed at all. For one, the fact that the full gory technical details of hand-to-hand fighting are missing is not the problem. The main design shortcoming has been the way in which the games tend to be modeled so if the conflict was a personal fight, in other words, the results of individual battles can often always be witnessed (at least) if they are tracked. In some games, you can even view the results during the individual phases of a round, and after your strategy on the spot is laid. This technique is ideal for modeling a one-on-one fight up some dark alley, but isn't a faithful representation of what happens when you are in a realistic war or battle.

Bonnie Brewster in ACE issue 120 comes much closer to addressing the problem of realistically simulating events on a battlefield by presenting you with a simple set of problems to those faced by a commander in the field - your orders have to be sent to units by message. The further away the units are, the longer the time that they will never arrive at all. A sniper may pick the runner off and your message may never get through, or the orders that are finally

WAGING

required may be antiquated in the light of changing events... Margaret, after all, are simulators for commanders, not of events.

FROM TABLETOP TO LAPTOP

Tabletop games spawned board wargaming, and gave rise to computer wargames, and in many respects the computer has the potential edge in terms of both realism and ease and convenience of play. To try to achieve realism in a tabletop game, huge terrain maps are covered with hundreds, if not thousands, of lead figures, on them. Moves and combat are achieved by applying rulers and bits of string to the look in hand after consulting massive tables of rules and tables. The only other approach was to throw the rules away and just get down to the gritty grime in simulated combat in games such as chess, where the rules are easy to learn and neither player starts with a material advantage.

Theoretically, a tabletop game taking up the entire East Wing of your stately home can now be accurately modelled with a few square inches of silicon chips and a disk file or two. This is, of course, fortunate for those of us who do not have a spare acre or so indoors, and lets you to play war wargames when the evening board is put away. Even if you do have the room for a traditional tabletop game, the computer can take much of the pain out of applying complicated sets of rules, a package such as *Capitaineer* from *Battle-Horizon* (1984, 1050.0) can be used in conjunction with lead figures and landscape models in real life. *Capitaineer* takes care of morale and casualty calculations, and introduces variables such as weather and the deaths of commanders as well as dispensing with written rules.

Security is of major importance when fighting a real battle, but is difficult to achieve on the top of a table without an invader. The more you can control your "view," as Star Trek, the orbital strategist, would say, the more you are in command of the situation. Computers allow some measures of secrecy—for instance, units can be placed at the start of a game but only revealed when they are spotted by soldiers from the other side. Of course, with two players using the same screen it is rather difficult to maintain your strategy flank attack. Nowadays though, more and more people have got their own computers. By using the power out of the back to connect two or more computers together, it is possible to get round this problem and going one step further, by using phone lines and modems, the players do not even have to be in the same room.

And of course, with the computer you don't need a friend to play with—virtually all

wargames include a computer-driven opponent to pit you into against. Not ideal for security because there is some truth to the rumour that computer opponents cheat by printing of your units in memory.

LOOKING TO THE FUTURE

As graphics get better, support the more towards proper line-of-sight and line-of-fire (LOS/LOF) ratings is continue. Every game has some sort of map of the terrain, and new perspective views are to be found too, but nobody seemed to bother offering the "soldier's eye view" until *Battlezone* came along. As well as creating more realism it opens all arguments by giving you a 3D view from your particular unit, and letting you look. This is more of a "cheat" feature as it is implemented in *Battlezone* than one that is truly useful for LOS/LOF considerations. But it's a start.

My ideal wargame would have a programmer of command for the whole army. Through maps you solve a problem which leads up to any game that has lots of parties—when you want the entire right flank to do something, you should not have to move each unit or soldier individually. The whole command setup is, if course, a good example of a classic tree structure, which should bother programmers brought up as spreadsheet and database—they should be able to apply familiar programming procedures to wargames.

At the top of the tree sits the Commander. He/she has orders and broad and semantic for instance "Advance into Forest". These orders are passed down the command tree, becoming more precise and refined in the process. A tactician may order a reconnaissance unit to check out the woods just outside a town—hurry, the landscape and his radar will give you a lead to "Move into the forest—now just west of you."

Individual small units of the battalions of the tree are primarily the units of the army, but also provide much of an army's services. Orders are interpreted, refined and the rough orders filled in as the commands move down the tree.

but realistic, intelligence or enemy movements and dispositions should be coming back up towards the General Staff. Intelligence involves gathering and assessing small pieces of information, and feeding them up into an overall picture that is useful for formulating strategies or modifying tactics. An ideal computer wargame should include a system for combining snippets of information gathered on the field into a picture that the player can view.

In the ultimate computer wargame of the future, all the handling of commands, orders and intelligence-gathering should be done—nearly all probably have to be screened out with some form of battle language—computers are still not quite good enough to work with true English. Of course, any movement in a system can have its dangers; if the word commanding something like a hostile tank appears and failed to obey orders, the possibility of a Court-Martial and demotion to *Armed Staff* (Shower). The data in the local state mustn't drift up on the cards in a more sophisticated wargame system.

When a realistic model of the combined tree which allows for any communication of information, being becomes much more important, something that chess players have known for centuries. Any sensible commander is aware that just because it is not possible the least sensible thing to do during a battle. As in chess, a final force, if spotted at the correct moment, can really throw a much larger oppo-



WAR

new. Unfortunately, if you are not in command of all your units directly in a computerized weapons, it is always a bit difficult for computerized officers to interpret the reasons behind your orders and do what you want them to. Unfortunately, you cannot blame them just for disobeying orders, but you can resort to making the company who sold you the game and trying to get your money back.

Finally there is luck. Chess doesn't allow for any at all, but in real life it exists. Guns, gas, shells fail to explode and a number 14 bus can appear at the bus stop just as you do. In any single fight there should be a large variety of possible results, which force the player to think on the feet and adapt plans. — a commander can never quite guarantee that other generals will succeed in halting an attack or that the entire tank force will not be held up by paratroopers who refuse to let it cross a bridge. We must continually have alternatives... and understand that sheer weight of numbers does not necessarily lead to success.

Eventually we should be able to play games that properly mirror warfare. The old adage that the plan survives contact with the enemy will properly apply, no matter it should, without the death and devastation of real fighting, we will still be able to practice competitiveness and flexibility of thought. Fighting does not, in itself, make people cruel or violent — it just puts back the veneer of civilization and exposes the bits underneath. It is a continuous, reorganizing in a way of finding out some things about ourselves rather than just being a mindless training for violence — and it can be argued that wargames offer much more of a cerebral challenge and much less of a negative influence than mindless shoot-em-ups that involve war scenarios.

Incidentally, if you ever get a chance to read *The Art of War* by Sun Tzu, go ahead. You may learn a few things. Businessmen have been known to study his writings just to try to develop that competitive edge over their rivals. And anyway, my book that was written somewhere around 480 BC and is still a standard reference work in military colleges around the world today must have something going for it. Wargames of the future will still make use of the principles involved, so if you are a wargamer, it's a vital work of reference.

The Art of War
 • Sun Tzu
 • Translation by
 S.B. Griffith
 • Oxford University Press
 • ISBN 0-19-501476-6

BATTLES OF NAPOLEON

SSI's French Emperor simulator

923

Recently military warg of Napoleon led the small town of Bourlens, France, in 1812, the Grand Armée led by Napoleon defeated Russian forces under the command of

Prince Kutuzov, but paid heavily for the success — indeed, by the end of 1812 the Grand Armée ceased to exist as a fighting force.

