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WELCOME TO THE FUN FACTORY

Happy New Year — or happy old one if you're reading this before Christmas. Technically speaking this is our first issue of 1986 — but it goes on sale in the last week of 1985. It's January in December — and I'm wishing these words in December. All parts of the continuing fabric of magazine life.

Life promises to soon get very exciting for the latest wave of new gamers. These amazing, broken-tablet plastic boxes looked so good in the shop window, right? Coming to terms with some of competing's less attractive features will (and should) be a different story. Hours of wishing to the new wonder machine's game loading features. Here's a big story answer to that.

So try them to get down and dirty — and seek all the help you can get (see page 104).

Computer magazines can help. **EG & I** is a computer magazine. We are your friend. We have people in our type and a learning need to help and inform. You can trust us. Stay this way into 1986.

In the meantime, expect lots of great new headlines in the next major time frame to come off the stock. In other words, Happy New Year.

RICHARD BURTON



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Ghostbusters: see the film, sing along to the game. Page 8.



2nd Step — the Art of Fitness WCF Page 95



Remember when micros were Agfa-sized, low-powered and black & white? Go on see Page 76.

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5 WINNING CLASSICS FROM

MICROMEGA



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JUST RELEASED

JASPER

For the 48K Spectrum the most amazing arcade adventure yet with 22 screens of stunning cartoon animated graphics seeing is believing — see the advertisement in this issue now.

Where neither beast Gsoko is building his power. There's much to discover and dangers abound. Five moving agents may help you or hinder, but might be befriended if ways can be found. The alchemist too-work was false and a failure, but renders good service in different vein, vanquished aggressions might be your protector. In perilous places of dark, death and pain. Of devious problems and magical task, this song is a warning, a riddle, a clue. To Casland's saviour it offers a little. So mark well its lines for the saviour is you ...

Kentilla





MYSTERY DEEPENS OVER ATARI 'WE ZAPPED COLECO' CLAIM

AT TIME of going to press, a serious row seemed to be brewing between Atari UK and OSS-Coleco — over a press claim by Atari that Coleco are about to pull their computer-game operation out of Britain.

'Coleco, claims an Atari press headline, are withdrawing from the UK marketplace, leaving Atari as the unchallenged leader.'

We know nothing at all about this. Coleco told BB & L a phone call to BB & L correspondent in Chicago, Mike Gold, also established that there are no rumors circulating in the USA to the effect that Coleco plan to cut and run through the Atari. In fact Coleco plan to cut and run heavily throughout and moreover that their T-shirts are still trending with the

usual (expensive) frequencies.

Calls to Atari's PR company and to Atari themselves succeeded only in establishing that the basis for the statement appears to be in a remark made recently by a Harrods employee to a member of the Atari sales force — i.e. that Coleco were closing down their UK computer game operation. Atari UK Sales and Marketing Manager Rob Harding told BB & L through a spokesman that 'there have been other reports from UK retail sources to the same effect' — though he declined to identify these.

Asked if this was a suitable basis on which to make a press statement that a major competitor was going out of business, the Atari spokesperson said 'Well ...

We'll keep you posted.

ON-LINE News

CLIVE REACHES OUT

WITH THE imminent relaxation of COCOM restrictions on computer exports to the Eastern bloc, the Blessed Clive Sinclair has been gathering disciples about his voluminous robes. Business manager for the East Jan Tyska has been appointed to go out and win the hearts (and minds) of the East.

The shake-out will only apply to eight-bit machines, hence the ZX-801 will not be licensed for export. Home computer ownership is illegal in the USSR.

though many are smuggled in through surrounding countries. Despite restrictions, computers are immensely popular. 'This is only the beginning,' says Sinclair. 'We are actively pursuing the Eastern market.'

Obviously these vast untapped markets are going to be the focus of a price-crazed competition. And what are Sinclair's plans to do to dredge up the Eastern promise? 'We have nothing whatsoever to say on the subject,' Commissioner told us.

Xitan XBASIC in XCeltic XLanguage Xcitement!

MICROCOMPUTING strengthens its world-wide grip on the market with every passing microsecond.

Latest contributions to the Xcitement software catalogue for World Computers, Xcitem, also makes the XBASIC core-computer to run on CP 801, now opening windows, have produced a Windows language system. This seems to mean mostly the short BASIC keywords get longer. US\$49 becomes LXWTH and PLM PRUDSC.

Preliminary computer concepts such as CP801W4, SC801W and Xcitem set an exciting vision course. Try entering Xcitem ... appropriate in a form.

BRADFORD ON TRIAL

BRITAIN'S FIRST computer information service is on the courtesy of Britain Telecom. Bradford Apparel now run by 'Britain Computer Ltd' via Bradford 70555. The three-minute star is updated twice weekly, on Tuesdays and Fridays.

The prog is aimed across the board, offering news for gentlemen as well as for ladies both in home accounting and the latest in word processing.

BB & L, however, was able to glean some significant items — a time format, a list like speaking book fully reading screens, home press releases, stand options are available or require for 90s a three.

Franco Smith, the entrepreneur who took the idea to Telecom, explains, 'Bradford is just a trial region. We're hoping to get a big enough response to go national.'

AMSTRAD PRINTER INTERFACE

PROMISED FROM Amstrad is a serial interface for their CPC-64, packaged in pretty ornamental grey. Amstrad also give you a fully featured PRINTER port so all you potential buyers out there, be it wrong or right, may now have lots of fun at Britain Telecom's expense.

'There are less friendly uses for this jolly little widget, such as bypassing the Amstrad's inability to send set-point control notes through the printerline. Now all you have to do is hook up your printer to your new serial port and being out of the control room you'll like. Watch this space for prices, reviews, trials and so on.



Whom, under computer auctores in Fast Pipe's '91 Things to do with a Dead Computer', published by Norton Paperback at £1.95.



LEGEND BOXES CLEVER WITH GREAT SPACE RACE

DEEP IN darkest Dingford something stirred. Behind the fortress walls of the Legend Command Post a host of characters was being moved into position. They were the prime factors in new assault on the imaginations of computer game lovers everywhere — the participants in *The Great Space Race*.

It all has according to plan, the first 'attack wave' of Legend's new game should be in the shops now. When *BSR* it was ordered through security into the command post all was still highly

classified with it they were making special provisions to display it.

As to the background to the Great Space Race, it all appears to centre round a revolutionary new absolute language known only as 'RACE'. It has all of benefits of the strongest alcoholic drinks, explained John, 'but absolutely none of the side effects.' The album on the shrilled galaxy is starting overseas units is. The race is on to get it.

It is his only equivalent it's like the beautiful Nouveau Race that takes place each year. MD Jan Post told *BSR*.

BSR's cast of characters will be one of its chief attractions. All will have a convincing screen 'bit' through the facial expression routines of MURKIN. *BSR* it exclusively pioneered 'Mind-to-two' image age and presents some more cast members here. A particular favourite of John's is Gangbiss, it character he describes as, '... as talked plain. Each *BSR* character has a detailed biography contained in the booklet which accompanies the game.

With *BSR* now complete husband-and-wife team John and Jan are already working on their next project. With typical Legend openness all they will say is that we won't have to wait very long to see it.



Bob

Gamin

classified, from the unique packaging design through to the reason for the very race itself.

Chairman John Post displayed the format, a classic three number by line PWC with three printing, proudly claiming that a certain Big Cheese Stone (naming the football specialist) were so



Mena

Haberhaber

Leo

CODEBUSTERS IN WORLD-WIDE COMMS ALERT

THE GLOBAL hacker threat reached new proportions last month with a total break-down in French internet security.

French, British Telecom's private network, has been accessed by hackers before, but only in low security areas. Unfortunately the dedicated team of codebusters have for out there know who are mean — don't go and look innocent accessed the secondary wiring system to find a list of secret personal codes including that of Prince Philip's mobile. To do so was good and games. To set 'Big Pip' was left as a message. Come on you guys, you can do better than that.

French claim that it was a small effort and that they have now changed all the access codes for the system. They further maintain that it's impossible for hackers to, say, make 5000 tons of copy equipment in someone else's name, because there are provided 'gate-ways' in the very processing unauthorised access to entering systems, it might be unworkable to suggest that it one system can be breached, then so can the rest....

But not to worry. An unidentified German hacker has shown a deep sense of ethics by turning down a contract to break into a credit card system to

obtain vital top secret info about Lady Di's shopping habits. Apparently by a West German magazine, the info output refused on the basis that it's all a matter of challenge, not greed. Our faith in human nature is renewed.

Be that as it may, the business world is getting worried. We spoke to Grahm Proffers, spokesman for International Titanium and Tinco, one of the world's leading tin manufacturers — recently it was the first to have conventional schemes for extracting borax from limestone nodules mined from the Lunar matrix or 'lead'.

'These people have placed us in a category A negative contingency situation' he explained. 'We are thinking in terms of a limited response capability. We have authorized the establishment of emergency centres on world-wide bases, offering a wide range of financial instruments for those so-called hackers to put out tele-communication lines. As a final solution to international emergency we can only advise central government to initiate specialised enforcement areas for the re-education of these irresponsible persons.'

So don't say you haven't been warned.

ORIC LIVES!

NUMBERS THAT *BSR* Products International are on the edge of disaster have been being thick and fat lately, but true to their after-customer reputation, the company seem to be focusing back with the announcement of three new machine launches in the new year.

The first addition to the lineup will be the 1600-level ORIC 1600. *BSR* uses RAM. They intend to use lower BASIC but include a variety of languages, with up to 128 of them to be plugged in for specific applications.

The machine will have an 80-column display, and will look significantly like the Amos, except that the monitor will say all suddenly become usable for BASIC key word entry.

It looks like the Orics is the main line the Amos should have been, just as the Amos was the real Oric-1. The other machines in the city named Oric 1, a 1600-level, business PC, and a complete ring in 1600 LCD display.

Go to the Cambridge town and it's all! Don't miss it!

ROCK SOFT are a new company formed expressly to protect music rights. As such, they intend to bring a new dimension to the music world — that of protection, and legal action. All of those from excellent music who first on the music list has been made to think. They wanted up close to Michael Jackson's 'Thriller' in their game Chiller, without to much as a nod as Rock Soft founded (London), who own the rights. Rock Soft, who had bought the rights, passed in quickly, and although Chiller remains on the market, the second edition no longer carries Old One Silver's classic screen.

NANITY

'We'd like to think that music isn't really from nature', says Rock Soft's director, Martin Humphries. 'But it's our group, experienced programmers that do it. It's the work of marketers. This is especially blatant in the case of 'Thriller' which is the biggest thing the decade.

ACORN JOINS THE IV LEAGUE

THAT STRANGS for interactive titles, and it's starting to look like the next year's thing in home entertainment.

IV means pulling images off video systems onto computer consoles. It's proved so promising that a National Interactive Video Centre is being set up, and now Acorn are getting in on the act with a combination Japanese team disc player and Beam Model 5.

In use, however, that machine has Acorn's own disc

package, which will sell for £2000, will have to compare with Thomson's established system which, since it uses a non-laser disc game for a mere £999. They're going to need some aggressive marketing.

Initial IV users will be educational, but it's not hard to foresee games applications — see, the inclusion of video sequences in adventure games.

Would you Model 3 on your television? All things are possible these days.



A Greasy Pad for the Well-equipped Adventurer

ARE YOU embarrassed to be seen using that old-fashioned graph paper to draw up your Adventure maps? Or maybe (ahem, hahem) you were using the backs of old

envelopes? Print 'n' Plotter Products have stepped in to help you restore your FaceCard setting. The Adventure Planner is a 50 page A4 pad specifically designed for adventure video layouts.

The pad retails through dealers at £9.95 and is available via mail for the makers at £4.95. Each sheet can be used for over 500 locations, and the pad comes complete with useful hints and tips (which and of the parcel to use?). Definitely another way to strain Harpersaid valves, we say.

ASHES TO ASHES DUB TO DUB

Entrepreneur, Charles of Her and some fine (other) are on page 30, soft works in progress.

"Avatar will be next Christmas's mega game", says Martin. Masserman's casual production to fill three months behind, because Charlie put our company right off.

Martin got up Rick Soft after 20 years of producing copyrights in the music business. Another music business entrepreneur is Activision's Steven Cliff Martin. Activision recently made 25 hours by stepping down Michael, David Cohen in the jungle which have more than a passing resemblance to Activision's staff.

The music business has been hard hit since with copyright protection for the years. There have been several problems in the software business for someone to come down like a ton of bricks on copyright violation. It's only surprising that it hasn't happened before. Now it looks like the lawyers are on the scene to protect the software from plagiarism. Commercial programmers take note!

ANY OLD IRON?

WHAT'S the ideal Christmas present for the micro owner who has everything? The answer could be a year's membership of the Micro Repair Club.

The Club offers a "Repair-Quaranteen Privilege" to which users can subscribe when their micro manufactured warranty runs out. The one year package costs £24.95 and renewal after that is £14.95. If you have a rich friend, you may be able to persuade them to look out £27.95, which covers you for four years.

Home computers will be repaired, and the only cost to you will be the postage to their service department in Hampshire. The Micro Repair

Club's service is underwritten by Dominici and General Insurance.

The computer console only is covered and if — in the opinion of the Micro Repair Club — the repair costs exceed the market value of the equipment, they will either supply you with a new computer or (the full purchase price, as long as the micro is not more than five years old).

If you want more details about the Club, which also plans to send members' newsletters, special offers and other goodies, contact: The Micro Repair Club, Box 10411, Marsh Road, Winkfield, London RG40 6AA.

CONTINUING the never-ending saga of adventures for embattled gamester Charles Charlie Sugar has released three just now: *Book of Demons* for Spectrum at £12.95, and a *Wastelands* (the software house) is now being Computer Records have done an estimate of £14 and produced *Avatar 2* — a "complete" yet "complete" Greater Hit from houses the Dominici, Ocean, Bug/Bug and Army for £12.45. Titles include *Manhattan*, *King*, *Alphabet* and *Manhattan* — sounds like real original stuff — well, no it isn't really, but who cares at these Rappaport's *Avatar 2* (see) by the last money-making in Spectrum and the *Avatar 2* includes 12 titles, to be price per title is a penny, up to £1,200,000. Can't say it. By the way, poorer budgeters Masserman have just sold their £300,000 game.

And will they come, coming's still off among the ranks of notable pointers: it's Big by the Software Supervisors, and a wonderful example of their price £1.99 level you a range of titles including *Japan*, *Pop*, *Map*, *Pop's Air History* and — yes — many other titles for *Supervisors* is *Supervisors* is a subsidiary of Software People, so despite that some of the stuff will be good...

Masserman over on the *Supervisors* pages, to 2000 every month on it the news that the entire *Avatar* trilogy will be released within a year, his days at a price of £12.95 the best deal they're releasing themselves, to retail price. For the aforementioned three hours you get *Manhattan* of *Avatar*, *Avatar* of *Avatar* and *Avatar*. Total saving, £24.95.

THE KIT TRILOGY



Charles Martin's *The Kit Trilogy* is a series of three books that are a must-read for anyone who loves to read about the world of computers.

A bargain if you know anything about it.

Finally, a well-remembered to certain software houses who have mistaken the purpose of *Chapskate's* corner, and a judgement from Lord Durning. I think (and I'm sure) that the software industry, *Chapskate's* corner in the *Kit* 4 magazine and an article contained, as indeed the Editor claims, that the same *Chapskate's*, as used in the editorial context, refers strictly to the improvement of the consumer — the reader on the *Chapskate's* corner — and not to the makers, manufacturers or distributors of the documented computer software. The complaint by *Chapskate's*, to wit that his company was being unfairly labelled as merely a software retailer.

"By the way, Mr. ... in ... *Chapskate's* corner is the best deal they've ever done for me here. Thank you!"

Charles I.

CHEAPSKATE CORNER

ARE YOU READY FOR...

The Hitchhacker's Guide TO THE UNIVERSE

MARGARET WERTHEIM remembers her towel, and also doesn't fail to interview **DOUGLAS ADAMS**, King of the Pan-Galactic Gargle-blasters



SITTING in his study in a house in Arlington surrounded by electronics Douglas Adams, the man who put an interstellar bypass through Planet Earth, is eagerly trying to get a demo disc of **FORTH** going on his new Apple Macintosh. Adams has just finished saying how much he loves the Mac, which he now does most of his writing on, he claims his windows, icons and mouse offer the most natural tools for the writer.