The battle for Bourlens is one of four scenarios included in this one or two player wargame from SSI; the other three included are Austerlitz, Quatre Bras and Waterloo. There's also a scenario-designer option that allows you create your own scenarios or get the computer to generate random hypothetical battles.

The game is divided into two main sections, orders and combat, each section made up of several phases. During the orders phase the first thing to do are assign objectives and leaders to your troops. Leaders play

RELEASE BOX		
IBM PC	224 Slots	OUT Model
IBM PC	225 Slots	Mid-My
Other models are possible.		

MEXICAN,

Warrness, Japanese, German and Korean troops (amongst others) have all suffered at the hands of the United States Marine Corps since they were first created in 1775. This one or two player wargame from the Australian Strata

go Studios Group is a battle history of the 2000 from 1847 to 1905.

There are eight historic confrontations to play, starting with Mexico City and ending at Hue. Each game lasts a set number of turns, with four turns per day (morning, noon, afternoon and night). Once you've decided which side to play it's time to issue orders.

Your forces are split into Divisions, and each player can have up to three Divisions depending on the scenario. The Divisions are subdivided into Regiments which are subdivided into Battalions. The smallest unit you can give orders to are Regiments. The role of a Regiment, Lt. whether it's engaged or in contact or not, away from an enemy unit, influences the kind of orders you can give.

Imagine you have three Regiments in one Division. Regiment One is engaged with the enemy, so you issue it an order to attack the enemy with an ASSAULT order. Regiment Two is in contact with another enemy and so you order it to PROBE the enemy lines. Regiment Three is behind your own lines and you want it to move forward toward the front line. Issue it an OBJECTIVE



The 2000 program to storm Hue. Assign objectives and prepare for battle.



The Guadalcanal scenario - figures prepare to assault The Great Redoubt.

an important part is a unit's efficiency). Once you've done that you enter the operations phase, where you move your units, alter their facing direction and select targets taking into account Line Of Sight (long for them to attack during the next phase. If you can't actually target an enemy unit because there isn't one in your LOS, but you suspect one may be visible in the next turn, you can target the empty square and any enemy unit entering the square will automatically be targeted).

Once you've moved all your units and are satisfied with things, hit the key and enter the combat phase, here all combat is resolved including artillery and missile fire, for both sides. Then the computer for your human



The Bunkerhoff scenario - changing the formation of a unit is simplicity itself.

opponent makes its moves and you start again at the leader assignment phase.

Each battle lasts a set number of turns (each turn equalling half-an-hour of real time) with full battle reports at the end of each turn giving you an up-to-the-minute account of how the battle is going. At the end of play the winner is the person with the most victory points, which are awarded for reaching and holding objectives and for destroying enemy units.

BOM is a complex game, but the game system is easy to work with. It's a great idea to be able to force the computer (if you're playing solo) to employ certain overall strategies; try selecting the Courtesanstock-Automatic setting if you're getting particularly good at a scenario!

CGI VERSION

The graphics and sound are as you'd expect. It plays a little slowly, but it's easy to pick up and the scenarios included range from small and simple to big and complex. The scenarios available ensure you'll be coming back for many months.

GRAPHICS 4 CG FACTOR 7
AGEING 1 FHM FACTOR 7

AGE RATING 925

And the designer option means you'll get plenty of play out of the game in either one or two player mode. Great stuff! **B**

PREDICTED INTEREST CURVE



A tidy system eases you into months of play.

HALLS OF MONTEZUMA

SSG join the United States Marine Corps

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order and you can cycle through a list of pre-determined objectives and order it to ADVANCE or the one you think proper.

Once all your units have their orders and you've assigned any independent Battalions to any regiment that requires it (an artillery bat-

ion assigned to Regiment One in the example may be a good idea) it's time to think about allocating air support to the regiments that need it (obviously the weather plays a major part here). Then hit the key and watch the results of the movement and combat.

Winning any scenario is decided by victory points which are awarded for reaching and holding objectives and destroying enemy units. So familiarise yourself with not only the system, but with each scenario, it's a good idea to edit things slightly in your favour. For a start, you can select either an enhanced (where random-

PC VERSION

The graphics are basic, especially for CGI machines, but they're nothing new and don't detract from the game, which plays well.

GRAPHICS 4 CG FACTOR 7
AGEING 1 FHM FACTOR 7

AGE RATING 924

but powerful benefits are given to the computer player) or a normal game, and whether either side should have any sort of advantage.

The nature of the battle varies with the scenario, as does the scale of the map; for example, the Pusan scenario is fought over a much larger area than the Hue scenario, which of course affects your strategy and tactics for each scenario (as far as the composition and disposition of the enemy force).

Halls of Montezuma plays a tough game, especially if you limit set, for yourself and give the computer a few inherent advantages (as suggested in the manual accompanying the game). The ordering system is easy to use and with the built-in designer option, that allows you to alter existing or create new scenarios, you're going to be playing this for some time. **B**



In Bataan Wood, you're commanding allied troops as well as Americans here.



The Hue scenario. Different tactics are called for in this street fight.



Easy to play with plenty to keep you busy.



Assigning objectives to your units is the strategic element, so make sure the Game Master has assigned the right forces waiting to repel a bridge.

916

This is the third and final chapter in the series of SSG games covering the most important battles. How well you'll do depends on the first "modern" war.

It includes six of the battle-known battles, including Atlanta and Spotsylvania. The others are Wilderness, Tennesse, Cold Harbor, Manassas and Franklin. Each scenario lasts a set number of turns, the winner being the person who's a one or two player game who

DECISIVE BATTLES OF THE AMERICAN CIVIL WAR VOLUME III

SSG's final chapter

controls the most strategic points during the game by reaching and holding objectives and destroying enemy units.

There's an orders and combat phase for each turn, the orders being given to individual units via menus. In each the game was set for *Battle of Manassas*. Though the system is similar, there are differences to reflect the time period: for example, turn the out-of-place modern video color off and your lines of communication to HQ's and subordinate units are more visible and much riper, being influenced by the weather and the tide, which

makes it a much more exciting game especially when you opt for hidden movement as well.

SSG have come up with the goods again. The system is easy to use and the game plays well. It's take months to work through every scenario and every option and then you can go back and create your own scenarios with the designer modes included. **B**

RELEASE BOX		
CD/CD	£19.95	CURRENT
IBM PC	£24.95	OUT NOW

CG4 VERSION	
Graphics and sound are fine, the game plays well, and you should get hours of entertainment from it.	
GRAPHICS	5
VIDEO	3
AUDIO	3
PLAY FACTOR	4
AGE RATING	9-16



ENCYCLOPAEDIA OF WAR: ANCIENT BATTLES

CCS bring on the elephants

RELEASE BOX		
CD/CD	£19.95	OUT NOW
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SPECTRUM VERSION	
The package comes with two tapes. 1280 users only need the one tape which contains the main program and the scenarios. 486 users need to use both tapes, and they are unable to fight the Cleopatra scenario.	
GRAPHICS	5
AUDIO	5.5
PLAY FACTOR	5
AGE RATING	7-12

PC VERSION	
The graphics are very basic and you can forget about sound. The ordering system is friendly and takes you time to get to grid with.	
GRAPHICS	4
AUDIO	5.5
PLAY FACTOR	5
AGE RATING	7-12

KICKING off RTS fan's series of wargames chronicling warfare from ancient to modern times, is this magazine covering ancient battles - complete with ancient units including elephants and scythed chariots. The one or two player game comes complete with five scenarios and a design option that allows you not only to mix and match a variety of armies but also to design maps and scenarios.

The sequence of play starts with the issue of orders to your side (the numbers of orders allowed depends on the number of units you have on the field) and then involves waiting while your opponent does the same before combat (including both ranged weapons and hand-to-hand) is initiated and your units get another chance to move. Issuing orders is simple: select a unit, move the cursor to the desired spot and hit enter. Then decide which units should follow the ordered unit and which units should go elsewhere.

It's not as detailed, or as good, as his previous games, with the number of options open to you during play being limited, but it plays well and the design option means you'll get a lot of play from the game. Worth looking at especially if you're interested in the period. **B**



Adding for reports on your units provides you with useful information.



BREACH

OMNITREND's Space Marines

If you read the Paladin review in ACE Issue 13, you should have some idea of what Breach is all about. For those of you who don't, it's a simple tactical wargame, with 10 missions for you to complete (each scenario disk containing 16 missions are available). You control a small squad (the actual number depends on the scenario) of Space Marines, one of which is the squad leader. Complete the mission and you'll find your squad leader's attributes upgraded (allowing accuracy for increased; allow him to be killed, though, and you have to create a new squad leader by using the scenario-loader that's incorporated, allowing you to alter existing scenarios or create entirely new scenarios.

Every mission is timed, and has a different

RELEASE BOX

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AMIGA	CD-ROM	OUT NOW
IBM PC	CD-ROM	RELEASING*
MS-DOS	CD-ROM	RELEASING*



Squad leader Marathon prepares to take out some alien opposition.

algorithm; for example, the Breacher scenario requires you to breach some prisoners from an alien complex within 30 minutes of game time (each turn lasts 30 seconds of game time). Movement during the game depends on the individual squad member's movement points. Points are used up by moving, firing, picking up objects and so on. Since you've used up all your squad's movement points, click on the icon and the computer moves its forces.

Breach is very easy to play and is a solo game if it's not full blast. There are some ammo

AMIGA VERSION

As in Paladin, the graphics are very simple but the sound effects are good. If you're after an easy-to-play game in the AmigaBreach mould, you could do worse.

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

ACE RATING: 75/100

ing parts of the game (you can't move through a turret occupied by someone else for example, causing you to make frequent and costly detours) but since you know about them, you can compensate. The overall verdict is simple but playable, and the designer option will keep you busy for some while. ■

PREDICTED INTEREST CURVE



Easy and enjoyable to play

FIRST OVER GERMANY

Fly through the air with SSI

ENGLAND, 1942: The American 82nd Airborne Group arrives at their new base in Duxbury in help in the war effort. They begin in time with 100 and take charge of one of 2000 B-17's. It's not if you've got what it takes to win (provided).

Before you get off on any of the 25 missions included in the game, you'll have to get used to flying one of these huge planes. So there are a couple of training missions for you to complete first, including takeoff and landing practice, takeoff and landing with a group of other planes, and landing practice.

It's very easy to fly the plane, so it's not long before you're into the missions and the



Behind the screen, the correct view and prepare to show them before they attack you!

game proper. You view the plane from directly above with the simplified movement panel taking up the bottom portion of the screen. Should you run into enemy fighters, the action switches to a cockpit view with a report of when the enemy plane (the Bofors 4, is 'Bogey at 3 O'Clock low'). Then you hit a key to switch to a gun battle in a position to shoot at the enemy and try to blow him out of the sky before he can inflict any damage on your craft and jeopardize the mission.

First Over Germany is much more of an arcade game than it is a strategy game, so don't expect anything more from it. As an action game, though, it's quite fun, and the 25 missions available should certainly keep you playing for a while. ■



RELEASE BOX

CGA/CD	CD-ROM	OUT NOW
IBM PC	CD-ROM	Mid-April

OS/4 VERSION

The graphics and sound are fine. It's very easy to get into and play, but you'll have completed it in a relatively short time.

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

ACE RATING: 72/100

PREDICTED INTEREST CURVE



More on side than wargame. Simple fun.

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also defeat the massive laser reactor that fueled the planet. It was decided that single fights skilled pilot in an armed ground skimmer might succeed where fifty would surely would surely fail. Use a feel your valiant!

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Steve Lambert Ace
April '88



960
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STYX WINDS

Guide your ship through acid bubbles, demon dragons, goat heads and more in search of diamonds - possibly the strongest release in terms of playability.

ZYNAPS

One of the best shooters to date, quality graphics whilst being space-ships and accumulating weapons.



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ACE GREAT GAMES

POWERPLAY

FROM ARCADE

The stunningly original quiz game for one to four players of all ages. Over 4,000 questions on 20 topics. The object is to ZAPP the other guys' pieces,



which involves moving adjacent to them and engaging them in combat. This is easier said than done though because of the way the games' quiz elements intrude. Get the questions wrong and you're in one of three zones: Modular Cave, a mountain-top or a lava pool.

"If you are thinking of buying a quiz game this has to be the one!" Andy Wilson, Ace

FROM ORIGINAL INTEGRATED

Based on the classic F-16 Fighting Falcon the flight simulator takes you through four basic game-playing, as well as five missions, a campaign game and is one-to-one flight. As squadron leader, lead your crew on weapon loading and then proceed as all from enemy missions. The mix between 3D and realism is terrific! Andy Smith for May '88 See the full review in the issue!

F-16 COMBAT PILOT



952
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903
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There's no point owning a console without games to play on it. But what's out there? Here's the ACE guide to console games that are available NOW.

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ACTION FIGHTER

• \$22.95 cart
The shockwave features a multifaceted character to be seen in play. He, too, is battling with lightning weapons, but only that, for it can't be used in an attack or vice...

AFTER BURNER

• \$24.95 cart
This classic version of the infamous arcade game, featuring lightning action, it's Back to Back.

BLAZER BIRD

• \$22.95 cart
Journey through the great area to the city of Babylon and save it from the evil power the Great. The game is an action adventure with big labyrinth levels. It's got loads of space for younger generations.

BLEED BIRD - THE LAST STARS

• \$24.95 cart
The sequel to the good game. It's almost the same as the original game, but this time you're out to reform some stars that have been snatched from the heavens above the planet Aris. Again, for younger generations.

ALAN SYMMONDS

• \$24.95 cart
A revised 800-words text full of word-search games set in space. You have to discover letters trapped on various levels of an alien satellite. Features huge, grotesque and alien guardians.

ARCADE WARRIOR/

DOT PUNK

• \$20.95 cart
Two games on one cartridge

here. Aris Warrior's a simple Space Invaders-style shoot-'em-up and its Dot Punk is a simple maze game. Both games are simple but enjoyable.

ARCADE ADVENTURE

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This one is the legendary Aris. Paraphrase and learn to fight your way through the labyrinth created by mysterious alien invaders. Lots of items, man stars and spots.

ARMY BIRD

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Sega's version of the ancient arcade game where you have to shoot back soldiers as they come into the bank and then shooting the incoming soldiers and also depositing money.

BLAZE BIRD

• \$22.95 cart

This is a re-creation of last group in which you have to prove you're worthy of staying in Back left by defeating numerous enemies.