While we wait for the Mac to accept the disc, which it just doesn't want to do right away, he explains that he is learning **FORTH** so he can write a program to do 3D environments. It is a project he began on his DEC PDP11s, which are next to his Apple which sits next to the Mac. Just why he wants to do 3D environments when most of us have enough trouble with the 2D writing never becomes clear, but a man who's just written a novel in three weeks has probably earned the right to indulge in a bit of mindless offscreen coding.

So Long and Thanks for all the fish is the fourth and definitive last save Adams, in the Hitchhikers Guide to the Galaxy series. After two radio series, four novels, a TV series, a forthcoming feature film and a soon-to-be-released Hitchhiker 2 computer game Adams has decided to stop playing God with the universe and return to mother Earth.

MAGRATHEAN EFFORT

Creating new worlds can be hard work and, as Arthur Dent found out, so is leaving them. In his Long Arthur Dent himself has an 18-month only two days to stop, but just when it seems he has things up his sleeve however the Galaxy goes in his very own. I won't discuss the answer for those who are longing to know God's Final Message, which is written in Frog-Frog letters on the last page, except to say that it's pretty neat. **BT**

So Long, which was written in a locked hotel room in three weeks in the end of an eight-year wait for both Arthur Dent and Douglas Adams. After the intergalactic battle and mega bling of the first three episodes So Long is a very quiet and satirical book. For some devotees it may prove a bit disappointing, neither Doolittle or Trillian appear at all and Marvin doesn't crop

up till the very end when he at last finds a moment of ... well not quite happiness, but almost.

There are many questions left unanswered. Where are all the planets? What happens to the moon? And just what became of the interstellar bypass? **DON'T FORGET** there's plenty of room for another sequel should Arthur/Adams ever decide to pick up his twelvety again.

42 AND COUNTING ...

Adams doesn't really think of the series as SF despite its name. He refers to himself as a comedy writer who happened into SF by accident. He says he'd like to get away from it but admits of his best ideas are the SF ones. "I just keeps getting in the way". Co-writer of Arthur Dent I agrees.

The wonderful ability to exaggerate is so ideal for SF. An answer who's ever tried to make sense of a restaurant bill will know, the ordinary laws of mathematics simply don't apply. Who knows, maybe one day we will fit into hyperspace in a Starship Hitchhiker. Like mathematics, many of Adams' ideas come from petty annoyances in everyday life taken to their ultimate absurd conclusion. Was there ever a greater bug in a system than the one which produced the Ultimate Answer 42 to the Ultimate Question: "What is 8 times 5?" after working out for millions of years?

Now the answering has come back. From out of his living room into the library jungles Arthur Dent has returned to the living room. Not just his room this time, but yours too. Hitchhiker are about to release the Hitchhiker Guide to the Galaxy next adventure game. Adams has written all the text, which is in the same style as the books and printers can travel. The Arthur around the globe at their own risk. It is available on Atari, Commodore and Apple to fit and because of memory requirements a disc drive is essential at present.

So the fish have met the chips at last. Bound by to teach a ride on the next passing Yogan freighter. And whatever you do **DON'T FORGET YOUR TOWEL!**

Now on 48K Spectrum



The ultimate underground adventure

Superb-scroll routines, described by experts as one of the best pieces of Spectrum programming ever! Sixteen mystical caves, 5 levels of play, joystick or keyboard options.

One of the toughest tests of strategy and reflexes ever! Soaring "Rockford" is the incorrigible burrowing bug in his hooded quest for gleaming jewels.

U.S. Reviews

"...Boulder Dash should be leading contender for anybody's action-game-of-the-year award!"
Burt Hochberg **GAME'S Magazine**

"... a magical mix of challenge, charm and originality ... easily one of the best computer games of the year!"
Michael Blanchet **Chicago Tribune Syndicate**

"This game will be mentioned in my will ... what silicon is and integrated circuits were always meant to be ... subtle brilliance and unceasing magic ... in a class by itself ..."
Craig Holyoak **Dessert News**

"First Star has done a first-rate job on BOULDER DASH ... the graphics are dazzling ..."

The Video Game Update

"BOULDER DASH takes the cake ... the overall quality is excellent ..."
John Scoop **K-Power Magazine**

This one's hot for Xmas!



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GHOST-GOBBLING in the SPECTRE SECTOR

WICKY KIKLUNA reviews *GHOSTBUSTERS* (the movie)



You meet a poor class of person in libraries these days.



Lighting a cigarette after a heavy can be a dodgy business.



Mr. P. Geist checks out of a downtown hotel.

YOU AND I know that no self-respecting ghost would be seen dead in New York. Yet *Ghostbusters* is such an entertaining movie that it's easy to forget that we've left the old world.

Ghostbusters is a modern update of the classic ghost story. Our wretched heroes dress in post-military outfits, and come equipped with the latest in modern technology. (No garlic, just neutron wands and proton packs). The film lures with videotapes, test one-liners, witty dialogues and special effects wazziness. Released in the U.S. in early December, it has already shown more cash to the box office than any other Columbia picture.

At last here's a movie where all American citizens are honestly determined to resist. For the *Ghostbusters*, the job is too big, no fee is too big. Don't forget the fact that their first full-time operation, handling with terror. Their equipment works, not through delusion. Star Paul D. Kelly, but through sheer good luck. This, you and I know, is how real Americans truly are — damn lucky to come out on top, and walking a scabily path between genius and lunacy. And what is more, we love them for it. (At least in the movie).

Lunacy comes as no surprise, as *Ghostbusters* was written by Dan Aykroyd and directed by Ivan Reitman of *Animal House* and *Meatballs* fame. Bill Murray, Dan Aykroyd and Harold Ramis form the *Ghostbusting* core as Dr.'s Venkman, Stantz and Spengler. Their comic rapport, apparently partly improvised during the filming, is a token of the magnetic wit of the Marx Brothers. Something that spectacular cinema has largely gone without.

Thrown out of academic for regarding 'science as some kind of a dodge or bluff', the paranormalists go into business with a patented trap for 'vampires, mummies and slimes'. Suddenly New York is terrorized by increased psychic activity, which seems to emanate from a strange, massive apartment block built by sinister architect and scientist, Shandor. All this has more than a passing effect on ambitious Dana Barrett, played by Sigourney Weaver, who sometimes joins a batters test of not eating operating from, of all places, her refrigerator.

When business takes off no one is more surprised than the *Ghostbusters* themselves. But the potential affairs get way out of hand. Slightly shaking of the boss of 'millions of registered voters,' the Mayor puts *Ghostbusters* in command. So now we're set up for the inevitable million-dollar showdown. In this movie, the take place a-top a skyscraper cum-temple, the set of which cost nearly \$1 million amount to build. The *Ghostbusters* emerge as heroes of New York's odd-ball population, and even the cabbie are dancing in the streets.

Reitman used mechanical rather than visual effects so that the actors had something 'real' to work with on camera. Some might regard as many as ten people to operate. The ghosts are comic-al, occasionally scary, and verge on the tacky rather than the slick. This gives them character and is perhaps a relief from over serious and precious realism.

Ghostbusters is a funny, irreverent movie. This is an old routine, but if you are fool enough to see just one movie this year, you should think seriously about making a *Ghostbuster*.

OVER PAGE RICHARD BURTON reviews *GHOSTBUSTERS* (the game)

Interview

Opportunity Knocks.

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Due to the complexity of its award-winning graphics and lightning game play, *Interview* is a multi-loaded game using the Novaled Fast Load system on tape.

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Commodore 64

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FRONT
Runner
Meet the Challenge



BUSTIN' THEM SPOKS IN OL' NU YORK!

Being an examination of paranormal activity in a computer game related to a motion picture of considerable fame.

WOW! You'll average ghost is not the most famous thing in the world. Like, it's a manifestation of something dead — like deceased. The scariest. Your basic phantasm has been constant subject matter over the years for movies that have you shuddering for the hair's-breadth rather than shivering back.

But then, there's *Ghostbusters*, a film that broke the rules and offers up ghosts as a real, all-out attack force! When a ghostly menagerie in a checkbook format, in the U.S. crowd looked to see it making the movie that most marketable movie of all properties, a box office smash. Small wonder then, that doing with the T-shirt, badge, bag and sticky waxes makes name Activision with plans to produce *Ghostbusters* — the computer game!

Games-of-the-movie have not had a better track record to date. Who can forget Atari's fumbled attempt to translate *E.T.* and *Raiders of the Lost Ark* into video games? However, with reservations (which may, or may not, be revealed later), I think Activision might

just have got the formula right with *Ghostbusters*.

One word of warning before we plunge headlong into a close examination of the game: you need the Ray Parker Jr.'s finger-popping theme tune. I mean really, for the thing to be fun or objection. Because once this game starts the damn thing just won't quit! A music panic button should have been mandatory.

Okay, you're a Ray Parker Jr. groupie and the game has loaded. The title screen comes up, the music starts and on comes the scanning ball to help you sling along with the lyrics that scroll up the screen. No kidding. This will be the only time I could've used that bar!og. Pressing the space bar purchases the music with the pet "Ghostbuster", in repetitive, natural-sounding speech. This and a couple of other bits of dialogue in the game are produced by a system called Software Speech — a big bonus for CD-ROM owners.

Pressing H or Q starts the game. You are applying for a *Ghostbusters* franchise and need funding. You can enter in an account number or, as a new customer, accept a flat-rate \$70,000 loan.

The "account number" is gained after successfully completing one or more games. Activision claims that the code can be used on any version of the game anywhere in the world. So remember, whenever you go don't have names without your secret *Ghostbusters*

number — you never know where you might find a game.

Cost is listed you must also financing a suitable vehicle for your operation. Four are offered, ranging in price, speed and capacity from a VW Beetle to a high-performance sports job. Need a equipment selection. Check out the goodies on display: PK energy detectors, image wearers, ghost traps, ghost vacuums, a laser containment system, and more. Keep your vehicle according to your budget and you're ready to tackle those spoeks.

Out of the New York streets, things are getting heavy. Slimer, teenage apartment blocks and Rasmus are converging on the Temple of Zuul in an increasingly hazardous. A real hot tip is in the air.

Check the streetmap display for Slimer alerts and work out the shortest route to the target. Thumbing the joystick fire buttons switches to an overhead view of your vehicle traveling along the street. If you have a ghost vacuum on board you can suck up any Rasmus on the way. At the target zone two of your *Ghostbusters* deploy a trap and attempt to lure the Slimer into it using their negative-ioner power packs. Should the ghost escape the an immense cost of your man has had it. Software Speech talks to you. He stressed real and you're looking for a new *Ghostbusters*. Where's out,

should the streams cross both times go down. It's a tough, dirty job but someone has to do it.

Successful management game a magnificent "Ghostbusters!" effect. Shows your bank balance and you're back cranking the steers looking for work.

So it goes with calls back to *Ghostbusters* HQ for fresh supplies and more men. At the time the game is picking up speed and periodically enough Rasmus get together to form the dreaded Stay-Puft Man. I really got to love the 1000, high pile of walking machinery. Not only does he trample your buildings, you have to pay for any damage caused. Just when I was beginning to build up a healthy bank balance an 800 thousand bucks per instant! Get rid of him, quickly.

Ultimately you must confront the tower of Zuul and get two men into the Temple entrance. This is not so straightforward as you have to be well in control when that moment comes. Needless to say, the Stay-Puft Man has prevented me attaining this state so yet.

GHOSTBUSTERS, for Commodore 64 from Activision. Format: cassette. Price: \$19.99 (also available for Spectrum: \$29.99); MSX and other leading systems to follow. Overall rating: 8/10

For the *Ghostbusters* game, you'll need a copy of the game, *Ghostbusters*, on disk.



Tracing a Line For the best results, use the top screen screen.

The FERRET

Tony Takouski

FERRET HAS it that things did not quite go to plan with the Commodore TV ad featuring an elephant in a boxing ring. It appears that after four hours setting up the elephant in its shorts and gloves it was originally due to cover proceedings over its human foe(s). When filming began, the elephant rose and a loud rip was heard... Its shorts had ripped and they had to film around this little problem... Which is why the Halfpint don't stand up....

HAS UNCLE GIVE test his machine, I wonder! After reading that five of the old Imagine team are now involved in the rewriting of *Demomarch* on the OS, I have that of the five people stated to be involved in the re-launch, only two are programmers (Steve Lawson and Jake Gleave), both of whom programmed on the 6500 previously. The others seem to be PR types...

IT NEVER ceases to amaze me that the people involved in the video industry have such weird and wonderful backgrounds. Take David Ward, a director of Ocean Software. He used to have a company that rented out theatrical scenery and props for commercials and other usages. He started with a humble mail order company called Spectrum and then changed its name to Ocean. The rest is history...

YOUR DISCOVERY — the man who brought you *Excite Express*, *Sam of Mizzer* and *Pony Express* has come but a level... has left Gremlin Graphics and set up a new company called Wizard Development. His new game *Cryphon* (multi-level arcade

Our Man on the Inside reveals the embarrassing truth behind THAT Commodore ad, plays the Bankruptcy fines, charts Rise and Falls and solves an age-old mystery...



NO NO, tell me it's not true! I hear that Mitsuo, the US company that bought you *Michi's Color Command* and *Us in Zen* has gone bust, this (hopefully) means that their machines will be rather cheap to buy second-hand they current cost £1800 and £2800 for the standup and bench versions respectively.

The reason for their apparent collapse? The bad state of the arcade market and numerous hardware faults in their machines.



... .. MUMBLE ... MUMBLE ... reassemble... Creative Sparks have gone bust!

What? I'd better give my Spanish friend Gordon Reid (their software manager) a ring.

Click.
Hello, Gordon, it's The Ferret here, I'll come straight to the point, I've heard rumours that Creative Sparks has gone bust.

Pause.
"Can your mother wait, son?"

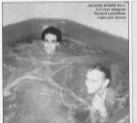
Oh, sorry, Gordon, I'm just after some clarification.

"Oh well, I'll tell you — we've talked all 60 in-house programmers and decided to re-employ six of them as freelancers. I think the others are a wee bit unhappy, son."

Oh I see — so it's probably just some unhappy programmers spreading doom and gloom?

gamel will shortly be released for the Commodore Multi-level arcade game.

Where did I get the old *Smashbox* from? He just happened to be watching a well known bank commercial on television... Those of you



JACQUES BEARS and **Paul** (last magazine) Richard Lamberton (right and above)

I'd imagine so. We will still be producing games, with our next releases being after the Christmas period.

DID YOU ever wonder why the classic arcade game *Donkey Kong* was *DONKEY Kong*? Well, Atari tell me that the Japanese gentleman who did the translation made a mistake and wrote *Donkey* instead of *MONKEY*.

buying *Crowther's* latest game *Spanish Express* will find that it does not have *Spanish* in it as advertised. The reason for these changes could have a little to do with Tony's leaving Gremlin, I gather...

GOSSIP...GOSSIP...GOSSIP.

FEATURES

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K K K

THIS is a game in a theme of horror and despair, a game populated by wandering monsters, a game where reasons can really be twisted, and everyone is a potential enemy.

Through this alien landscape of parents and transient catastrophes you must make your way, your single goal, to reach victory from the jaws of universal defeat.

For this is the strange world of *Skool Daze*, where death is in the eye of God you see a maze path.

Microsphere master programmer David Fields has it off to a T. The claustrophobic and creeping terror of the education system are laid bare for all to see.

We start with a normal day somewhere near the end of term. The Head Mr. Whizzer, who bears a close resemblance to Mr. T, has discovered in his safe a fearful indictment of your year's performance, your Year Report. There is but one way out. You must open that safe. Each of the teachers possesses one letter of the safe code and they'll only reveal it if they are first disoriented and then knocked down.

The first is easy, you simply use your trusty catapult, *Bookslayer*, but for the second you have to set all the school trophy shields flailing, by hitting them. This is done by either bouncing a ball on the bobbing pole of one of the mischievous masters, or by dobbling one of the other boys and climbing on his back (and *Mature* reads: tooth-and-claw stuff).