CAPTAIN SILVER

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Another old arcade game this. You're flying a helicopter across horizontally-scrolling screens, bombing badies and rescuing goodies.

ENDLESS RACER

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Climb aboard your Car like and go racing against the clock, over virtual courses complete with bumps and other odds to avoid.

FRIGHT ZONE

• \$22.95 cart
Another one for younger generations. Huge, colorful levels abound as you build your mad gathering crew, to buy parts and arms for your spaceship. Then you're ready to blast some aliens.

FIGHTER ZONE II

• \$24.95 cart
The sequel to the above game it's back to the same set, plus a few extras.

F16 FIGHTER

• \$14.95 cart
In a plot of an F16 Fighting Falcon, your mission is to take out and destroy as many enemy aircraft as you can while remaining airborne.

GLADIATOR FIGHT

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You use the Light Phaser. You're an F16 again in the F16's, starting a gang of computers. There's only one rule - shoot, fire, and conquer them.

GLOBAL DEFENSE

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This is one of the more simple coming through. Great. Great's featured bonus. Items, etc.

GLOBAL DEFENSE

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GREY MARSHALL

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reflecting items and being busy from the other way when you're using the game.

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BUZZO BROS

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High-speed four-way take action, with a mix of all and other worlds.

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A vertically-scrolling platform game.

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PCS - WHAT HAVE THE

Erstwhile PC PLUS editor, Matt Nicholson, gives us the low-down on PCs and how they measure up against today's 16-bit machines. If you're thinking of upgrading your system, is a PC a viable option?

Should you buy a PC? The specification the IBM PC is offering is well known about, particularly when compared to modern 16-bit machines. Nevertheless, the PC offers considerable fun outside of the Amiga, ST and Macintosh put together - by at least a factor of ten. The reason is simple: those three let you do **IBM**.

IBM sales for the biggest computer manufacturer in the world, and has been since the mid-1970s. To give you an idea of just how big, consider this: between 1980 and 1987 the rest of the industry made a combined total of over 11,000 SBCs. IBM made a profit of over \$100 million. This is the reason behind Commodore's decision to market its 16-bit computers. This is largely irrelevant to the home user, as by far the greatest part of IBM's business is in mainframe and supercomputers. However, back in the early-1980s IBM invested in PC. The Personal Computer, and its inevitable successor, had just an inevitable success. By becoming the dominant force in a relatively computer-free field, using leading large companies that young, vibrant companies like Apple and Commodore. IBM was a name they knew and could trust.

Today's gets better for buying IBM - at the all-ages price.

Other companies, unable to join in the bandwagon, started copying the IBM design and producing various less credible IBM software. The PC became a standard and now probably over 90 percent of the success outside the workday are compatible.

WORKING PLAYING

The original PC was designed very much with the home environment in

mind - if you have a suitable port, could be plugged into a PC and hooked up to a version of the BASIC programming language and the only other home computer. In the days the IBM PC was seen as a home machine from the start, but the PC is not Alan Kay's to learn the PC 16-bit architecture. IBM used at least a 16-bit feature PC compatible was available in high-speed chips than a same analysis time. The PC design became viable as a home computer in the US.

There are however a huge number of PC designs around, ranging in price from a couple of hundred to over £1,500. Depending on how an IBM can perform in the way you

SOFTWARE

The fact that the PC hardware could send almost anywhere in the States for the last eight years, meant that there was a considerable base of games software ready for the desktop PC 16-bit. Although some of the US titles are a bit dated, at least they are not just games of trivia or C&G games. Indeed many great titles are on any machine would be PC, in an only just slightly different form.

Microsoft's (Open Systems) for example, and many other home computers and desktops, but the PC-only. Microsoft's PC computers have started producing PC versions of their own and other titles. Many games however now regard the PC as important. It started at the Amiga, although sales tend to be considerably lower than for the ST. Games prices tend to be competitive, too.

But without doubt the PC's strength is its business software. For many word processors or spreadsheet

on the Amiga or ST there are few or fewer for the PC, many cheaper and more powerful. If you are looking for a game machine the PC is not the best choice, but if you want to use business with pleasure the PC is a superb choice.

HIGHER SPEEDS

The basic PC used an 8088 processor running at 4.77MHz, and not almost too slow to meet the label 'fast'. Most owners these days use the faster 8088 processor running at 8MHz which, though not nearly as fast as an Amiga or ST, is considerably faster than most 8-bit machines with the possible exception of the BBC Model B.

Most come with at least 128K of RAM, and 640K is now the norm. It is not surprising then that 640K or 1MB into a basic PC as the 8088 operating system - under which most software runs - will recognise the extra. There are ways round this, but the three most popular hardware and software options of the PC are a 1.25MB 720K floppy, with just a single 1.25MB 720K floppy disk drive, or the full second 1.44MB floppy drive.

The 8088 introduced the Intel 80286, a new 16-bit processor based at 10MHz. Most come now with at least 1.25MB, and some 20MB is becoming common, resulting in a machine that can run as fast as an ST or Power. Prices are rather higher, with basic monochrome machines costing at around £1,500. A hard disk with about 10MB capacity, such as the new Amstrad PC1500, would cost more - £2,000.

The latest 80386 computers use the 33MHz 80386 processor running at anywhere from 10 to 20MHz, and are well capable of matching the competition almost corner to corner. However these machines are pricier: the cheapest would cost you back over £2,000 for a colour machine with 4 Mbytes of memory and 40-100Mbytes hard disk.

Although several budget priced PC computers have recently been launched, such as the Zenith 3300, Schneider's Euro PC or the Olivetti PC 1, it is the faster and more expensive machines that are better when it comes to games. Many high simulation are only really playable on a 33MHz or even 60MHz machine.

GRAPHICS & MONITORS

By a considerable margin, the IBM PC is extremely out-of-date what it comes to the display. This is largely due to the modular nature of the PC, as the electronics that drive the screen

are usually mounted on an expansion card, called a Monitor Adapter (Monitor Adapter), which means that they can be changed at will.

The original PC came with an extremely low first-only display, called the Monochrome Display Adapter (MDA), or with a rather nice dual Colour Graphics Adapter (CGA) that was capable of displaying a number of graphics modes. The latest mode displays four colours at a resolution of 300x200 pixels, and it was the mode that was used by most game authors and users. The CGA adapter is also capable of displaying monochrome graphics at 70x200 pixels at a resolution of 640x200, this last being the most common mode for business software.

A further evolution of the colour display is the only three combinations of four colours can be used - the most common being a light blue, red and white. Some games, mainly sports, simulate with green, red, yellow and black.

To make up for the low text quality of CGA, Hercules introduced the Hercules Graphics Card (HGC) which could display high quality monochrome graphics and high quality text. It became very popular and is still the standard for monochrome displays, providing a resolution of 720 by 400 pixels. However, although it is compatible with VGA when displaying text, it is totally incompatible when colour graphics. Games software written for VGA graphics will not run on a HGC machine.