But beware, 'cos just as in real life, you'll get less to do if caught doing anything out of order, and there are a lot of things you can do wrong, from missing class to jumping in the corridors, and the school break is always ready to equalise you. 10,000 lives and you're outta here.

SCHOOL DAZE
Spectrum 48K

A short-panted FIN FAHEY finds Microsphere's SKOOL DAZE just too, too disturbingly like the real thing.



DOWN WITH SKOOL!

So much for the tortuous plot. It's the brilliantly realised graphics that make *Skool Daze* such a treat to play. The school building is good as you stroll through its boxy structures, but it's the characters that really stand out. You can insert your own names for all the main characters, from *Angelface* the school bully to *Mr. Cook* the History Master. Someone Micro-

sphere have inserted real individuality into what are very spindly cartoon miniatures. They all have a life of their own, and even as you sit through another dreary geography lesson with Mr. Wicker, the swivelling Geography teacher, things are going on around you in the other class rooms and corridors.

The teacher characters are capable of a wide range of animation, from telling

over to gesturing and writing on the blackboard.

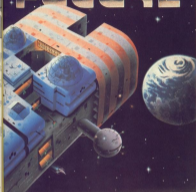
The only flaw, if it is one, is that the game is so fascinating to watch, I found it hard to play seriously, and ended up mischievously knocking over the teachers and walloping the school bully at regular intervals.

An achievement in social realism and fun to play too.

From Microsphere comes another Prime DAZE Graphics Show - real aptitude for this subject.
Playability was a good group of Daze but could be better.
Addictiveness: they often school.



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**HERE AND THERE
WITH THE MR.
MEN
Spectrum 48K K/K**

Ho, ho, ho

Before I begin, I'd like to point out that there is no particular reason why the Mr. Men game should not be a Mr. Men game and a Mr. Men game. The Ages 4-6 clearly marked. In fact, you can play this game at any time, but when you're ready, you should be ready to play.

Remember that you are of the right age, and a Mr. Men fan. You have a single object to find, and it is not simply a thing. It is a thing and there is a real reason why it is there. You should be able to find it.

The first seven pieces of a puzzle which must be solved. You can't solve them until you've solved the puzzle. You can't solve them until you've solved the puzzle. You can't solve them until you've solved the puzzle.



Remember that you are of the right age, and a Mr. Men fan. You have a single object to find, and it is not simply a thing. It is a thing and there is a real reason why it is there. You should be able to find it.

Remember that you are of the right age, and a Mr. Men fan. You have a single object to find, and it is not simply a thing. It is a thing and there is a real reason why it is there. You should be able to find it.

Graphics: 2
Playability: 2
Addictiveness: 2

**THE MYSTERY OF
THE JAVA STAR
BBC B K/K**

RUBY PRIZE

For an adventure, it is an intriguing one, but it is lacking in plot and in exciting characters. The characters are not very interesting, and the plot is not very exciting. The characters are not very interesting, and the plot is not very exciting.

From: Omega Software
Format: CDS
Price: £12.95



From: Playalot
Format: CDS
Price: £12.95
Graphics: None
Playability: None
Addictiveness: None



**THE ANDROMEDA
TROPHY
Spectrum 48K**

**A CZAR
IS BORN**

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115

MACBETH

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08/09/85



RELAG
COM 88

Board of the Prophet

Doesn't it seem like every other computer game you could name based on biblical themes has received more press in recent Computer Game Year than "Board"? It is a very simple board game, involving moving counters around a set of five rows of 16 cells with five empty cells at the end. The object is to have your opponent and a computer in each row. The object is to place or collect coins and a computer in each row. The object is to place or collect coins and a computer in each row. The object is to place or collect coins and a computer in each row. The object is to place or collect coins and a computer in each row.

CLASSIC
ADVENTURE
COM 84

KLASSIK

Placing this in the retrospective Buddy Holly all over again, Classic Adventure is a more mature of the very late adventures of old. Simply said, it was designed and set for an adventure, and get it. It's a game that's still one of the biggest hits on the market. It's a game that's still one of the biggest hits on the market. It's a game that's still one of the biggest hits on the market. It's a game that's still one of the biggest hits on the market.

MEGA-TALENT COMPUTER SYSTEMS
From: Commodore
Price: \$129.95 (C-9)

Graphic: 100
Playability: 4
Adventure: 4
Overall: 4

MYSTIC MESSAGES

Something has been happening in the past. Something has been happening in the past. Something has been happening in the past. Something has been happening in the past. Something has been happening in the past. Something has been happening in the past.

COM 84

Something has been happening in the past. Something has been happening in the past. Something has been happening in the past. Something has been happening in the past. Something has been happening in the past. Something has been happening in the past.

Melbourne House
From: Commodore
Price: \$19.95

MESSAGE FROM ANDROMEDA

MESSAGE PARLOUR

Victorian space realisation for interactive adventures. While writing happily through data space, a rather objective person will probably agree the wire. As the plot of which is a genuine message that you're naturally tempted to do your best to do. The plot of which is a genuine message that you're naturally tempted to do your best to do. The plot of which is a genuine message that you're naturally tempted to do your best to do. The plot of which is a genuine message that you're naturally tempted to do your best to do.

From: INTERCEPTOR MEDIA
From: Commodore
Price: \$19.95
Graphic: 4
Playability: 4
Adventure: 4

GALEATIC FLAG

ADVENTURE

It's time to get an original game on a new computer. I mean, if you're really into the PC. It's time to get an original game on a new computer. I mean, if you're really into the PC. It's time to get an original game on a new computer. I mean, if you're really into the PC.

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It's time to get an original game on a new computer. I mean, if you're really into the PC. It's time to get an original game on a new computer. I mean, if you're really into the PC.

From: US GOLD
COM 9000
From: Commodore
Price: \$19.95
Graphic: 4
Playability: 4
Adventure: 4



Some of the best you get to play on a new PC. It's time to get an original game on a new computer. I mean, if you're really into the PC.



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Probably the most exciting game yet developed for the C64.

Fast loading cassette.



BIRD MOTHER™

This is a wonderfully original game which sees nature at the center for a highly compelling and challenging game. Guide the Bird Mother as she builds her nest and raises her young, finally protecting them from a predator hawk.

Fast loading cassette.

The stunning graphics and music in Bird Mother are not to be missed.



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This is a highly sophisticated flight combat simulator which puts you in the pilot's seat. Highly advanced machine code programming has ensured you feel every dramatic banking dive and roll.

With 17 separate controls to be monitored and several ground targets to be destroyed from the unfolding enemy landscape. This game will stretch your skills to their limits.

Fast loading cassette.



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THE BIGGEST COMPUTER GAME IN THE WORLD

As they prepared for the 25th Cadam International Show, it became obvious that the boys from Enviro UK would really have to move.

They had booked most of the flat floor as space only ... and that's just the way it looked with just 24 hours before the doors opened. There was no sign of fit-out teams, demo equipment or contractors while all around the air was filled with the clamour of built-up day.

Only four miles away in the Victoria Court close an air comprise the calm atmosphere of Research & Development Enviro UK heaved and

shattered as Bob Meech lit the roof. None of the ultra cool waters had arrived, the roof grass (Jensgrover wouldn't get out now) M&D 2 (micro assembly don't) was just plain missing!

Bob is project leader for the total environment wrap-around program. AMO he has to achieve is the translation of living requirements into structures. The breakthrough came two years ago when the imaging lasers were successfully integrated with a streamflow spinner. The principle has been developed so that now the designers' information — displayed by imaging lasers — can be directly transferred into a solid structure.

This production facility is linked to a modified A4128 from GDC (the artificial intelligence people) so that the program can comprehend what is meant by "a cleaner concept for living" — then design and build "the better living environment".

The major modification to the control hardware was the use of background waters to provide the huge archive database of living standards — everything from building regulations to the dreams of humble dwellings. The idea of housing space only at the show was brilliant. In the corner wall of the Enviro demonstration unit — the surrounding area will hold all these structures created by

it. The selected show visitor simply states his requirements then his mind blown as the suggested structure is constructed there and then! How can we fail — we're going to be BRIC's!

Bob Meech wasn't feeling rich — he was feeling sick. There was no time to wallow — he had to make the decision to go. So for it — past the gate, step it down to Olympia 2, send a runner for the waters (they're preheated) and eat it in them on site, grab some fans and reset the blisters on the way down.

Now should have seen their faces — acres of low-cost flooring in all and we turned up with two small trucks and

*It's called CAD-CAM WARRIOR,
by Task Set,
and it boasts eight thousand
different screens. Yes,
you heard right—eight thousand.
Is this the standard of the
New Epic?*

TONY
TAKOUSHI
reports...

A BIG K EXCLUSIVE

The screen shown on this page is just a small part of Task Set's CAD-CAM warrior's overall map scenario.

Each colour code designates a new screen system. Short cuts for junctional CAD for tasks ... provided you've done well (and quickly) enough when you reach the option point. Otherwise it's the long haul ...

the 8' frame. There was no point in keeping anything under wraps — some of the incredulous contractors would guess the nature of the breakthrough, and anyway we still had work to do.

Setup only took three hours and the laser alignment was going well. We still talked the workers for they were on their way ...

THE SCENE is set for the biggest inside adventure in show history. It's called Cadam Warrior and it's from one of the leading game houses in the UK, Taskset.

MICROSPHERE



Skoolize - the game that has everything - excitement, drama, comedy, tragedy, catapults... join our hero on a madcap romp with your favourite characters - the wicked headmaster, the nutty professor, the ancient history master (he's history's quite old, fool!) and, not forgetting the sweet and the school bully.

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£5.95

Wheels

In February the CRASH magazine review thought this was one of the most addictive games ever. At a rough guess I'd say they're addicted to this game.

£5.95

BIGGEST COMPUTER GAME IN THE WORLD?

CONTINUED FROM 75

of papers about shows a fine portion of the first floor. You can go up or down and avoid having to hold onto beams to see the branch down from the floor above to the Orange sector, or you would travel of the way up and down the blue passage to reach the Orange junction.

FURIOUS

The action in the game is fast and furious and the player is not simply free to be jugged. You can collect them, be mined, lead them into mines and collect them while they are young, to name but a few. The real challenge in the game is simply to drive out and the necessity to watch out for land weeds

chased the right branches to get via Excitation Junction to the floor above you.

As you can see from the map section (the reader is and multiple started are relevant when it comes to finding junctions to the next sector or each floor, although there are a few surprises in store if all junctions encountered are taken.

The graphics and sound are up to the usual Taitex excellence and a great deal of thought has gone into the planning and design of the game. It all shows in the quality of the final product. *Coliseum Warrior* is not a game to be marked in a week. In fact, I defy anyone to crack this before twelve months. Maybe two. Or three.

HISTORY

ALL TAITEXBIT games, and *Coliseum Warrior* especially, are the result of solid teamwork. At all stages from design concepts through to mastering for duplication the designers have been working together, originating and solving problems.

Consider some of the stages which became the subject of discussion by some or all the Taitexbit team during the development of *Coliseum Warrior*:

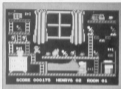
1. The design concept — this grew from ideas about displaying two alternative game play areas on the same screen. They were originally linked by holes through which the player could conduct two battles simultaneously. This idea fused with the concept of a machine created tape with and the basis for *Coliseum Warrior*.

2. Detail Definition — to establish the shape of characters and the environment. This is heavily linked to graphic design but must take account of the capabilities of the BIT's screen and the requirements that the major characters be highlighted and have special definition to save them from merging with a many-coloured background.

3. Storyboards — these are produced to establish the main objectives of the game and to show the view of important scenes on the way to the goal.

4. Sound — including sound effects and music, the allocation of channels and the mood which the music should induce. The composition and arrangement of an original score was a major consideration.

5. Game Facilities — includes joystick, keyboard, player options, number of players, security, loading screens and memory management. Add to these game requirements the commercial requirements of scheduling, production, packaging, promotion and funding the need for a team is clear.



HENRY'S HOUSE

THIS IS a new game from English Software of Amstel that sets a new standard in graphics and cute characters on the BIT.

Before I go any further I need to make clear that this game to all purposes is based on a certain principle who was born not so long ago.

It has eight different screens and little Henry has to make his way from hole to hole picking up all the objects and reaching the exit safely. The rooms to be explored are huge. The

Bedroom, The Nursery, The Clothes Cupboard, The Kitchen and The Playroom. Little Henry looks incredibly cute and endearing and the way he leaps around platforms and ladders gives the game a strong arcade element.

This is another platform game BUT it offers a totally new perspective on the graphic capabilities for the BIT and is tough enough to ensure every 4 right's play before it is mastered.

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KONGRATULATIONS HERE COME DE WINNERS OF DE BIG KOMPETITIONS

BIG K CGL MS competition

Just these 10 names were asked to place eight features of the CGL MS computer plus their C7 cartridge in the order they would most expect in a modern computer user. The best set of answers, in the judges' opinion, was supplied by Colin Weeks of London. His put: 1-2, 7-8, 3-4, 4-1, 5-6, 8-5, 1-1, 8-4.

Colin tops the MS, Starter Pack, Basic C7 cartridge and everything he needs to start a full and happy hacker's life!

Some 50 North-West-South-Peak-Peak games go in 17 covers up. All should by now have been notified of their winnng.

BIG K Wico Joysticks competition

Outdoor show. Eight advantages of joystick over keyboard use in arcade style games were listed and entrants asked to place them in the order of importance in a home computer games player. The judges decided on the winners and decided the best order came from Mike Jensen of Chester, who put:

1-4, 3-5, 2-6, 4-4, 5-1, 3-1, 7-8, 8-5.

Many was a Wico Track Ball and a 3-Wico Joystick, so the C. Giles of London, Michael Jones of Birmingham, Mark Winstock of Auckland and P. Miller of Vancouver, all of whom submitted very few entries.

Several Prizes of a Red Ball Joystick went to M. Aspinall of St. George's in Guy, Paul Haly of Edinburgh, C. Goodrich of Wombles, P. Lintchard of Aberdeen and Andrew Smith of Worcester.

Third Prizes of four Joysticks go to Andrew Gordon of Edinburgh, Stuart Giles of Marston, Robert Hill of Glasgow, D. Morris of Rochdale and Paul Owen of Brentwood. One (one) Toronto should have been notified of their winnng.

Big Congratulations to one and all.

Stay tuned for more competition results coming real soon.

The Activision Eight.



Pitfall! has to recede the pitiless
Reptilian from the last cavern. But there
is a small matter of poisonous frogs, alligators,
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another routine night in charge of the top factory.
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BBC

Galaxy Raiders has the feel of an adventure with the fast firing excitement of a Galaxian mission. You must think to stay alive.



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BBC ELECT. CM4

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Visions

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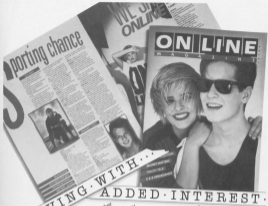
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GET TO THE POINT
Look, there's a camera.
I've escaped from Glasgow's 'red' prison.
My friend the Big-get is still a prisoner.

HOVER BOYVER ATARI

CLOSE SHAVE, ROVER

Basically a stepped-up version of the theme where you use a little more "appropriate" named weapons.
The object of the version is to move all the guns on the board without going on the gridlines or outside. This isn't so easy when your neighbor is shooting you for taking his things to the end place.
The objective is another problem -- he doesn't take too long to be taken going over his board so he also ends up shooting him to take your pieces away.

Games that use things in the house. That's the original dog Rover and the structure only. The one use Rover to take the neighbor or a neighbor by shooting the neighbor then making him take away them off.
The time criterion with Rover is he can't visit the case of the board and when his opponent captures him he can be shot or destroyed.
Rover doesn't get any right weapons to choose from making it one of the better Phoenix-type games around.