IBM eventually produced a direct display with the Diamond 4000 (Diamond 4000). This offers a resolution of 640x400 pixels at a resolution of up to 640 by 400 pixels. It is fully compatible with VGA and CGA, but needs to be connected to the graphics controller written by a Hercules display. It is not the standard for colour graphics on IBM compatibles, and most games now support both CGA and EGA - colour, such as adventures from Bregina Formula, only display colours on the CGA version. The Amstrad PC1512 offers VGA graphics in both its colour and monochrome modes. Connecting colour to a 16-bit PC is the most common choice. It also offers a low resolution mode that permits a small resolution to EGA, but is totally incompatible. Little software has been written for this mode, although it is supported by the heavily 32-bit version and most software packaged with the machine.

The Amstrad PC1500 offers either colour CGA or EGA on its



THEY GOT TO OFFER?

video available — or frames on the monochrome version. This generated considerable confusion when it was launched as many assumed that it had lost the example of the more 15.12 and were disappointed to find it would not run most games.

In 1987 IBM introduced the VGA display. This can display all EGA modes, plus several others including 16 colours, at a resolution of 640 by 480, and 256 colours at a resolution of 640 by 350. The colour for this text mode can be selected from an amazing 262,144, making it capable of displays that from a distance look as clear as a photograph, and are better by the equal in the long-run. The mode does, however, require an analogue monitor for display which tends to cost around £120 more than the usual 750 monitor. Other modes can be displayed adequately on an ordinary monitor.

Most 286 and 386 compatibles offer VGA display, V80 is not yet out for the public but wanting to fit in here was with business, but is where the future lies.

SOUND

The IBM sound capabilities are available by their design. There is a soundcard, but that's about it — the only sound the machine itself supports is stereo.

Programmers have used all sorts of clever techniques for generating more interesting sounds, and indeed most games manage the job very well. Grayscale Computer has this article includes a list of board of

sampled music, but is one that bought a PC for its musical prowess.

But for those with the money, the PC is worth considering. There are a number of intelligent MIDI interface expansion cards available for around £120 that, with the right software and MIDI instrument, turn the PC into a full MIDI controller — rather more powerful than the Atari in fact, as the 17V bus in MIDI port is only passive.

DRIVES

The standard PC uses 5.25-inch floppy disks each storing 360K of data, and most software is issued in that format. The AT design also uses 5.25-inch disks, but employs 1.2 Mbyte cards that, at 3.5-inch format, contain 360K disks, but some of the copy protection systems used by game publishers cause problems.

IBM chose to put the rest of the world with its PC2 range, and fitted 3.5-inch disk drives. These store either 720K or 1.44 Mbyte per disk, and do come in cartridge or with software publishers. Most software these days is either issued in both 5.25 and 3.5-inch format, so you can exchange the 5.25-inch disk with the publisher for a 3.5-inch version.

You can also still find disk drives in any IBM compatible which use more stuffing (up to 20 Mbyte capacity) and are considerably faster. A 20 Mbyte drive for the PC can be had for around £300.

WIRE & JOYSTICKS

Many software packages will also test for a mouse or a joystick. The



Microsoft mouse has become a bit of a standard item, although this is quite expensive. The friends of PC282 and 1640 both come with a mouse, but unfortunately it is not totally compatible with the Microsoft mouse — it usually works fine, but seems to have problems running with Microsoft software.

The original IBM design also catered for a joystick in that it included an expansion card that could be plugged into the PC, and which provided 40 sockets for one or two analogue joysticks. The catch is the price: compatible joystick cards cost around £25, while the joystick card would £30. Fortunately the two are often bundled together — for example, the £40 kit for £30. The standard PC2 82 and 1640 also come with a joystick socket, but this is for a standard Atari-style and is not completely incompatible with the IBM interface. Most MS software supports the IBM interface, while most UK soft-

ware provides an Amstrad option as well. The good news is that the standard joystick is effectively part of the keyboard, so if the software allows you to configure the keys it is generally possible to substitute joystick movements instead. It has been dropped on the PC2000 range.

386 MACHINES

If you either right hand would buy an IBM clone and to play games — you would need to spend thousands to get a machine anywhere near the spec of an Amiga 25.

Nevertheless, as a machine for doing serious work, the PC is second to none, and 386/387 tend to give games machine status. If you work from home, or if you frequently bring work home, the PC is an ideal purchase. Use a PC, and you will never end up in a cramped, hot, backward, office.

MAIN MACHINES

Make & model	Price (c. 1987)	RAM	Processor	Drive	Display Adapter	Software	Comments
Standard PC200	£574	512K	8086 8MHz	3.5" 720K	CGA colour	IBM and Basic Four games	Comes with joystick.
Schneider Euro PC	£621	512K	8086 10MHz	3.5" 720K	CGA colour	Microsoft Works	Limited expansion.
Obolts PC1	£574	512K	840 8MHz	3.5" 720K	CGA colour	First Choice package	One expansion slot.
Amstrad PC1640	£808	640K	8086 8MHz	5.25" 360K	EGA colour	IBM and Basic	Three expansion slots.
Amstrad PC2085	£852	640K	8086 8MHz	3.5" 720K	VGA colour	Windows and Basic	Price for single floppy disk.
IBM Model 30	£1491	640K	8086 8MHz	3.5" 720K	None none	-	Price for both floppy drive.
Amstrad PC2386	£1323	1M	80286 13MHz	3.5" 1.44MB	VGA colour	Windows and Basic	Price for both floppy drives.
Amstrad PC2586	£321.9	4MB	80386 20MHz	3.5" 1.44MB	VGA colour	Windows and Basic	Price for 62MB hard disk drive.
IBM Model 70	£1467	3MB	80386 25MHz	3.5" 1.44MB	VGA	-	Price with 128MB hard disk drive.

CONSOLE HARDWARE UPGRADE GUIDE

	SEGA	NINTENDO
RANGE	MasterSystem, MegaSystem Plus Includes Light Phaser and an extra game and The Super System Includes Light Phaser and 30 games, plus 30 game.	The Control Stick (including Super Mario Bros), the Deluxe Set (including Robot R.O.B. - and Super) set.
PRICES	The recommended retail prices are: MasterSystem £179.95, MegaSystem Plus £209.95 and the Super System £179.95. Accessories: Light Phaser £29.95 (both game cartridge £69.95), 30 games £29.95, control stick £14.95 and control pad £6.95 - note, the controllers which were used with the control pads are no longer available. Sega have also recently released a road kit and costing £3.95.	The recommended retail prices are: Control Stick £69.95, Deluxe Set £149.95, Copper gun £29.95, R.O.B. £69.95 and joystick £29.95.
MONITORS	AV out and RF out. The systems designed to plug straight into a TV.	AV out, separate audio and video out sockets. The Nintendo is designed to plug straight into a domestic TV.
DRIVES, MICE & JOYSTICKS	The console supports two joysticks, the Light Phaser plugs into joystick port two. The 30 games slot into the cart slot on the front of the console. Joysticks and pads have two buttons on each for game selection/ firing.	The Nintendo supports two joysticks. The robot utilizes the second port via the second controller.
SOFTWARE	Most of Sega's arcade games find their way onto the console, so there are plenty of earlier games to play. There are also a large number of games with extra appeal to younger gamers/owners.	Super Mario Bros is one of the best games ever released, for either console or home computer so it's almost worth owning a system for that one game. Since the Nintendo launch is late '85 the range of software has been patchy. The Japanese and Americans have had hundreds of games to choose from whereas we have had just precious few. Nintendo states that's all about to change though, and will be releasing 2-4 games per month.
PROSPECTS	The Sega console has dominated the UK console market for the last year-18 months, thanks to Nintendo's poor launch into the market at the end of '84. Games have since continued to come out at a steady rate of 4-5 per month for the console, and will continue to do so.	At the time of going to press the prospects look good, but again the prospects looked good when the machine was first launched.
OVERALL	If all you want to do is play games, all you need is a console. The Sega is currently the better supported machine but the Nintendo may soon start giving it a run for its money.	The Nintendo is a great machine, most of the software arcade style games, but there are some educational titles available. The Japanese machines can be fitted with extra disk drives and other add-ons but the British models can't as yet, so you're still only going to be able to play games on the machine for the foreseeable future.
RATINGS	Graphics 4 Sound 3 Software: Range 3 Quality 3 Prospects 4	Graphics 4 Sound 3 Software: Range 1 Quality 3 Prospects 3

PINK

WARRIOR

COMPETITION

What would we do without Woody from US Gold? The kind lady has already given us loads of *Disappearance* books to give away as prizes, and now she's giving us yet more! *Disappearance* takes it a three volume set of exciting...erm... tales. And *Warrior* is a two volume set all about...well for I, well for I... horses.