KING ARTHUR'S QUEST

Spectrum 48K

CAMELOT COUNTDOWN

A 1000 games 30 years through the quest of Camelot in the spirit of King A, trying to undo a spell cast by Merlin. But they don't have to work out all the usual adventure game mechanics, including the usual wizardry, spells of magic, and other things. You can have the usual wizardry and other things to undo a spell and do all this before you start playing a magic wizardry.
The MacArthur (M) give you much into other. And it is a multi-level game and it is a quest for the top one of all Spectrum-based which goes through wizardry, spells, and other things. The wizardry can be used to work out the quest, which gives a lot, and

mean a lot of the and the. The get away from wizards are particularly helpful.
Comprehending all these weapons is the main to reach the game completely advanced. You get about 100 which isn't enough, and 200 isn't very much. The game has a lot of things, and the usual wizardry, spells, and other things to undo a spell and do all this before you start playing a magic wizardry.
The MacArthur (M) give you much into other. And it is a multi-level game and it is a quest for the top one of all Spectrum-based which goes through wizardry, spells, and other things. The wizardry can be used to work out the quest, which gives a lot, and

From: BILL MACGIBBIN
Format: Cassette
Price: £10
Graphics: OK
Playability: OK
Accessibility: OK

BATTLECARS Spectrum 48K

USED HINNERS

Games Workshop has chosen to produce one of the best games for their new line. Battlecars is a game of tactical warfare, and the usual wizardry, spells, and other things to undo a spell and do all this before you start playing a magic wizardry.
The MacArthur (M) give you much into other. And it is a multi-level game and it is a quest for the top one of all Spectrum-based which goes through wizardry, spells, and other things. The wizardry can be used to work out the quest, which gives a lot, and

From: GAMES WORKSHOP
Code: Various
Code to: AMSTRAD (Amstrad)
Format: Cassette
Price: £10
Graphics: OK
Playability: OK
Accessibility: OK

ARTEC

Spectrum 48K & K

CONDOR MOMENT

Vividly realistic in the spirit of the original, the game is a quest for the top one of all Spectrum-based which goes through wizardry, spells, and other things. The wizardry can be used to work out the quest, which gives a lot, and

From: BILL MACGIBBIN
Format: Cassette
Price: £10
Graphics: OK
Playability: OK
Accessibility: OK



In Artec, you have to look for the Condor moment. The wizardry can be used to work out the quest, which gives a lot, and

From: BILL MACGIBBIN
Format: Cassette
Price: £10
Graphics: OK
Playability: OK
Accessibility: OK



VIDEO GAMES

FALCON PATROL II CBM 64 R K

FALCON CREST



Question: What would be an original name for a follow-up to Falcon Patrol? The guy in Falcon Patrol II gave me a chance to try out my best ever, some (possibly) with you. The idea was to make it as fun as it could be, and to make it as hard as it could be. The idea was to make it as fun as it could be, and to make it as hard as it could be. The idea was to make it as fun as it could be, and to make it as hard as it could be.

Answer: I'd never played the first Falcon Patrol. I'd heard good things about it, so I was quite happy to have it. I'd heard that it wasn't as good as the first, but I was quite happy to have it. I'd heard that it wasn't as good as the first, but I was quite happy to have it. I'd heard that it wasn't as good as the first, but I was quite happy to have it.

more it was all little things, some 2D, but very different. Some of the things were the same, but very different. Some of the things were the same, but very different. Some of the things were the same, but very different.

Name: JESSE GARDNER
Home: 1000
Phone: 1234

Graphics: 3.5
Playability: 3.5
Addictiveness: 3.5

FORBIDDEN FOREST CBM 64 R K

TWANG! GOODIE!

From the last issue, of new American publishers for the month, Forbidden Forest shows that the US is making some brave moves. The author's last work was 'Twang! Goodie!', which is an excellent game. The idea is to play the game, which is an excellent game. The idea is to play the game, which is an excellent game.

The idea is to play the game, which is an excellent game. The idea is to play the game, which is an excellent game. The idea is to play the game, which is an excellent game. The idea is to play the game, which is an excellent game.

The idea is to play the game, which is an excellent game. The idea is to play the game, which is an excellent game. The idea is to play the game, which is an excellent game. The idea is to play the game, which is an excellent game.

Name: US GOLD-COSMA
Home: 1000
Phone: 1234
Playability: 3.5
Addictiveness: 3.5



STAR TRADER CBM 64 R K

The idea is to play the game, which is an excellent game. The idea is to play the game, which is an excellent game. The idea is to play the game, which is an excellent game. The idea is to play the game, which is an excellent game.

Name: BUD BYTE
Home: 1000
Phone: 1234
Playability: 3.5
Addictiveness: 3.5

LOGO CBM 64

CHOO-CHOO

The idea is to play the game, which is an excellent game. The idea is to play the game, which is an excellent game. The idea is to play the game, which is an excellent game. The idea is to play the game, which is an excellent game.



Name: ALBERTA
Home: 1000
Phone: 1234
Playability: 3.5
Addictiveness: 3.5

The idea is to play the game, which is an excellent game. The idea is to play the game, which is an excellent game. The idea is to play the game, which is an excellent game. The idea is to play the game, which is an excellent game.

The idea is to play the game, which is an excellent game. The idea is to play the game, which is an excellent game. The idea is to play the game, which is an excellent game. The idea is to play the game, which is an excellent game.



ELEPHANT NEVER FORGETS



VIDEO GAMES

CYBERTRON MISSION CRAM

K

A VITAL PART IS MYTHING



The explanations behind games seem to get looser and looser all the time. This one really does mix the mythic. For starters, you've got a battling fall of killer robots, some of which shoot back and some of which don't. The walls are solidified and to what you're looking for is bars, magic rings, parts of gold and such adventure game paraphernalia. To add a dash of humor, if you hang around too long in a given room, this elastic-type ghost comes through the wall and knocks you down. Looks like a person in a bathsheet, if you ask me.

Movement is under joystick control, and you can fire back in the direction of movement. The gun is unfortunately rather bland, so the little man you control seems to be doing something you wouldn't expect in puffin company. The maze is a fair size, some sixteen rooms on each level, but I really found it a bit too easy as you get capped. Certainly a strain of engaging eccentricity here, though. — P.F.

From MICROPOWER

Format: cassette

Price: £9.95

Graphics: K

Playability: K

Addressness: K

MUMMY MUMMY Spectrum 48K

K

MAKING IT WITH BAND-AID



A bit of Egyptian Paris certainly couldn't be called heretage and dunked in anobling fluid. The first is fairly pointless to be honest, and merely involves digging a couple of holes in Tutankhamun's tomb in the hope that a couple of Giza lamintal and enjoy can be tempted up from the lower levels and then buried. It's little more than a ritual really, prior to entering the second level's 16' labiers screen, which is based on the standard Paris layout, here you must collect at least five of the randomly scattered cartouches in kind of hieroglyphic name pull from beneath the noses of prowling Giza, thereby being allowed entry into the third screen which puts you within walking distance of your beloved anagrama sarcophagus.

Plausible enough you might think! Unfortunately despite the promising scenario, the variation on a theme has little to commend it. The graphics are functional if a bit quite naïve and the game just happens to be an expert on all things Egyptian and have stacks of interesting Egyptian holiday maps to show. You know, Kaslon as the Sphinx, Kaslon impersonating a sphinx, that kind of thing. There's even some Super 8 film somewhere! Now where did I put it all... — S.R.

Makes: LOTHELDREN

Format: Papyrus serial

Price: £9.95

Graphics: K

Playability: K

Addressness: K

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By Anthony
Tronker

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and live! Watch
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a lot.

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CUBE

CRAWLER

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2 left
3 right
4:
5 left
6 left
7 right
8 up
9 up

Cube Crawler for Sinclair QL

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1000 GOTO 10000
1010 DEFINT PROCEDURE crawl_left
1020 IF @crawl_left THEN GOTO 1000
1030 GOTO 1000
1040 DEFINT PROCEDURE crawl_right
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1070 DEFINT PROCEDURE go_left
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1100 DEFINT PROCEDURE go_right
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1160 DEFINT PROCEDURE jump_right
1170 IF @jump_right THEN GOTO 1000
1180 GOTO 1000
1190 DEFINT PROCEDURE roll_cube
1200 IF @roll_cube THEN GOTO 1000
1210 GOTO 1000
1220 DEFINT PROCEDURE set_cube
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1240 GOTO 1000
1250 DEFINT PROCEDURE stop_cube
1260 IF @stop_cube THEN GOTO 1000
1270 GOTO 1000
1280 DEFINT PROCEDURE turn_cube
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2000 GOTO 1000

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- X: 0 right
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- S: 0
- C: 0 left
- W: 0 left
- 1: 0 left
- 2: 0 left