To win this glorious, sparkling 'wonder' swap my new one for two old ones' prize, all you have to do is do the 'Share 'n' Swap' it, send us a postcard or stack-down envelope telling us in what year the title of the *Lancer* started and finished. Send your answers to: PINK WARRIOR, ACC at the back address and make sure they arrive before May 5.

LOOK BOOKS!

So, just how heavy were those special collector's editions of *Disappearance Chronicles* and *Lancers*? You had some pretty wild guesses, ranging from 1,000 grammes to 5,500 grammes. The actual answer lies etched on our postal sealed was 2089 grammes. We are glad it split on, but the closest guess of 2119 grammes came from D. Us of Concorde. Congratulations, and they'll be in the post soon.

A PUNNY THING HAPPENED ON THE WAY... ETC

Great! So more! No more! The Pink Plans you sent in were AWFUL! Truly terrible - they've had the office in stitches for weeks, well done.

Some of the wittier ones included: The *Sound Of* Despair, and *Padder on the Hoof* from R. Nichols of Brentford. Roy Ray had a few goodies: *Run Silent, Run Deep*, *One Day One Year*, *The Cockoo's Nest* and *Barbaric* - *The Search For Flock*. Daniel Barnett of Swanton gave us a chuckle with *Good Morning Vietnam* and Peter Young nearly scooped the prize with, amongst others: *RollerPace*, *Rock Metal Jockey* and *Crab Gas*. But the winner has to be Paul Bowden of London with the classics: *The Lancer That Time Forgot*, *An American Warrior in London*, *Dante's Horse*, *Lancers* (a cracker that) and the recent-to-be-topgun *A Runaway With A View*. Well done Paul, and cheers for pointing out the following RAA, too: *Star*: *The Shearman* (1984) starring Gene Ford, *Lady Caroline Lancer* (1900) starring Laurence Olivier and the French film *The Sheep Has Five Legs* (1994). You had more fun with the *Chronicle Post*!

SOLUTION TO PRIZE CROSSWORD NO12

The first correct entry pulled from the sack came from Christopher from Beckenham in Kent. The completed crossword should have looked like this:



THE ACE PRIZE PUZZLE NO14

Well this is not another crossword - it's a cross number! All of the values in the grid are based on three unknowns, represented by the letters A, C and E.



CLUES

- 1. A
- 2. AC
- 3. A (squared)
- 4. E (squared)
- 5. A-C-E
- 6. C
- 7. A
- 8. C (squared)

Simply fill the values for A, C and E. Compute the missing numbers and fit them all in the grid. Easy! - or is it?

Instead of trying to work this out with pencil and paper, why not derive a simple listing that will allow your micro to solve it for you?

I THINK

As

Cs

Es

NAME _____

ADDRESS _____

COMPUTER OWNERS _____

SEND YOUR ENTRIES TO: ACE PUZZLE 14, BOX 4, GARDEN STREET, WATFORD, MID. Herts. GUARDIAN DATE MAY 17TH 1985.

NEW FOR YOUR COMMODORE FROM TRILOGIC!

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Now Amiga's audio features give users performance unprecedented with other micro software packages. Now you can fully computerise your digital recordings. Pressures and timing are controlled by software. Recording is easily controlled using analog equipment, using the software. An optional kit is available for connecting to the standard audio or line output of a radio, stereo tuner, cassette deck, or other analog equipment. The optional 'Master' kit is available which has stereo versions of Audiotape 1 & 2. Prices listed are with 12 month warranty on Amiga. **CALL FOR PRICE & FACTS ON THIS AND ALL OTHER TRILOGIC PRODUCTS**

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- VCR/DECK OPERATION
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The new leads to connect all AMIGAs to your TV or video monitor produced by us are well liked. All leads are a multi colour system that bring the computer into the real world. All leads are built with high quality materials and are guaranteed to last. The individual cables are well tested to ensure that they will last.

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Computers

01-885 0800



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Discounts to the end of April - see last month's ACE or please for details.

Please State a Dealer's to Claim Status at Mail of Advertiser

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Available from: 9.00am to 5.00pm each day from 22nd to 29th April - 10.00am to 5.00pm on 30th April