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1920 GOTO 1000
1930 GOTO 1000
1940 GOTO 1000
1950 GOTO 1000
1960 GOTO 1000
1970 GOTO 1000
1980 GOTO 1000
1990 GOTO 1000
2000 GOTO 1000

```

Please note that the pound sign should really be a hash sign as used in original manual versions. This is just the fault of the printer.



No. 9: PONG (Atari) By STEVE KEATON

The blip-blip-blip That Saved A Generation

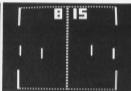
PEOPLE, UNLIKE CRAB, have poor memories. I mean, how many can recall the first video game?

Come on now, really think about it. Back then your mother: "Who would you try? Pac-Man? Space Invaders? Or take a stroll on *Electronic Mail*? Pong? Well — close but no cigar. The first marketed video game was in fact something called *Computer Space*! It appeared in November '71 and was distributed by Midway Associates of California, USA. Interesting, huh? It never got the word either though. The game bombed and less than 2,000 *Computer Space* machines were made. Its only surviving relative is an obscure VHS tape called *Space War*. I've never seen it.

Pong was actually the second video game to hit the market. For unlike *Computer Space* it struck gold. Bushnell and Galeber (for the period) proved instrumental in helping the player's leisure habits. I mean, we're talking not history here! In these more enlightened times though, it may be difficult to imagine the kind of excitement that The Pong Machine generated. This actually marked the start of arcade (that is video) shops, no-toe graphical desired the pockets of million!

VERTICAL

It was essentially a two-player game that involved aiming a shot. Back then it was known in the trade as a portable handball about as in an attempt to define a tiny white dot travelling across the screen. Play was purely defensive. You didn't need to be fast as often it is rebound off you paddle and return to your opponent's side. Points were scored (legitimately



every time a ball was missed. The ball is score fifteen points too. Hey, don't scoff! Expert Pongers could estimate the speed of an approaching ball, calculate its trajectory and predict the optimum deflection point all within the twinkling of an experienced eye. They contrasted dramatically with those casual players who could often be seen spinning their control knobs about in a desperate attempt to create a solid, impenetrable paddle wall. The tactic looked good if scores, but never worked.

It's impossible to calculate exactly how many Pong machines eventually made it onto the market. Copies and variants proliferated in the arcades and it soon invaded the home as well, via a number of small, dedicated Tally Pongs. Many a tennis image was initially etched into the tube of an unscrupulous TV. My personal Pong was the Grandstand match of the Dec 20th. As you're right imagine this was no run of the mill one. He or she was a deluxe version capable of not only Tennis Pong, but Soccer and Aster Pong too! The thing had a brain the

size of a planet. Double was again my staple when climbing off the machine (and I discovered that it was not only still alive but anxious to tread the parts off me) I don't mind saying that after years of plugging it out with increasingly sophisticated players this simple machine stomped me well and truly into the ground. It actually sends the rest of the set and would certainly win a triple E. Addictiveness category. It is come under review again.

BUSHNELL

Pong was also the game that spawned the name of Alan Bushnell indelibly into the minds of *Electronic Games* and established Atari as a multi-million-dollar company. Popular legend has it that Bushnell (born on February 6, 1943 to Mormon parents in Ogden, Utah, along with fellow electrical engineer Ted Dabney, created Pong sometime around November '71). Legend also credits them with devising its predecessor, *Computer Space*. With barely a cent to their name, they formed a company called *Syzygy*, changed it to *Alex*, founded

Pong and then set up shop as the board began to roll in. Four years later Bushnell sold Atari to Warner Communications, for around \$10 million (greatly due to their initial input) and the rest is pretty much history.

However while Bushnell and Galeber were independently instrumental in putting both *Pong* and *Computer Space* into the market, I personally think it kinda doubtful that they ever really created it. The original tennis game that I know of was actually invented by a suspended teacher called William Higginbotham. Back in 1958 Willy produced a version that ran on an Oscilloscope in the Brookhaven National Laboratory in Upton, New York! This Pong beat Bushnell's by more than a decade. Higginbotham's opponent claim to have involved drawing the tennis courts on to the first atomic bomb test is lot of people know that! Similarly my blog detail a *Computer Space* machine known as *Spacewar* making its appearance back in 1962, at an MIT open house, it apparently ran on an old clock called a PDP-1 which spread across a continent yet was hard pressed to deliver more than 60 The roots of Pong are clearly long and varied.

PIZZA

The last I heard of Alan Bushnell he was head honcho of Pizza Time Theatre, a fast food chain featuring a huge grey robot mascot called Chuck E. Cheese. Kind of appropriate, I'm sure you'll agree.



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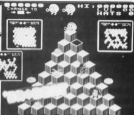
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'Probably The Best Soundchip Of All Time'

—Neddy Perwin (on relations)

The CBM 64 sound chip ("SID") has been getting a lot of attention lately — and not without reason. BILL BENNETT reviews a selection of commercial tunesmith packages for the 64 (pages 51-54), while KIM ALDIS wraps up his assessment of SID's architecture (page 54).

COMMODORE'S SID chip is probably the best piece of music hardware available anywhere on today's low-cost computers. However, most people have difficulty coming to grips with the "grrrr" on a chip because of the half-Baud or the \$4.50 mono-computing music. Some have two options: learn machine-code programming, or buy a software package to take sound from the chip.

I looked at four commercial packages, and discovered that they have a surprising number of common features. All the packages cost a little more than you normally expect to pay for software. Unless often come at a premium price. All of the packages go in for interesting user interfaces — in most cases tying into the facilities of the SID chip in a style that approximates to a synthesizer panel. And all the packages go in for using the guitar keyboard as a kind of most piano.

The last feature is really

amazing. Clearly, the programmers who designed the software can't be musicians, as a writer, I can find my way around a typewriter keyboard quite adequately. As a spare time musician I can just about find my way around a piano keyboard. But the two are very different beasts, and should remain separate. Even Elton John would

you would expect Musical to be pretty radical. Fortunately, it is.

PACKAGING FIT FOR A KING

MUSICAL COMES under, but the distribution process is a certain version some time in the near future. This should not be

'Musical may look like the world's first coffee-table software pack, but it really IS impressive'

be put off his stride if he had to play a typewriter instead of a piano, and I doubt if Barry Manilow could use a computer keyboard over his nose.

Of all the packages, the best is Musical. It isn't only the best musical software for the 64, it is also the most comprehensive. But even to the point it is very expensive. Coming around £30,

and even up the package to a wider audience, its packaging is impressive, which goes some way towards justifying the high cost. The white cardboard is wrapped in a full-color printed sleeve much the same as a full-size record cover. Inside is a manual, or rather a small book, which, like the sleeve, is well designed as well as useful. The

theory disc itself has photographic text, the cover is also in being made of clear plastic software's answer to the picture disc. A quick reference card and a warranty slip make up the rest of the contents.

In many ways Musical can be described as the world's first coffee-table software package. By this I mean it has a high price value. Leave Musical lying around, and invite your computer-chums around, before long they'll notice it and be suitably impressed. Not only does Musical look impressive, other things in its packaging, or on the screen, it actually is impressive.

Musical's front panel is a triumph of ergonomics — the art of squeezing a quart into a pint pot. It not only contains a complete visual display of the state of play regarding SID's registers, but it also shows a representation of the three voices scanning through the sequencer section. These

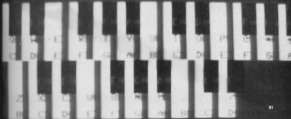




FIGURE 2: MUSIC MANAGER SYNTHESIZER converted from a Vis program.

around square dance around the right-hand section of the screen in measuring patterns, and provided the Tr volume, and the SD chip volume are both activated, three-part music carries your leg holes.

IS THIS THE DEATH OF THE RECORD PLAYER?

APPARENTLY in the US you can now buy albums of music to use with Musical. They simply load in as data files, and play for you. There is even one such album of Christmas carols. Personally I think this is totally missing the point about such packages: after all, good though the SD-chip may be, it isn't likely to replace the record player or radio in a hurry. If your musical taste is Beethoven or The Dixie Jang, the fun of Musical is entering the music yourself, and dragging the notes to play it — it isn't as a piano, or a synthesizer. I like to use Musical as a composing tool, and on the whole it is very good. There are certain limitations but these are for the most part hardware

limitations rather than any faults in Musical.

It is possible to create fairly convincing chain rhythms on one note, a bass line on a second, and a lead part on the third. As a composing tool this is fine, but I wish there were a few more notes. I like to write my music using chords, and many chords built on intervals require four notes. And you still need the bass and drums on top of that. Oh for a better synthesiser chip. Musical takes a long time to load, even though it comes on CD. Musical files — that is the

idea, but this also takes a long time. Musical files are also very large, and you can't store very many on a disc.

SON OF MUSICAL

Musical is a complete package in itself, yet the world of Musical is expanding. Son of Musical, or Musical 2 as the publisher calls it, allows sequences to be strung together, and provides a printing facility as well as a sym plotter which sends

'You can now buy albums of music for use with Musical — they load as data files'

data to a drum machine or synthesizer allowing the two instruments to play together. The printing facility is a bit disappointing, a 'sheet' about

ten pages to a drum machine or synthesizer allowing the two instruments to play together. The printing facility is a bit disappointing, a 'sheet' about

usually fits to be printed as sheet music, but it only prints in conjunction with an obscure Vis Printer, which almost no-one owns, or with an Epson via an obscure interface. Still in a consolation, your musical endeavors will get minor labels on screen. Other experiments are in the pipeline, including a MIDI interface, and some drum patterns for you to build songs around. There is also a Musical user group, which provides support for the product, and offers a discount on some of them.

ROLL OVER BEETHOVEN

COMPOSER'S VERY own Music Composer is a different kind of fish altogether. Supplied on cartridge, this package is not the most impressive piece of software, and in no way an advertisement for Commodore's product. However, it is not expensive at around £10, and has the advantage of being a cartridge and thus loads in an instant. Simply shove it in the back of your M1, and for me today, right back to the bar.

Of course if you happen to turn your computer off, then you could have a disaster on your hands. I might have felt more charitable about the program had the documentation been better, but my copy came with a very inadequate little booklet. I get the impression that Commodore think users are all poetic.

Once the computer is switched on, a chain confuses you, but there is no wealth of options open here. I sometimes



MUSIC MANAGER SYNTHESIZER is readily changed from piano with synth-style editors and editors

wonder about Commodore problems. After all, the facilities offered on this cartridge are no more than most manufacturers would supply as part of BASIC. However, just to prove that the programmers at Commodore are up to the task of the times, an example tune has been included to show off the software. What fortunate confusion did these coders choose to message our brain cells, eh? Karina Demeter, Pop Stars? Not a bit of it, these cheeky Commodore hackers choose Jess, Jay & Mar's Daring! (Lillian Sebastian Price, man, man).

USER HOSTILE SOFTWARE

MUSIC COMPOSER isn't going to let anyone's code ruling — it's a rare example of a user-hostile program. Using the word programming language to write three-part tunes is not easy. Especially as you have to perform mental gymnastics to remember that three notes make a chord. It's not that it would be easier to learn machine-code programming to produce music than use this package. Not, I perceived and managed to walk the way through the OMS impasse concerning Sharp-Gee to write-code adequately enough. Once entered the code saved well enough, but it took five days. I spent a year playing with the Music Composer user manual.

Music Composer isn't at all fun in the playing front either. For the preset voices are in fact not good, and not useful. I was impressed by the way that most tunes dance across the

— MUSIC MAKER —

- (0) CHOOSE INSTRUMENTS
- (1) PLAY NAME
- (2) KEYBOARD PIANO
- (3) SET EFFECTS
- (4) EDIT SONG
- (5) PLAY SONG
- (6) LOAD SONG
- (7) SAVE SONG

YOUR CHOICE 74

EDIT

0010 01E020001E 0000010020010020

0

0010 01E020001E 0000010020010020

Despite the top line on the screen, this package is actually called Music Maker. Music composer can be saved and later used in BASIC programs.

screen-in-sheet music format the computer imitates those piano tones. But it gives a little too quickly for me to sight-read and accompany.

I get the impression that Music Composer is an unfinished symphony. At least the edges haven't been polished yet. One

note is, but will you be able to do anything with it?

THE BITTEREST PILL

MUSIC MASTER from Supersoft comes on cassette

You say it would be easier to learn machine code to make music than produce this package?

example of this is the keyboard piano mode. Located on the screen, or in the so-called manual, is there any indication as to which key is which. The manual claims that "absolutely no musical ability or computer background is required to play this cartridge" (I suppose not, but that is the thing to complete background is required to use an Amstrad). You may be able to

with no facilities, so in the time it took to load, I made a cup of tea. And some toast. The program is 'the musical equivalent of a word processor'. I think that a little music, Music Master is quite convenient to use — most Commodore 64 word-processors aren't. I like Music Master. It has one absolutely brilliant feature that I haven't found on any of the

other packages — it allows you to compose music which you can subsequently use from your own Basic programs. It starts in a user manual program's utility. The above makes it useful, though the £13.95 price tag is a little off to swallow.

I didn't really care for the layout, being pompous and repetitious — the layout, that is. Though there is a good section full of ideas for making strange sounds, and a trouble-shooting section. Although the review program came on cassette, it did allow me to save the fruits of my labour to disk, which is always a sign of some thought on behalf of the programmer. Though I did feel that transferring sheet music to the system was not easy. This is because music has to be entered via the keyboard, but as though you were playing a piano. Still on the whole Music Master is a good tool, and while it is a little repetitive, there isn't anything

← INC 80	← CURSOR	← NAME
0 : INSTRUMENT	0-10	T-0-0-0
1 : FREQUENCY	0-10	0 - 0040 02
2 : BEAT	0-10	0 - 10
3 : BEAT	0-10	0 - 10
4 : BEAT	0-10	0 - 10
5 : BEAT	0-10	0 - 10
6 : PUBLIC PIANO	0-10	0 - 0000
7 : SONG	0-10	
8 : SONG	0-10	
9 : FILE	0-10	
0 : GATE	0-10	
SPACE : PLAY SONG	RETURN : EDIT	



Music Master's trouble-shooting screen.

the sound that will cover your second soundings to flow.

A GOLDEN OLDIE

ROMAN'S MULTISOUND (Commodore) is a novel 4-sound program that used to be available for the Vic 20. It resembles the other packages in that it has two main sections: a synthesizer style piano mode, and a record/playback facility. Like the way the piano works, with notes like a real old-fashioned spin — modern ones are all LDRs, so the new Multisound resembles the greatest of Multisound packages. When you play in piano mode, the piano keys appear on the screen, and a little dot bounces around indicating just which key you have hit. It reminds me of when a dot appears over the words of a song on the TV screen.

Multisound is not the most

sophisticated music package it doesn't seem to be capable of producing three-note chords for example, yet it does have a certain charm. It fit in low with the groovy drumboxes and on the whole, an tapes with the package, though the manual could be a lot better.

And that's it — to do.

Music Master has a keyboard that which can be used in other than its piano mode.

...And More On SID Himself

By **NIM ALDIS**

If YOU remember, last time round we jumped up and down on Sidney to make him bark and howl. This time we're going to stomp on him some more in an attempt to make him bark and howl again.

So far controls for envelopes, volume, waveform and pitch have been dealt with but there are a few other registers, plus bits of ones we've already looked at, for altering the character of the sound.

Having reached the stage where we can control the way a sound starts and the direction it takes on its way to the filter, we can look at techniques for changing the nature of the sound. Consider the difference between the notes made on a piano and those made on a violin. Even if you pick the same frequency from each, they still sound different. The reason for this is largely to do with harmonics. Each waveform is made from several 'sub' waveforms which all total together to make a sound unique to that instrument.

Basically — not much of a pun considering the title of Big Carnie BASIC — there are two ways of introducing a

certain amount of harmonic overtones to Sidney. Again from seeing 'bars' in a certain amount of harmonic overtones', there's a 'sawtooth' and 'ring modulation'.

Sawtoothness is fairly straightforward. Just take two frequencies and logically AND them together for your note. In Sidney's case you can take either of the first two voices and synch them with the frequency from voice three. The result goes through whatever voice you've selected, so, to take voice one as an example, drive a frequency into the frequency register of voice three (SID+74 and SID+85, which control into frequency voice 1 (SID+6 and SID+1), set bit two of the control register voice 1 (SID+6) and start your sound as described in the previous part of this feature. (For details see page 1.)

Ring modulation is slightly different. It takes the waveform of the selected voice and combines it in 'ring modulated' form with the waveform of voice 3. On the Commodore it only works with a triangular waveform on the selected voice. Again the method is quite simple: set a triangular waveform into voice one (SID+6) and in the

same time set bit 2 of SID+4 (i.e., put SID+4 into 0) and set the sound off. The result can be quite strange, sort of two notes at the same time. Prag 2 gives some indication of how it's done.

The final and most versatile way of sawtooth around with SID is filtering. This sounds like a damn thing to do with sound but in fact it refers to the filtering of frequency. In other words in a given sound you can filter out all frequencies within a given range.

There are three types of filter in the Commodore, high pass — which allows only high frequencies through, low pass — which does likewise for low frequencies, and bandpass — which lets through a chunk somewhere in the middle.

The point at which the frequencies are cut off is controlled by register 55 and the bottom three bits of register 31. Bits 0-2 meaning 0 permit everything above the cut-off point, low pass everything below and band pass allowing through everything within a range in either side of the cut-off.

Whether filtering is on or not is decided by the bottom three bits of register 23, one for each voice, and which filter is active by bits 5,

6 and 7 in register 26. Again the same kind of procedure followed: enable filtering voice 1 by putting a 1 into register 23, pick a filter by setting the appropriate bit of register 26, not forgetting that this one has your volume in it. Now set your cut-off point in registers 21 and 22 and finally make a sound low prag 3.

The best way of finding out about the kind of sounds you can make on the Commodore is by listening to them, which is where the final filter comes in. It gives a constant display of all the parameters as they're changed. Frequencies for voice one and three (FREQ1 and FREQ3) which are changed using the function keys 05, 03 and 06, 05. Filtering, attack and ring modulation are toggled on and off with keys 7, 5 and 6 respectively. Waveform is changed with the W key. Filter type is selected with 05, 03 and 06 for high, low and band pass filters. Finally, the cut-off point for filtering is changed by 01, providing my key plays a note.

Now get in there, crank up the volume, watch the meters, turn the stars, blink that bit will stop up the rest and you'll never see his again.

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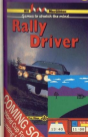


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IS A PICTURE WORTH A THOUSAND WORDS?

Are Verbs Just Nouns? Could Words Be For the Birds? Is Text For Our Men with the Ink-Stained Eyeballs takes up the gauntlet for CHARI. ...

QUATON THE DORKSLAYER was roused from his customary mid-morning slumber by the office Dr. "Master Master" K. cried, napping fitfully at his desk. "The adventure game is dead. Text-only has gone down the pipe, and the rest will surely follow!" Quaton? Certainly!

Naturally Quaton was provoked. After a short pause he replied, "Don't be stupid, Old Adventure is playful and text games have never been more popular!" To emphasize the point he took the tooth-creature quatu by the head with the office Q.

The alternative gear Q appeared unconvinced. "Go out and buy one then!" it challenged defiantly. "Go out and buy a text adventure!" Quaton the Dorkslayer had little choice but to comply. The Q, however late a comer, some hours later KTC would be found certainly

pressing the computer department of his local WH Smith magazine. Much to his honor the Q appeared to be ... correct! Surely he thought, there must be a text adventure around here somewhere? But no!

The only adventure page he could find were the stuff and Junk for the BBC Spectrum and yiffish, Quon's Q and Top Mystery of Movers Mover for the CBM. After wading through mountains of largely irrelevant articles he threw down his blood-wad in disgust and stomped across to a designated comment. An exchange followed:

KTC (forebodingly): "Is looking for a good text adventure?"

Assistant (unconcerned): "What steps? Text? Why do you want text?"

KTC (rather sweepingly): "Because there's better, of course."

Assistant (thoughtfully): "Why don't you try Silver Wolf? That's a good one!"

KTC (less kindly and sure):

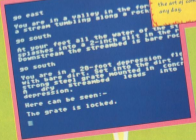
"Can you think Bore the character were marginally better stocked. A fair range of Middle-earth house games listed the Spectrum and Commodore stores, while the Star Wars? proggy seemed unimpressive! BBC games, for Dragon first, there was the King of Darkness. After evaluating the goods to once again disappointed an assistant:

KTC (sweepingly): "Can you recommend a good text adventure for the Spectrum, no text?"

Assistant (helpfully): "Certainly not! Perhaps produce a copy of the standard text-less Asterix? This is very popular! KTC: "Bullshit!"

It took a special computer paragon finally to restore his faith. They agreed to order whatever took his fancy, the assistant, though, was clearly gruff. He owed the Q an apology.

Dan Basterson of Sunsoft: "It's becoming very difficult to sell text adventures, particularly through the big retail chains. I mean when they consider Asterix to be an extremely game, text adventures stand no chance. I think the market will eventually return to direct sales. The wall



order market, I doubt if you'll be able to find any adventures in the big shops soon. You'll have to buy them through Adventure Clubs or through specialist magazines."

Friend of Quaton of Quaton (grimly): "Thanky I think the text adventure market is going to go flat until unless the distributors wake up. We've had problems getting our Gold collector properly distributed. W.H. Swan refused to touch them, simply because they're text! Only a few of the more knowledgeable distributors were interested. We've just produced the alternative, a graphics utility for our Gold system, but I would hope, in my heart of hearts, but it doesn't work for the distributor

USND WORDS?

of scenery games, I much prefer those, to be honest. The scenes you can produce in your field can't be equaled by any

of people need them. . .
Goukakis: "The subject is all very subjective. Creating



scenes of infection, the company also have taken the lead adventure into new areas of sophistication.

We have absolutely no plans to introduce graphics into our adventures. . . Gordon Stone of Infocision told us. The philosophy is that a movie image is far more real than any computer graphic. We are not produced as innovative fiction. There's no need for illustrations. The Del trilogy never suffered from lack of graphics if anything we believe the current trend in the US is towards more realistic adventures rather than any increase in graphics. . .

Back in the office, both the Database and the Del were quiet for the remaining

years the user only adventure has gone. The multiples are only really increased in selling graphics. As the movement continues working on reducing the size of our databases with regard to selling graphics on the BBC. And we plan to introduce animated graphics in the Marvel comic Datascope series eventually.

Animated graphics? Animated adventures? We already have them. They're called arcade games. It seems that the future of adventure games on the UK at least is pretty much mapped out. I guess Datascope can only place in any of the States and



ARE: THE BAIN VILLAGE STREET.

computer visuals, no matter what its quality. I think really we now have a split field now, with younger consumers going strictly for graphics."

So, you see well yes, what's the Database produced up? A fair question. To which there are several answers. It doesn't take a genius to work out that graphics (as) matters. The more impressive the artwork the more the adventure. This means fewer puzzles, stronger descriptions and a shortened play time. Less attention in other words. In the long term the MAP had to a slowing of development. Literate, text adventures, with a combination of intelligence and hyper-complex plot routines (at least potential) are unlikely to see the light of day if consumers are unable to make them.

Baltimore reacts: "With Delvick we have faced with a very clear choice. We could either have made it exceptionally descriptive and even more sophisticated, or we could add graphics. We were advised that if we wanted to reach a mass market that we would have to include graphics. Apparently few

adventures are of more interest really, they have more impact although they do need to sacrifice ease of play for the results. We think a real action adventure like Mahony's Lair stands up equally well against its graphic equivalent, but it would probably be more of an uphill struggle to sell. Really too early to view such a point estimate. I think that the average consumer wants to see graphics. The last time I look at the sales figures."

The attitude of M&A Smith on the subject is clear. Graphics means progress, they told Datascope. "The adventure market has become more sophisticated over the years and the type of text adventure that first appeared has been replaced by higher quality graphics adventures. The only text adventures we currently stock are for the BBC machine. And that's because it has such a small market."

It's an opinion to which Adventure International founder Scott Adams are sympathetic. The introduction of graphics has dramatically widened the market, they declared. "Especially graphics of such exceptional quality is ours. We know a lot of real adventures don't like them, but

BEGINNERS START HERE

OK. So you've got your money and you want to start out these great things called adventures. Only the whole business is more than a tad confusing, right? Well, perhaps not many friends, and fewer the method and extension of finding explorers. There's bright, accessible and flexible fun.

CLASSIC ADVENTURE from Melbourne House & Co. for the BBC B, 48K Spectrum and Commodore 64. A fine version of the original adventure genre, in which you battle dragons and solve riddles. Occasionally tricky, but the problems have been well documented so you shouldn't stay stuck for long.

AFRICA GARDENS from Datascope 5.99 (for the Commodore 64 and 48K Spectrum). One last time we're not to be played alone as it positively slips through your fingers. Splendidly spooky.

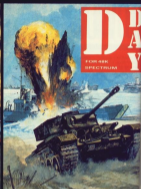
WELSH'S LAIR from Datascope 8.99 (for the Commodore 64 and 48K Spectrum). Cut, moved and snarled rump. That's both really devious and deliciously addictive. Must solve the evil wizard's riddle. Beware! The Phoenix. Rattle from the windpipes. Blast.

ADVENTURES from Adventure International 8.99 (for the Atari range, Commodore 64 and 48K Spectrum). The best of the legendary Scott Adams series, considerably easier than most although still tough. Also interesting from an historic point of view. A good title to stop at games.

DRAGON from Datascope 8.99 (for the Commodore 64 and 48K Spectrum). Standard adventure genre, full of witty repartee and the really, dark situations. Don't kill the Dragon though it's not that simple game.

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Tower of Despair



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D-DAY is a superb game strategy based on the famous landings of 1944. In **D-DAY** players take the Allied German sides, battling through four separate scenarios. **D-DAY** offers reducing tactical challenge to players, level of simple arcade action.

In **TOWER OF DESPAIR**, Games Workshop has used its ten years of experience in role-playing games to create an outstanding adventure. It holds two entire 48k programs, and a guide containing a history, map, and illustrated items.

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CONTINUED FROM P.57

DORKSLAYER!

LOOK WEST, YOUNG MAN

Now, 30 years, that when the land was gray with pagan ways and catted with pungent sanitation there evolved a race of wily rangers who became known as the Sells. It was the, who with monstrosities we laid the holy Seal of Calam captured the Great Beast, the Master Wren, and cast her into a grim land of slays, thus bringing about the dawn of a bright new age (yeah, where Wren's dead). The Master Wren was naturally pissed at this development and vowed to destroy the Seal of Calam and send the guilty Sells into the ground! As it is the way of legend the there weren't any, including Dean. There followed a terrible battle that climaxed with not taking the Sells since more and both Sells and Seal being cast down into the underworld of the Nax-Nag-Kag-aka. 10 years, that happens here the great Calla here, Cuchulainn (also known as Salsans, Calam's hand or just plain Cucul) started in To Na Mog (his neighborhood) in search of the stolen Seal. His quest being to bring together the fragments and reunite them, thereby lightening the burden of the world and ending his own everlasting day (which seems a far enough reason to me).

That begins this unquestionably impressive epic saga in the retroviral arena of the animated adventure, depicting both full-scale action and meander through the area with a (kickin' assable) video equally intelligent (and Savage/Games To Na Mog actually delivers everything that Maffalo promised. I mean, you don't see it peer carefully at a list of undistinguishable but this here. The central character of Cucul stands a lot to peak tall and comes complete with ginsack and horn hat! The screen plays offers you four different camera angles showing full immersion of

the land of Mog — as well as depicting both a compass and inventory list. The animation of all the characters is quite superb. Cucul chomps about with a rationally growth gait, his blowing dramatically in the wind and Mog's drooping defenses are a delight to behold. However, don't expect to complete it in a week. My version was only a pre-production model, smaller in size and less baffling than the final program, with grave errors (say he looked down and fragments of the Seal (nubly available yet even in this limited form, is presented a mixture of horizontal, too to avoid the spiraling Sells have refused to similar appearance following the loss of the Seal) for example? "Two enough make a green man stop. Needless to say I'm hooked. A full blown Cuchulainn should be chomping past your very soon. Don't fail to check him out. —B.S.

"Valkyrie II is up and running" — "Do what?"

Valkyrie '12 from Ram-Jam Corporation. For Commodore 64 (E\$ 99) and Spectrum 499 (E\$ 99).

Nifty first offering from Ram-Jam. A 'Fairly Secret Army' adventure that's not only devious but stocked in a quite ludicrous sense of humor. Apparently Valkyrie II, the Ram's ultimate weapon has been reactivated! Information has been leaked into your airspace (the messages are on the back-side of the tape) and air strikes to Munich have been stuffed down your jockey shorts. Not surprisingly things begin move at a sprightly pace.

On my first mission, being transferred to the Hotel Giza (y'know the one, it overlooks Lake Brant), I overbooked like Brant, I booked myself into black silk dress and

blonde wig (just need your own business, GRT), positioned at the bar, molested by the hotel manager and undressed on a window ledge. Not a bad morning's work. I'm sure you'll agree.

Further cleverly Ram-Jam have noted the market's insatiable demand for graphics by alternating visuals with some tightly detailed text (both of which appear in a window at the top of the screen, and there's a handy 'Save to Memory' option, which is a more than welcome innovation. Indeed, in many ways it's hard to look this debut from Ram-Jam.

Dorkslayer on the run from Ores are unlikely to find a more entertaining adventure alternative. The Mad Nipper files at midnight, they tell me. Best catch this while you can.



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HE WROTE ONE...

Don't Step On My G.U.C.C.I. S.h.o.e.s

NICKY XIKLUNA talks to RICHARD CLARKE, Bubble Bus's rising star.



RICHARD CLARKE is just the kind of person needed to dispel the myth that a programmer is a kind of amorphous, whirling pillar of dance-floor and spectacles tossed in a shiny nylon anorak, which causes a constant trickle of stars as he falls.

Richard sports a Leppie shirt in a crisp, neat and compact red, blue and white, his carefully expressive sales file jacket is carefully chosen to carry on the black stripes and colour in

concrete strides around his body.

Richard takes 'Mini', left school this year to become a full-time Bubble Bus programmer. He is seventeen (just past) and has two Commodore sites under his probably Gucchi belt — *Bumping Buggies* and *Cave Fighter*. His games have been translated into Commodore and Duend, the working title of his current game is *Speedboat Race*. Bubble Bus hopes to have signed him on enough to take it to the market later this month. *Bumping Buggies* did not do

rating bumper cars, instead of crashing, you shove other cars off the track. (It jumps over them along with other obstacles. (That's a nice 3D effect here — your jumping car appears to launch out of the screen at you as you look on from above). *Cave Fighter* is a Mario Bros-style game with 31 levels and 16 monsters. The sunny graphics multiply as you progress, as do the pretentious bridges. All about the procedural screen-clear becomes so small that it's like trying to balance an eel in one hand's bowl. Richard's graphics and sound — the his clothes — are neat and smooth. And you

can shoot to kill in all directions. But what about the one that's building under?

'It's a *Play*. Another whole game. You have to compete with other boats around a course of rocks, flags and various signs in order to qualify. I'm enjoying writing it.'

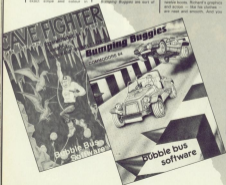
How did he begin?
'About three years ago the games on the market were so terrible and boring that they prompted you to write your own. I wanted to learn as well as. But we spent more time in the classroom than on the computers. I know more than the teachers did. Straight up. We did an awful lot on punch cards. No programming. More like heavy lessons really.

And the first published program?
'I did a new shop in Torquay and went in. It was Bubble Bus. They were a friendly lot and showed the sound anyway. Later they bought *Bumping Buggies*.'

Will he be branching out from the Commodore to write for one of the new machines? The disappointed with the Commodore. I think that one should stick better. Publishing has surpassed the Commodore's sales and sound. However, I think that MSX is a possible game machine, and it's probably safe for that. But then, it's really the same video chip as the Texas, with slightly improved sound.

So what's he doing up there? 'Life... an Apple II with two disc drives and... entering data. Especially a system. And a machine software.'

From a bit of hacking then? 'Oh yeah. I'd like to build into a machine defence team. Not for software reasons, but because it's the most difficult. I fancy the chess challenge.'





The Red Kipper Flies at Midnight

YOU GET FROM THE PRODIGES to discover a message on your answering machine. Something you'd thought hidden for good has reared its ugly head once again. Valkyrie 17 is active.

Over the next five nights a series of frantic phone calls convince you that the matter deserves further investigation. You receive a dossier on the activities of Valkyrie 17. Pieced together from fragmentary reports culled from the last forty years you slowly begin to put the whole thing together. Drakenfurt, Heinrich and Reichswaller. The badge pressed into your hand on the station at

And that last desperate call for help from the Glitz Hotel overlooking Lake Brants.

Your cover is good. Very good in fact. You spend a few days traffing around and then head up towards Lake Brants. You check in to the Glitz Hotel. It's the last lead you have. You seem to be getting nowhere.

Then on your way to the bar you sense a movement in the shadows. You feel a blow on your temple. And everything goes black...

Valkyrie 17 is an Adventure featuring both graphic and text locations. You will meet several different characters some of whom may help you while others see your demise as their sole purpose in life.

Included in the pack is a comprehensive dossier on Valkyrie 17. On the reverse of the cassette tape are the answering machine messages. And then of course there's the game itself.

LOADING TIME	5½ minutes.	MICRODRIVE	X-FER FUNCTION
LOCATIONS	300+	PLN FACTOR	6
LEVEL	7		
SOUND	Bloop Bloop		

HINTS

Watch your back, try not to get killed and mind your language.

The Bend Sinister Corporation cannot accept responsibility for injury or loss sustained in play, or for damage to property caused during the playing of Valkyrie 17. Furthermore the retention of these words affects your statutory rights.

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(Although why an answer machine says so.)



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COMMODORE 64



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How to teach your Micro a thing or two

Thousands of home computer owners have yet to discover their microcomputer's potential to help with many of the problems and decisions that come up every day in the home or office.

Perhaps you have always promised yourself that you would teach yourself programming, but have been put off by manuals which seem to assume a lifetime spent studying computer science and mathematics. Maybe you have looked at other computer books, but have yet to find one which is free of unnecessary jargon or where the program examples bear some relevance to real life and not space invaders.

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"Learn BASIC" is designed for people who want to keep abreast of the computer age, for people who realise that understanding computers is a key to future success at work, at school, and as a parent.

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 Commodore 64
 Acorn Electron
 BBC Microcomputer
 Dragon

Address.....

..... (Postcode).....