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299.00	286	386	299.00	286	386
399.00	386	486	399.00	386	486
499.00	486	586	499.00	486	586
599.00	586	686	599.00	586	686
699.00	686	786	699.00	686	786
799.00	786	886	799.00	786	886
899.00	886	986	899.00	886	986
999.00	986	1086	999.00	986	1086
1099.00	1086	1186	1099.00	1086	1186
1199.00	1186	1286	1199.00	1186	1286
1299.00	1286	1386	1299.00	1286	1386
1399.00	1386	1486	1399.00	1386	1486
1499.00	1486	1586	1499.00	1486	1586
1599.00	1586	1686	1599.00	1586	1686
1699.00	1686	1786	1699.00	1686	1786
1799.00	1786	1886	1799.00	1786	1886
1899.00	1886	1986	1899.00	1886	1986
1999.00	1986	2086	1999.00	1986	2086
2099.00	2086	2186	2099.00	2086	2186
2199.00	2186	2286	2199.00	2186	2286
2299.00	2286	2386	2299.00	2286	2386
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2499.00	2486	2586	2499.00	2486	2586
2599.00	2586	2686	2599.00	2586	2686
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2799.00	2786	2886	2799.00	2786	2886
2899.00	2886	2986	2899.00	2886	2986
2999.00	2986	3086	2999.00	2986	3086
3099.00	3086	3186	3099.00	3086	3186
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3299.00	3286	3386	3299.00	3286	3386
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3799.00	3786	3886	3799.00	3786	3886
3899.00	3886	3986	3899.00	3886	3986
3999.00	3986	4086	3999.00	3986	4086
4099.00	4086	4186	4099.00	4086	4186
4199.00	4186	4286	4199.00	4186	4286
4299.00	4286	4386	4299.00	4286	4386
4399.00	4386	4486	4399.00	4386	4486
4499.00	4486	4586	4499.00	4486	4586
4599.00	4586	4686	4599.00	4586	4686
4699.00	4686	4786	4699.00	4686	4786
4799.00	4786	4886	4799.00	4786	4886
4899.00	4886	4986	4899.00	4886	4986
4999.00	4986	5086	4999.00	4986	5086
5099.00	5086	5186	5099.00	5086	5186
5199.00	5186	5286	5199.00	5186	5286
5299.00	5286	5386	5299.00	5286	5386
5399.00	5386	5486	5399.00	5386	5486
5499.00	5486	5586	5499.00	5486	5586
5599.00	5586	5686	5599.00	5586	5686
5699.00	5686	5786	5699.00	5686	5786
5799.00	5786	5886	5799.00	5786	5886
5899.00	5886	5986	5899.00	5886	5986
5999.00	5986	6086	5999.00	5986	6086
6099.00	6086	6186	6099.00	6086	6186
6199.00	6186	6286	6199.00	6186	6286
6299.00	6286	6386	6299.00	6286	6386
6399.00	6386	6486	6399.00	6386	6486
6499.00	6486	6586	6499.00	6486	6586
6599.00	6586	6686	6599.00	6586	6686
6699.00	6686	6786	6699.00	6686	6786
6799.00	6786	6886	6799.00	6786	6886
6899.00	6886	6986	6899.00	6886	6986
6999.00	6986	7086	6999.00	6986	7086
7099.00	7086	7186	7099.00	7086	7186
7199.00	7186	7286	7199.00	7186	7286
7299.00	7286	7386	7299.00	7286	7386
7399.00	7386	7486	7399.00	7386	7486
7499.00	7486	7586	7499.00	7486	7586
7599.00	7586	7686	7599.00	7586	7686
7699.00	7686	7786	7699.00	7686	7786
7799.00	7786	7886	7799.00	7786	7886
7899.00	7886	7986	7899.00	7886	7986
7999.00	7986	8086	7999.00	7986	8086
8099.00	8086	8186	8099.00	8086	8186
8199.00	8186	8286	8199.00	8186	8286
8299.00	8286	8386	8299.00	8286	8386
8399.00	8386	8486	8399.00	8386	8486
8499.00	8486	8586	8499.00	8486	8586
8599.00	8586	8686	8599.00	8586	8686
8699.00	8686	8786	8699.00	8686	8786
8799.00	8786	8886	8799.00	8786	8886
8899.00	8886	8986	8899.00	8886	8986
8999.00	8986	9086	8999.00	8986	9086
9099.00	9086	9186	9099.00	9086	9186
9199.00	9186	9286	9199.00	9186	9286
9299.00	9286	9386	9299.00	9286	9386
9399.00	9386	9486	9399.00	9386	9486
9499.00	9486	9586	9499.00	9486	9586
9599.00	9586	9686	9599.00	9586	9686
9699.00	9686	9786	9699.00	9686	9786
9799.00	9786	9886	9799.00	9786	9886
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1301.00	1301.00	1401.00	1401.00	1501.00	1501.00	1601.00	1601.00
1701.00	1701.00	1801.00	1801.00	1901.00	1901.00	2001.00	2001.00
2101.00	2101.00	2201.00	2201.00	2301.00	2301.00	2401.00	2401.00
2501.00	2501.00	2601.00	2601.00	2701.00	2701.00	2801.00	2801.00
2901.00	2901.00	3001.00	3001.00	3101.00	3101.00	3201.00	3201.00
3301.00	3301.00	3401.00	3401.00	3501.00	3501.00	3601.00	3601.00
3701.00	3701.00	3801.00	3801.00	3901.00	3901.00	4001.00	4001.00
4101.00	4101.00	4201.00	4201.00	4301.00	4301.00	4401.00	4401.00
4501.00	4501.00	4601.00	4601.00	4701.00	4701.00	4801.00	4801.00
4901.00	4901.00	5001.00	5001.00	5101.00	5101.00	5201.00	5201.00
5301.00	5301.00	5401.00	5401.00	5501.00	5501.00	5601.00	5601.00
5701.00	5701.00	5801.00	5801.00	5901.00	5901.00	6001.00	6001.00
6101.00	6101.00	6201.00	6201.00	6301.00	6301.00	6401.00	6401.00
6501.00	6501.00	6601.00	6601.00	6701.00	6701.00	6801.00	6801.00
6901.00	6901.00	7001.00	7001.00	7101.00	7101.00	7201.00	7201.00
7301.00	7301.00	7401.00	7401.00	7501.00	7501.00	7601.00	7601.00
7701.00	7701.00	7801.00	7801.00	7901.00	7901.00	8001.00	8001.00
8101.00	8101.00	8201.00	8201.00	8301.00	8301.00	8401.00	8401.00
8501.00	8501.00	8601.00	8601.00	8701.00	8701.00	8801.00	8801.00
8901.00	8901.00	9001.00	9001.00	9101.00	9101.00	9201.00	9201.00
9301.00	9301.00	9401.00	9401.00	9501.00	9501.00	9601.00	9601.00
9701.00	9701.00	9801.00	9801.00	9901.00	9901.00	10001.00	10001.00

THE ACE PRIZE CROSSWORD No 14

Set by Mark

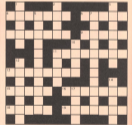
Here it is folks! The same crossword as last month, but this time with the correct grid! Congratulations go to everyone who managed to complete the crossword and draw their own grid, (especially Frank Hills at Harlow, who was named a special prize, and sorry, but you'll have to wait this one out while we give everyone a chance to do the crossword without having to design a grid.

The first correct entry from the posting wins a voucher worth £20 redeemable through the ACE special offers pages. Coming later for entries is May 5. The ACE crossword is cryptic. The answer might be an acronym, or formed from the end of one word and the beginning of another, or simply hidden in the clue. Most, but not quite all, of the answers are computer related.

- ACROSS**
- 5. Interlink being all (1)
 - 6. Removal of input and output circuits to make main cheap (5)

- 8. In case the founder forms a software house (7)
- 9. Early form of electronic device (5)
- 10. Great, like sabotaged game from Seattle (8)
- 11. Fly like characters naming road in schoolbreak (8)
- 15. Ten to one looking for leading floor wigan game (5)
- 16. Over 12Play looking from Gosen (7)
- 18. Time to get boy a computer (5)
- 19. Foot prepared to introduce heated game from Addictive (7)

- DOWN**
- 1. Night wiper (5)
 - 2. Key to get free of network (4)
 - 3. Memory software based (7)
 - 4. The way to win a game from Imagine (7)
 - 7. Norman's handy game (1,8)
 - 13. Drive in jigsaw (4)
 - 14. By getting (4)
 - 17. Big wally at first to get game (8,10)
 - 18. Goal to develop student computer language (5)
 - 17. No coin to get a screen symbol (4)



NAME _____

ADDRESS _____

COMPUTER OWNER _____

SEND YOUR OFFER FORMS (CONTAINING 14, ACE, 4 CROSSWORDS), DATE MAY 04 1989 (CROSSWORD DATE MAY 1989)

LATE WINNERS.

One last of an Open/Pro era. Ray Buckle in Boston, Inc. in conjunction with Activision, was an extremely close offering a stunning Amiga! Study 100 multi-task recording studio and a Cines 47700 telephone patch with MIDI. The two lucky winners' names have been made to make it into print were: Thomas Ford from the Isle of Wight and Russell Stratford of Bradford, who both knew that Alan Jeffrey had something to do with the programming of 'Electric Dreams', a type conversion and that MIDI stands for Musicians' Instrument Digital Interface. Well done boys.

GILBERT ALERT!