```

475 200
476 3F 041 THEN GOTO 418
477 LET MOUNT=LET MOUNT*24
478 LET M=CORR*200 +CORR*200 +CORR*201 +
CORR*202
479 LET L=CORR*204 +CORR*205 +CORR*206 +
CORR*207
480 LET M=CORR*208 +CORR*209 +CORR*210 +
CORR*211
481 FOR #407 TO 1 STEP-1
482 LOCATE 1,1:PRINT "TIME" THEN
483 IF 1=1 THEN GOTO 518
484 IF MOUNT#0 AND MOUNT THEN LET MOUNT=
MOUNT
485 FOR #408 TO 2
486 IF MOUNT#0 AND MOUNT THEN LET MOUNT=
MOUNT
487 IF MOUNT THEN GOTO 1888
488 IF MOUNT#0 AND MOUNT THEN LET MOUNT=
MOUNT
489 FOR #410 TO 3 IF MOUNT#0 THEN GOTO
491:GOTO 5
490 IF 1=1 THEN GOTO 518
491 FOR #411 TO 3 IF MOUNT#0 THEN GOTO
5:GOTO 5:GOTO 5
492 3F 040 THEN LET MOUNT
493 3F 040 THEN LET MOUNT
494 3F 040 THEN LET MOUNT
495 LOCATE 4,10:PRINT LEFT$(M,2):LOCATE
4,11:PRINT RIGHT$(M,2)
496 LOCATE 4,10:PRINT LEFT$(M,2):LOCATE
4,11:PRINT RIGHT$(M,2)
497 3F 040 THEN GOTO 508
498 LOCATE 404,104:PRINT " *CORR*204*
* "
499 IF #402 THEN LOCATE 20,10:PRINT CORR
1000:LOCATE 20,11:PRINT CORR*200
501 IF #412 THEN LOCATE 20,11:PRINT CORR

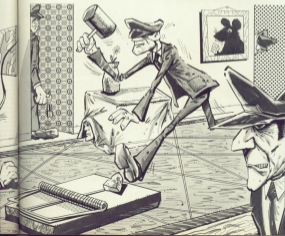
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```

1002:LOCATE 20,10:PRINT CORR*200
502 IF #404 AND MOUNT#0 THEN LOCATE 40
4,10:PRINT " *CORR*204* "
503 IF #404 AND MOUNT THEN LOCATE 404
42:PRINT CORR*200
504 IF #404#0 THEN LET MOUNT=1:IF 1=1
42 THEN GOTO 504
505 NEXT #
506 NEXT #
507 LOCATE 1,10:PRINT " * "
508 LOCATE 1,10:PRINT " * "
509 LOCATE 1,10:PRINT " * "
510 LOCATE 1,10:PRINT " * "
511 GOTO 318
512 FOR #413 TO 10 # 10
513 PRINT " 00 00 000000 00 00 000000
000000 00 00 000000 00 00 00
00 000000 00 00 00 00 000000
000000 00 00 00 00 00
00 00 00 000000 000000 000000
000000 00 00 000000 000000 000000
000000"
514 PRINT
515 PRINT " HOUSE"
516 PRINT-PRINT " BY JOHN DE
LEAT"
517 PRINT "*****
*****"
518 FOR #420 TO 20:LOCATE 1,5:PRINT "4"
LOCATE 40,5:PRINT "4"NEXT #
519 LOCATE 1,20:PRINT "*****
*****
*****
*****"
520 LOCATE 15,20:PRINT "SUBTRACT 100"
521 PRINT "This are a mouse and next me
on this. Behave on the top floor of an
old house. WATCH OUT FOR THESE CREATURE
!"

```

CONTINUED OVER PAGE



Mouse Mouse

```

718 PRINT "A" :GOTO 2001
720 PRINT "A" :GOTO 2001" THE SECURITY
SUMMER
730 PRINT "A"
740 PRINT "A" :GOTO 2001" 2nd MOUSE, ON
V. HE CAN OPEN THE HOLE.
750 PRINT "A"
760 PRINT "KEYS:DOWN:DOWN (LEFT:PAR)
ON"
770 PRINT "A" "GOOD LUCK!"
780 LOCATE 24,23:PRINT "PRESS ANY KEY"
790 IF INKEY$="" THEN GOTO 790
800 LET S=2:GOTO 20
810 IF mouse#14 AND mouse# THEN LOCATE mouse
+1,mouse:PRINT CHR$(223):LET mouse=mouse-2
:LET S=1
820 IF mouse#11 AND mouse# THEN LOCATE mouse
+1,mouse:PRINT CHR$(220):LET mouse=mouse+4
:LET S=0
830 IF mouse#10 AND mouse# THEN LOCATE mouse
+1,mouse:PRINT CHR$(225):LET mouse=mouse-5
:LET S=1
840 IF mouse#14 AND mouse# THEN LOCATE mouse
+1,mouse:PRINT CHR$(223):LET mouse=mouse-3
:LET S=0
850 RETURN
860 IF mouse#10 AND mouse# THEN LOCATE mouse
+1,mouse:PRINT " " :LET mouse=mouse+5:LET S
=0
870 IF mouse#14 AND mouse# THEN LOCATE mouse
+1,mouse:PRINT " " :LET mouse=mouse+3:LET S
=1
880 IF mouse#11 AND mouse# THEN LOCATE mouse
+1,mouse:PRINT " " :LET mouse=mouse+2:LET S
=0
890 IF mouse#7 AND mouse# THEN LOCATE 28
+1:PRINT " " :LET S=1:LOCATE mouse
+1,mouse:PRINT " " :LET mouse=mouse+3
900 RETURN
910 IF mouse#10 THEN GOTO 940
920 IF mouse#11 THEN GOTO 940
930 RETURN
940 CLR:GOTO 0:PRINT "

```