Watch out, there's a Gilbert about! The widely sought after, star of IBM's Call Cards section is about to make his debut on the computer screen thanks to Ingenia Translations, who are currently writing on a Gilbert II the Amiga program. To celebrate, they've already donated 10 journey titles I found for us to give away in a competition. How these books are really hard, strong, witty and downright stupendous. If you're a



"Here's an image for you...
Machinista Gilbert
burying a Shogun..."

Gilbert fan you'll love 'em, don't you like to be the proud owner of one, all you have to do is make up a witty caption to accompany the photo of the lovely (mis)read. Send your entries to: GILBERT, 402, at the Mail address, making sure they arrive before Friday 6th.

SOLUTION TO PRIZE PUZZLE NO12

The actual volume of Whisky later in each one:
42 1000000000000000000000000000000000
100000000000000000000000000000000
100000000000000000000000000000000

And the first correct entry from the walk came from Grae Wood of Westchester, who wins £25 worth of software for us.

At first sight, it might be thought that the volume given would be 70 cups, but it should be remembered that for each cup after the first a small amount of water should be included in the volume. The amount increasing in each successive glass.

After the first cup has been poured the bottle contains only 70/100ths of whisky so consequently the following cups will all be reduced by a further 90/100ths of the amount. If this is repeated, the volume of actual whisky remaining in the bottle after each successive drink will be given by the following series:

$$1 \cdot 70 \cdot 70 \cdot 70 \cdot 70 \dots$$

If this is repeated 52 times and the result subtracted from 100 the original volume of whisky the result will be the amount taken. A simple program to compute this might be:

```
10 100
15 FOR N=1 TO 52
20 V=V*70/100
30 NEXT N
40 PRINT V
```

However, this will not give the 10007 volume as required by the question. In the following listing the actual computation is done by using strings to hold the values, and one digit at a time being taken and converted to a numeric value for the actual mathematical operation to be carried out. Each successive digit is then converted back to a string variable to make the full result to be built up in a second string. Note, too, the use of a 'vary' variable. The actual method used is probably that which would be employed if the calculation were to be done using pen and paper.

To avoid having a decimal answer until the end of the computation, each multiplication by 70 was performed in the early stage. This is done using the instruction: in each operation multiply in the decimal point moving two places to the left i.e. to divide by 100 a zero in its position is kept in a separate variable (S). Once the multiplication has been completed lines 110 to 130, the result is subtracted from the volume of the bottle (less 140 to 230). Again, this is done using string to hold all of the digits. Finally, the position of the decimal point is assessed in 330 and the result displayed.

LISTING

```
100 T=1:100000000
110 C=999999999:10:10
120 S=0000000000
130 G=00000000
140 S=T-C
150 T=C-T+C*9999999999/1000000000
160 S=C-T*9999999999/1000000000
170 S=C-T*9999999999/1000000000
180 T=C-T*9999999999/1000000000
190 C=C*9999999999/10000000000
200 NEXT T
210 LET V=C-T*9999999999/10000000000
220 S=C*9999999999/10000000000
230 PRINT "ACTUAL VOLUME OF WHISKY IN CUPS"
240 PRINT V*10000000000
250 GOTO 100
260 IF C=0 THEN GOTO 100
270 T=C*10000000000/10000000000
280 T=C*10000000000/10000000000
290 T=C*10000000000/10000000000
300 T=C*10000000000/10000000000
310 T=C*10000000000/10000000000
320 T=C*10000000000/10000000000
330 PRINT "END"
340 END
```

This listing should not be on any machine capable of using Microsoft BASIC.

DATAWORLD

13 Trinity Street, Gainsborough, DN21 2AL. Tel: Gainsborough (0427) 810151



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Politecop	13.99	16.99
Speed Ball	16.99	16.99

	ST	AMIGA
Outrun	13.99	13.99
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Joe Blade II	13.99	13.99
Alien Legion	16.99	16.99
Football Director II	13.99	13.99

	ST	AMIGA
TV Sports Football	-	16.99
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Please Telephone for titles not listed. Many Business-UTILITY titles held in stock.
QUICKSHOT II TURBO £8.50

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IBM

Many games/business/utility titles held in stock.
Telephone for prices

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3.5" DISKS

Lifetime Guarantee
3M Unbranded DS/DD
10 Disks with Plastic Case
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DISK BOXES

3.5" x 80
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£8.50

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1006	1006	6.00	1	6.00	0.00	0.00	6.00
1007	1007	7.00	1	7.00	0.00	0.00	7.00
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1027	1027	27.00	1	27.00	0.00	0.00	27.00
1028	1028	28.00	1	28.00	0.00	0.00	28.00
1029	1029	29.00	1	29.00	0.00	0.00	29.00
1030	1030	30.00	1	30.00	0.00	0.00	30.00
1031	1031	31.00	1	31.00	0.00	0.00	31.00
1032	1032	32.00	1	32.00	0.00	0.00	32.00
1033	1033	33.00	1	33.00	0.00	0.00	33.00
1034	1034	34.00	1	34.00	0.00	0.00	34.00
1035	1035	35.00	1	35.00	0.00	0.00	35.00
1036	1036	36.00	1	36.00	0.00	0.00	36.00
1037	1037	37.00	1	37.00	0.00	0.00	37.00
1038	1038	38.00	1	38.00	0.00	0.00	38.00
1039	1039	39.00	1	39.00	0.00	0.00	39.00
1040	1040	40.00	1	40.00	0.00	0.00	40.00
1041	1041	41.00	1	41.00	0.00	0.00	41.00
1042	1042	42.00	1	42.00	0.00	0.00	42.00
1043	1043	43.00	1	43.00	0.00	0.00	43.00
1044	1044	44.00	1	44.00	0.00	0.00	44.00
1045	1045	45.00	1	45.00	0.00	0.00	45.00
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As for many PBM computers, various bugs problems. On the basis, the designers of the game raised cope with any more players and will maintain its high standards. The solution has to be a computer-mediated version. Make it easy to play, with NO coded messages to decipher, but still allow room for the GM to add colour and anecdotes, for that personal touch. Add a few new orders, while keeping the old ones, speed up the returns and improve the reliability. Still no hidden charges. Despite over 100 orders per turn and a free internal messaging system.

Then there's the new rule book, in colour, comprehensive but not complicated and full of diagrams and examples. No more of those labled return sheets, as all returns will be printed on quality laser-printed sheets. Then there's the latest of PBM to be considered and orders can be sent and received on floppy disks for the Amiga, ST, CPC, Spectrum and PC compatibles with future enhancements to the program to include animal graphics and what if scenarios.

Behind all the programming is Stewart Green, whose previous work includes programming the P2D games: Annals of Rome, Tetris and Paganus Kings. He is also the designer and programmer of Dark Sliders PBM. The computer-

mediated Skullball is set for launch in May and will be run by newcomers Active Games, whose games will all be computer-mediated in order to run a fast, efficient and regular service. They will be producing their own games - a tactical board PBM is already in the pipeline - but are also interested in marketing other computer games, if they meet the requirements. For more info, contact:

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Nowadays you can't wait for more than 10 minutes without having to duck a flying Sticks, Tacky Warrior as it speeds over your head and crashes into the wall behind. And, who manufacture the thing, should really have asked Graham how close we were to deadlines before handing our own to him. As it is, we've got a manic editor a manic try to do with!



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