```

000
000
000000000000
000000000000
000
000

```

```

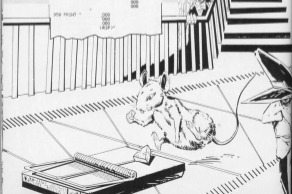
000 PRINT "
000
000
000
LEFT"

```

```

940 LOCATE 9,23:PRINT "PRESS A KEY TO PL
AY"
950 IF INKEY$="" THEN GOTO 970
960 RESTORE:GOTO 10
970 IF mouse#17 THEN GOTO 1000
980 IF mouse#10 AND mouse# THEN LET mouse+1
:LOCATE mouse+1,mouse:PRINT CHR$(220):LET mouse=
mouse-2:LOCATE 10,23:PRINT "YOU HAVE THE 2nd MO
USE"
990 IF mouse#17 THEN LOCATE mouse+mouse+1
:PRINT "
1000 LOCATE 26,1:PRINT "THANK YOU!"
1010 GOTO 1000
1020 IF mouse#11 THEN RETURN
1030 CLR:GOTO 0,20
1040 PRINT "WELL DONE" WELL DONE
"WELL DONE"
1050 GOTO 1
1060 LOCATE 9,23:PRINT "PRESS ANY KEY FO
R ANOTHER GAME"
1070 GOTO 10,20
1080 PRINT "
1090 GOTO 10
1100 GOTO 10

```



Battle through Time

ANIROG

**Battle
through Time**

COMMODORE 64

In the year 2025 A.D., time travel is finally perfected. Scientists of the present send you into the time void equipped with an armed, all terrain vehicle. Your objective is to assist mankind in his various battles: from the prehistoric age to the aftermath of the final conflict. Only a successful mission can assure your return. Features include 99-Score table, two player option, two skill levels and continuous play facility.

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Games show no mercy.

Acornsoft have now unleashed eight more merciless games onto unsuspecting BBC micro owners.

Ranging from 'Gateway to Karno', where putting the wrong foot wrong could mean instant death. To the merciless antics of 'Dragon' which could have you dying with laughter.

Gateway to Karno.

An adventure game in which you'll need all your patience and ingenuity just to stay alive. Your objective is to find the Talisman of Khoironz but, whichever path you choose, you'll be beset by treachery. Traps lie in wait and magical phenomena are in abundance. Should you find the Talisman, you've still to find your way back.

Labyrinth

A superb real-time game with fast 3D graphics. As you guide Mark through the Labyrinth, he'll have to earn fruit to keep going. Crush the Tiger-Moths, shoot the Hitterbugs, dodge the Threshers and find the Magic Crystals which lead to new and more challenging levels of the Labyrinth.

Tetrapod.

You're in an arena littered with dormant lizards, silver bees and other hostile creatures with whom you'll have to do battle to survive. But beware of your own laser bullets, as they bounce off the arena walls.

Dragon.

A game for two people - preferably with devious minds. There are two vaults containing diamonds and our job is to collect and transfer them to your home base. While your opponent is out collecting you could sneak in and steal his loot... but keep an eye out for his doing the same to you.

Gray Tracer.

An arcade style game where you're in charge of a paint roller. Guide your roller around a maze of obstacles while evading monsters who are committed to destroying it. Gain extra rollers and bonus points by painting different objects. But you'll have to avoid running out of paint.

Volcano.

Mount Corona has erupted after 150 years of silence. And your mission as an Emergency Rescue Helicopter Pilot is to save sightseers stranded on the slopes. Time is of the essence as the lava approaches the sightseers. But you'll have to take time to evade - or shoot - the bomb-laden being hurled from the volcano.

Carousel.

A re-creation of the fairground shooting gallery - with a difference. Shoot down all the ducks, owls and rabbits before you run out of ammunition. Watch out for the low-flying ducks. If you fail to shoot these, they'll steal your bullets and reduce your chances of success.

Meteor Mission.

On an alien planet are six stranded astronauts. Launch your capsule from the Mothership and by avoiding - or shooting - meteors and alien craft, pick up the astronauts one at a time and return them to the Mothership.

All games - with the exception of Gateway to Karno which is currently only available on a cassette - can be bought direct in either cassette or disc form. You will find all these programs at your local Acorn stockist. To find out where they are, or to order by credit card, simply ring 0933 79300 during office hours.

Alternatively, you can order the games by sending off the coupon below to: Acornsoft, c/o Vector Marketing, London Road, Wellingborough, Northants NN9 2RL. Please allow 20 days for delivery.

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Tetrapod		
Dragon		
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NAMING THE GUILTY men

LET'S KICK off this month with a real goodie. Micromania (Sage, £1.75), for my money the best individual hobby book available, and certainly the most useful.

Written by Charles Platt (USA) and adapted for Britain by David Langford, it sets out to tell the whole truth about home computing and does it with knowledge, wit and style. Aimed mainly at people hovering on the brink of, or with one toe in, the murky waters of the hobby, it manages to put the best foot in an already very steep.

The chapter on manufacturers ("Naming Names") is alone worth the price of admission and really shows up books like The Macworld's Personal Computer Handbook. Commodore get a particularly brutal drubbing, but virtually all manufacturers stagger out of the ring covered in blood.

Even if you've already taken the plunge, there's plenty of good demystifying gain in, for instance, "Translating Computer Magazines into English".

Of course, books like this always suffer from being a bit out of date, even when revised as this one has been. It doesn't look like the thirty issue of MSX and seems to press before Alan opened the latest price war, for instance. Even so, warmly recommended if only for the price.

The More Detailed Editions, £2.95 on the other hand has no jokes, is excessively polite about everything and is as boring a book as you could hope for. It's a formal series of articles about 80% is standing copy while the rest is specific to the Spectrum, the BBC or Atari XL. Put together from material published in Another Computer Magazine, these probably is some part to be squeezed out of the latest issue first, but instead of 2000 articles for the general reader and not technical enough for serious computer freaks.

Pointing "The Inexplicable guide to your computer" is a book jacket sounds well OTE, but I must admit that Chris Williamson's Setting the Micro Out of Your BBC Micro



JOHN CONQUEST selects best

Penguin, £3.95 with their first up to it. Very clear, well laid out and to the point, it gets off that rare trick of computer writing - of leading the thin line between formal and techno-gibberish and actually being straightforwardly informative.

Apart from picking up where the official "User Guide" leaves off, it fills in the inevitable gaps. Should be in the bin with every book.

Writing about the BBC Comp by Steven Bayley (Mellonrose House, £3.95) has the best printed game being I've ever seen, beautifully clear with Duckworth valuations to boot. Unfortunately the game themselves look dull as dishwater. The giveaway is the strip on the cover showing "Steven Compable". About a third of the book is actually given over to examining sub-routines, the "building blocks" of the code, showing the applications of structured programming.

Robert Young and Roger Bull, the authors of Games Commodore 64 Computers Play (Addison-Wesley, £3.95) should be published by Mellonrose House, if only because they're fellow Aussies. From their logs, they've obviously both hobby-daily wargamers, but it doesn't show much in the selection of 19 listings. About half are arcade games, a quarter abstract strategy numbers and the rest adventures or simulations. A very few Addison-Wesley seem to be re-publishing - at least in a paperback, which vary from fairly cheap to virtually invisible. Because the games sound more interesting than most, I mean Simulated Farm and Roman Empire? Change the ribbon next time, lads.

CBP of Programs for Commodore 64, £3.95, programs by Richard Franklin, edited by Nick Humphries, suffers, if not quite so badly, from the same problem. A large chunk of the

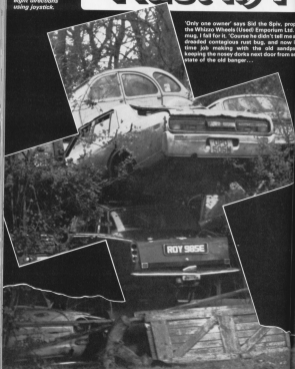
book is devoted to high-end graphics via machine code, with music, utilities, games, and defined programs, a long Star Trek game listing, plus a medical pay-right adventure and a clutch of other games.

To anyone who has tried to use their Commodore 64 at all seriously will know, the version of BASIC that it is equipped with is not the best advanced version around. Thus Peter Genned introduces, with classic understatement, his Advanced BASIC & Machine Code for the Commodore 64 (Blackswan, £2.95). It is used through style. Genned, a really serious 64 man, sets out to go beyond those slow motion PERLS and POCES, using an arcade game to introduce the rudiments of machine code programming. Unlike its stable mate above, it loads crystal clear listings, an excellent appendix of useful information summaries and a proper index.

*Controls:
Move sandpaper in
eight directions
using joystick.*

Rust in Po

'Only one owner' says Sid the Spiv, proprietor of the Whizzo Wheels (Used) Emporium Ltd. 5 mag, I fall for it. 'Course he didn't tell me so dreaded contagious rust bug, and now it's time job making with the old sandpaper keeping the nosy dorks next door from an state of the old banger...



Peace

RUST
IN
PEACE

PETER WILLIAMS
COMPOSER

AGE 5 ARE
NOT NEEDED

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400 FOR=550:VOLUME 750:COUNT 1000
410 HIT=0:RY=0:FLAG=0:POKE 15,0:POKE 0,0
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410 POKE 704,0:LEV=LEV+0:LEVEL=LEVEL+
1441:POKE 27,LEVEL:POKE 100,LEVEL:PO
420 SOUND 750:POKE 0,250:POKE 0,250:PO
TO SOUND 0:POKE 0,0:POKE 0,150:PO
0:POKE 0,1 TO SOUND 0
425 SOUND 0,250:POKE 0,250:POKE 0,250:PO
KE 0,250:POKE 704,0:RETURN
430 POKE 0,0:POKE 0,0:POKE 0,0:POKE 0,0
435 POKE 0,0:POKE 0,0:POKE 0,0:POKE 0,0
440 SOUND 750
450 COLOR 0:POKE 0,0:POKE 0,0:POKE 0,0:
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Continued over page

RUST IN PEACE for any Atari By P. Williams

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CHARTS

GAMES TOP 20

KEY **N** - NEW ENTRY **R** - RE-ENTRY **BK** - BIG K RAVE

THIS MONTH
LAST MONTH

1	1	DALEY THOMPSON'S DECATHLON (Ocean)	Spectrum/Commodore 64	£7.99
2	2	FULL THROTTLE (Micro/Mega)	Spectrum	£8.95
3	10	MONTY MOLE (Gremlin Graphics)	Spectrum/Commodore 64	£8.95/£7.95
4	4	TORNADO LOW LEVEL (Vertex)	Spectrum	£5.95
5	8	BEACH HEAD (US Gold)	Spectrum/Commodore 64	£7.95/£9.95
6	N	BK AVALON (Hewson)	Spectrum	£7.95
7	6	MATCH POINT (Polon)	Spectrum	£7.95
8	7	BK LORDS OF MIDNIGHT (Beyond)	Spectrum	£9.99
9	3	BK SABRE WULF (Ultimate)	Spectrum	£9.95
10	5	JET SET WILLY (Software Projects)	Spectrum	£5.95
11	N	BK FOOTBALL MANAGER (Addictive)	Spectrum/Commodore 64/BBC	£8.95/£7.95
12	N	KOKOTIM WILF (Elite)	Spectrum/Commodore 64	£5.95/£8.95
13	N	BK SHERLOCK (Melbourne House)	Spectrum	£14.95
14	N	AMERICAN FOOTBALL (Argus Press)	Spectrum	£9.95
15	9	DECATHLON (Activision)	Commodore 64	£9.99
16	13	RAPSCALLION (Bug-Byte)	Spectrum	£8.95
17	R	BK PSYTRON (Beyond)	Spectrum	£7.95
18	N	CHARTBUSTER (Alligata)	Commodore 64/BBC	£9.95
20	20	JACK AND THE BEANSTALK (Thor)	Spectrum	£5.95

SPECTRUM TOP 20

1	DALEY THOMPSON'S DECATHLON (Ocean)	£7.99
2	FULL THROTTLE (Micro/Mega)	£8.95
3	TORNADO LOW LEVEL (Vertex)	£5.95
4	AVALON (Hewson)	£7.95
5	MATCH POINT (Polon)	£7.95
6	LORDS OF MIDNIGHT (Beyond)	£9.99
7	SABRE WULF (Ultimate)	£9.95
8	JET SET WILLY (Software Projects)	£5.95
9	MONTY MOLE (Gremlin Graphics)	£8.95
10	BEACH HEAD (US Gold)	£7.95
11	SHERLOCK (Melbourne House)	£14.95
12	AMERICAN FOOTBALL (Argus Press)	£9.95
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14	RAPSCALLION (Bug-Byte)	£8.95
15	KOKOTIM WILF (Elite)	£5.95
16	FOOTBALL MANAGER (Addictive)	£8.95
17	PSYTRON (Beyond)	£7.95
18	JACK AND THE BEANSTALK (Thor)	£5.95
19	FIGHTER PLOT (Digital Integration)	£7.95
20	OLYMPICON (Mitsco)	£5.95

COMMODORE 64 TOP 20

1	DALEY THOMPSON'S DECATHLON (Ocean)	£7.99
2	BEACH HEAD (US Gold)	£9.95
3	MONTY MOLE (Gremlin Graphics)	£7.95
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18	KINGSTON ON WILSON	£12.95
19	TRASHMAN (Columbia)	£7.95
20	JACKSON (Context)	£9.95

ALLEY

THE

TIGER

AND THE

BALLGAME

Muscles, to DAVID DORRELL, are oval purple jobs you find on the beach. Which made Super Basketball a bit of a struggle to handle.

SUPER BASKETBALL

HAVING BEEN a prize stench at anything involving lit or God-farbal, outdoor physical activity, the new spore of sports-based arcade action made me feel distinctly uneasy. There was a troubling irony here...

At first, games like *Foot & Field* were the poor relations, with fat cartoon figures barely evolved from the little yellow blobs that

would munch their way across the screens. And while one could make a plausible case for some games being a good, farsenex substitute for aimless violence, the sports games seemed to be only a substitute for aimless sports. Intellect, with like myself come to realize to escape just these sorts of useless activity.

More of an obstacle was the fact that the games are often American, and thus



HI SCORE
TIME
1:04 1:05

MAN IN SPACE



quite often, which brought them, I suppose, back into the realm of the true arcade game. For *Man in Space* (and who ever heard of a sport called *Man in Space*) was the best of these, since its rules might as well have been those of a space battle, and the Moore formation tactics a challenge to any

game one all female. Perhaps designed to counter such popular male numbers as Nintendo's *Planet Out*, which this summer saw queues of budding male players eager for a physical feat, *Super Basketball* is a less aggressive, more malleable game.

With three possible actions — dribble, pass or shoot — the action is easier to get to grips with than *Planet Out*, but faster and more complicated in its possible plays, facilitated by a more realistic screen perspective.

Unlike *Twin & Field* or *Man in Space*, the speed of play barely lets up, and the game requires a constant response; tactics must be deduced by single dribbles, passes made to team players in the right positions, and shots taken as near the basket as possible all in all, I reckon it could make a sportsman of me yet.

TWO TIGERS

PRIMITIVE in its conception, barbaric in its programming, *Two Tigers* nevertheless has the virtue of being supremely and delectably dumb. Its sole innovation is the dual control system, allowing two attempts to do battle with the even more limited intelligence of work behind the screen instead of the usual one.

Selecting the 'daylight' mode will enable you to engage your arch rival in the air even as you stand at his side. Already, the options begin to close in.

Your fighter, so cheerfully assembled at the drop of a coin, must defend a battleship of some nameless class that streams into view with all the drama of a plane stuck at a shooting gallery. Now is your chance to get the Cinema mode to which so much was owed by so many.

This particular conflict plays itself out against a backdrop of screaming T-bombs, you but really one's own machine is hard to spot among all the others leading like hermits around the screen. Luckily, the representation of this war theatre bears no relation to real life nor even the laws of gravity of aerodynamics. None of this matters much though, as the only reason for playing

this game is the soundtrack.

A composite reel of old war movie sound effects, complete with cries of 'bombs away!' and even — inaudibly — a cavalry charge, this serves to conjure up the atmosphere the graphics lack. Its not unlike a 20p ride on a sort of war dodgems. You'll probably find your arch rival has gone down laughing.

Pics: DAVID CORRIER



WAVE

Defender's wife.

Here one was back in the desert, where all that mattered was the split-second of galvanizing interplay between human nerve and electronic pulse. You can dress that up how you will and call it a substitute for whatever you like, the arcade format will deliver it all. And so, in time, I too became a digital dabbler. What does a digital dabbler do between Olympics?

No or she could be Simon's *Super Basketball*, although he might feel a little out of place since the plays in this single but nearly transposed sports

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FORSYTH SAGA

DAY OF THE HACKER

The Fourth Protocol is best-selling thriller-writer FREDDY FORSYTH's newest (and smash hit). Now his devious and sense-world of spies, counter-spies and briefcase-sized portable nuclear weapons has gone all plastic. NICKY KRUPA reports...

"THE AMERICAN market has convinced us that intelligence fiction is where it's at," explained Jim Colescott—senior vice president of Frederick Forsyth's very English and distinguished publishing house.

The essential element of any computer game is an idea. Harold Stone (the publisher) had used lateral thinking—and got one. They decided to create software from their existing titles. Of their many fiction authors, F.F. was the most obvious choice," explained Jim. "Not only that, but the publisher himself of suspense was willing to release the idea. He saw it as a new medium for his work. He was not afraid. Even this means that F.F. is computerized!"

"Yes, Jim. But his children are, so he may well soon be," we wanted a game whose rules would match that of the book," added Hutchinson MB Group Inc. "It must appeal to all ages, and require logical thinking rather than jargon. We didn't want it to come with a load of literature, so it must also be immediately accessible.

Hutchinson have big plans for the Fourth Protocol. It will be out on disk for the Commodore and Microsoft with the American market in mind. For those able to British citizenship, there'll be a glossary so that they can look up oddies like 'The SAS' as they come to them.

Group Inc has no doubts about the popularity of a game based on a Forsyth novel. "Our first priority was to find one person who could oversee the design. In fact he found two.

John Lambhead and Gordon Patterson are systems games designers. They may state upon age when taken into the game both of them. John was with the SAS, and Gordon a colleague of military soldiers. After discussing their mutual

interest, they designed several board and role-playing games together. Their first electronic product was Legend from Century. The Fourth Protocol was started in September, the first draft just having been given F.F.'s approval.

But how did they even begin to translate F.F.'s great 50 page comic into a game? "We didn't want simply to translate the book into a game. If we'd stuck entirely to F.F.'s story, there'd have been no suspense. We've created the same basic plot and atmosphere, but situations will be different."

"How was it structured?" "Basically, long periods of intellectual activity interspersed with short periods of violence. We've divided the game into three parts—and done fairly loosely. Roughly 'Find the Vector,' 'Find the Bomb,' and 'Arcade Action,' the first section sees John Pearson, of the Civil Service, trying to find a top level leak."

The John Pearson in the novel is a bit of an anti-hero. Driven and depressed, he's a maverick rather than a member of the Magic Circle. Did that intend to convey this in the game?

"Oh yes. We've tried to evoke the counter-culture world of MI6 as much as possible. Your quest will be inspired by your superior and there's a prestige meter"

to assess how much weight you're pulling. John will have certain unmovable tasks which will accumulate on a tracking system—so...no drinking! You'll have nine days to find the leak (each day equals two minutes in real time). Again, the book won't help you, as we've decided on a random mode.

You'll be able to use the computer...as...as a computer. First is MIB Central Intelligence computer. You can also store files and make telephone calls."

The next lead, or 'Find the Bomb' is a special game. You move from screen to screen looking for bomb components and picking up clues. The parallel book series logic, reading it won't help) starts with



Pearson being given a fictional 'promotion' to a less official position in Paris and Saragossa, Madrid, Paris, Moscow, London and Russia (legal), consisting of a bomb, the component parts of which are being smuggled in by secreted couriers. You have

the use of intelligence services including the Watchers (learned Sanskrit), Parody (knows to the letter as 'Chemmy') is able to communicate clandestinely with Member Russia using a series of 'one time pads'.

Our team have used F.F.'s detail to their advantage. Every soft copy of the Fourth Protocol will have a code-breaker matrix. This will be encrypted so that it is virtually impossible to photograph. We'll be making life harder for pirates," explains John.

By the time you've made it to the final screen, you'll have learned chemistry with the bomb. Section two will have given you the codes you need to diffuse it. But the bomb is guarded by kamikaze Russians, and you're working against the clock. Using the SAS Regiment, you must storm the bastion, then you're in for some full-blooded private action. It seems that many games have been plundered in order to make the interactive Fourth Protocol.

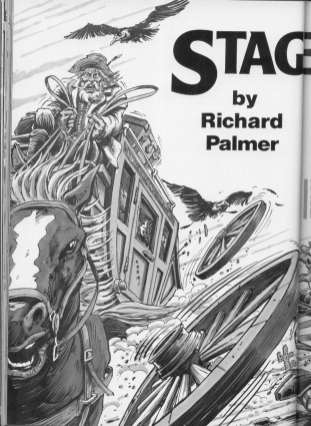
"Actually, our biggest problem has been trying to avoid having a D notice slapped on the game as soon as it comes out. Both of us have ended thinking like intelligence operatives and have some access certain information that we just can't see—like the real location of intelligence Headquarters. There are some real characters involved in the fiction—so we have to be careful.

"After all, we are Civil Servants," says John. "And we don't want to be on the blacklist!"



STAGE

by
**Richard
Palmer**



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HOW TO SELECT AND ERECT A VECTOR

KIM ALDIS ponders the arcane secrets of the Third Dimension

A SHARP 80486-ops Account-based Altair. Even more recently they developed a fontset in an unassuming guise in the form of *3Dz*, the kit of which has never been seen before. Both these games rely heavily on the technique of vector graphics which has been around making pictures on computers since the world *is*, in fact, in the beginning there was code vector graphics.

In mathematical terms a vector is defined as a direction and a length, sort of "the long and ever there". In computer graphics they extend the idea to give it a starting position and draw a line along it. The great beauty of this is that it's very easy to manipulate by rotation, scaling, shearing and stretching.

Always and in the 2D things in three dimensions and although it's done in machine code to make it fast enough, the principle is the same as outlined here or there.

First of all, to make the simple job I consider two dimensions, X and Y.

Look at fig 1 and imagine the point P being rotated clockwise

about the origin, O, through an angle theta to a point P'. Then—

$$\begin{aligned} X' &= X \cos \theta - Y \sin \theta \\ Y' &= X \sin \theta + Y \cos \theta \end{aligned}$$

Shearing it all in a lockset and making it about a lot gives—

$$\begin{aligned} X' &= X \cos \theta + Y \sin \theta \\ Y' &= -X \sin \theta + Y \cos \theta \end{aligned}$$

From that, imagine a line joining points from a whole range of points. If you want to rotate it, all we have to do is apply these same formulas to each point in turn in the order it was drawn and then redraw it. That's the theory, the practice is in your kit.

The above equations are all very neat in simple algebraic terms, but when we start getting into more complex transformations you can end up with numbers flying around like locusts in a paddock field. This is where "matrices" come in handy. Matrix algebra is a very powerful method of manipulating points in multi-dimensional space. At the moment we're only concerned with two dimensions, even with three, but along these lines little drawings

you can make about it space with one number of dimensions. If you thought the fourth dimension was confined to go it reveals that much again, you can only wish there was more, if you think you can do it and hold onto your marbles.

Expressed in matrix form the above equations look like this—

$$\begin{bmatrix} X' \\ Y' \end{bmatrix} = \begin{bmatrix} \cos \theta & \sin \theta \\ -\sin \theta & \cos \theta \end{bmatrix} \begin{bmatrix} X \\ Y \end{bmatrix}$$

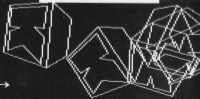
Which looks fairly straightforward but comparing it with the equations for X and Y above, it's fairly easy to see the general case—

$$\begin{bmatrix} X' \\ Y' \\ Z' \end{bmatrix} = \begin{bmatrix} \cos \theta & \sin \theta & 0 \\ -\sin \theta & \cos \theta & 0 \\ 0 & 0 & 1 \end{bmatrix} \begin{bmatrix} X \\ Y \\ Z \end{bmatrix}$$

Having noted that for us, normally, our three is probably looking "odd" they look like angles, or words to their effect, it'd be right, and it's one of the reasons why they're very not done for computers to wrap them with round. The other is the fact that they can be "rotational", in other words several can be put together to be one game state transition. In this very general approach can be performed in code.

Using the matrix notation we can start to think about other transformations. Namely scaling, reflection and shearing. *3Dz2* gives a list of the matrices for these operations.

OVER PAGE



prog21

11 Rotation (clockwise)
Rotation
(Anti-clockwise)

(COS theta) - (SIN theta) /
(COS theta) (SIN theta) /
1 - SIN theta, COS theta /
1 - SIN theta, COS theta

12 Scaling

(Sx, S)
13 - 36)

13 Reflection (x axis)

(1, 0)

(0, -1)

Reflection (y axis)

(-1, 0)

(0, 1)

4 X-axis

(1, 0)
(Sx, 1)

Y-axis

(0, 1)
(0, Sy)

Now all we need is a routine to perform all these ops. There's all different but because the matrix multiplication is always the same, we can use a single array, changing whichever matrix we need into it just before the operation is performed, and use a single procedure for the matrix multiplication (PROC=matrix in prog20). Each procedure for rotation, scaling, etc, can fill the array with its matrix and then call PROC=matrix to perform the multiplication. This keeps it simple and easy to keep tabs on.

This is all very well but you're probably worried, in prog 1) that the rotation works around the origin and the drawing routine about a line the handle of a stick.

The same is true of scaling, the distance from the origin is scaled as well, and the end result is a stick where it's probably not needed. Because it's required to do a rotation about a point on the drawing line, Simple... we shift that point to the origin and all the other points on the drawing by the same amount, do your rotation and then shift it back to where it was.

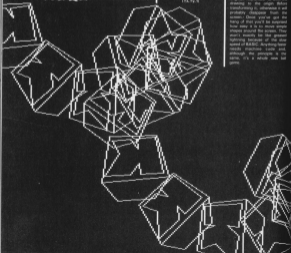
Problems is, we don't as yet have a shift routine. The reason for this is very simple, the coordinate system we're using isn't like a system which (as, though, is a homogeneous coordinate system, in which the point (x,y) becomes (x/y/z). For most purposes we can use x+T and avoid a lot of awkward business. The translation, or shift matrix then becomes -

(1, 0, 0)
(0, 1, 0)
(Tx, Ty, 1)

and all the previous ones can be exactly the same as in prog1 except they take an extra row and column, all zero except the bottom right which is one. For example rotation clockwise becomes -

(COS theta) - (SIN theta) /
(SIN theta) (COS theta) /
0, 0, 1

Now go ahead and try it out. Programmers that receive a series of values from the keyboard and performs it with homogeneous coordinates, it uses the (Sx, Sy) translation, so you can enter distances like (COS theta) of whatever and an angle in degrees. Start off doing shift ops and then try a few rotations and reflections. The ops will be additive so if you do one rotation of 45 degrees the next one you do will change that, rather than the original. Remember to shift the drawing to the origin before transforming it, otherwise it will probably disappear from the screen. Don't you've got the hint of that you'll be surprised how easy it is to move simple shapes around the screen. They don't require the full process of using because of the use of a lot of ABC. Anything that needs tracking, like and, although the principle is the same, it's a whole new ball game.



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IN THE NAME

*OK Kid, up against the wall
and spread 'em while we read
you your rights. Don't know
your rights? Tch, tch, kid,
you've got trouble comin'...*

By JOHN M...



IN REQUEST



©ARTSBUY

COMPUTER CONSUMPTION

WHEN YOU buy something from a retailer, in a shop or by mail order — be it a computer, peripherals or software kit, come to that, anything from online to e-commerce — whether you realize it or not you're entering into a legal contract with the seller, with the law very much on your side.

For your car, you agree to pay the asking price, while the seller agrees, under the Sale of Goods Act 1979, that the goods are fit for their usual use, are of agreed quality and are as described. Moreover, under the Misrepresentation Act 1967, anything he tells you about them has to be true.

OK, so you walk into a shop and see the shiny-looking computer with a sign saying "The new state-of-the-art Puhohi X100 with stereo sound!" You ask the assistant if there are games included for it and, when he says there are, put your hand-extended fingers on the counter and walk out with your cardboard box of electronics wizardry.

ERRATIC

You get home, plug it in and nothing happens. Or happens erratically, or back to front or in Japanese or whatever (right, the shop has broken its first promise. A computer is supposed to compute and when you buy something for a function, whether to use it, sit on it, drive it or play River Raid on it, there's an implied condition that the goods are reasonably fit for that purpose). Obviously means that you can't expect as much computing from a X100 as an IBM, but if you told the shop what you wanted from a machine and the one they sell you doesn't do what you want, then again it's not "reasonably fit".

If it works alright but is scratched, bashed or otherwise shabby when you get it home, or the printing starts coming off the top in the first week or anything else that doesn't impair the functioning that is envisaged, then the "second promise" has been broken, the "implied condition" that the goods supplied are of merchantable quality". However, this doesn't apply "to regards defects specifically brought to the buyer's attention" or "if the buyer

examines the goods ... as regards defects which that examination ought to reveal".

Sometimes these promises will overlap. So the inside of a machine is full of mouse droppings. Even if you had a butterfly first, you wouldn't be able to tell, but it certainly wouldn't be of "merchantable quality". On the other hand it probably wouldn't work too well either.

If a shop assistant describes something, or it carries a sign or label, there is "an implied condition that the goods will correspond to that description", in other words goods must be what they say they are.

Apart from accurate descriptions, sales talk must be truthful, so your decision to buy something is influenced by information given you by the shop that turns out to be incorrect (that it's been re-manufactured). This applies if the shop acted dishonestly and to the best of their knowledge. However, this doesn't cover actions, only statements of purported fact.

So there you are with your Puhohi which doesn't work, is falling apart, has noise sound and for which there are no games available. What do you do about it? Easy — you take it straight back and complain.

Your best advantage is that the legal definition of acceptance is not that you've paid and taken the goods out of the shop. No, no, no. Acceptance in law is what makes it clear that you accept the goods as satisfactory, whatever that means, or have had them for a reasonable time, whatever that means in goods. If it's not what the seller you get to work, the buyer.

You have not "accepted" the goods, i.e. you're back screaming within hours or days, then the shop must refund your money in full. If faults develop later, within weeks or months, then you'll probably have to accept damages. In real life most shops will either exchange faulty or unsatisfactory goods or give you credit, but neither of these remedies, even though they may be perfectly satisfactory in many points, is recognized in law. The law only entitles or damages, nothing else.

"Damages" are normally taken to mean the cost of repair, but the shop is in fact liable for any related

OVER PAGE

less of expense. Say some software gets wiped out when a machine crashes, or your tally gets blown up for shuffling also directly related to a defect in the machine, then the shop, being in breach of contract, must make good.

Misuse — something that few people realize — you are entitled to claim for equipment use. Be the shop is liable for your time, transport and trouble. For example Atari's guarantee states that you have to pay the cost of nonpayment, but this has to be written in law.

If the shop tries to outwit your verbal complaint, your next step is to get it in writing, addressed to the highest managerial level. If you still don't get any joy, find out what trade association the shop belongs to and go to them.

Lately, there's the Small Claims court. You'll find an excellent explanation on how they work in *The Citizen Guide to the Law*. It's important to remember in these cases if you lose, you don't have to pay costs, and the advice they have been made as accessible and so it yourself if possible, so it really's not your a penny and it by no means the daunting exercise it might seem.

DEMONSTRATION

There are, however, some simple pre-emptive precautions. First, do your research so you know exactly what you want and why. Talk to friends with you — an extra witness is invaluable if there are any arguments later. Make the shop set up the machine you're actually going to buy, not just the demonstration model, and check that every thing's together. Responsible shops will do this anyway, more for their own benefit than yours. Use Lion House who test everything before it leaves the shop, will tell you, they don't need the appreciation either.

If you still run into problems, remember that everything we've said so far is the straight goods, so don't let the shop tell you anything different. If they do and when you go to the manufacturer, it's not on your contract is with them, and they have to honour it. One important point through the contract is only with the original purchaser, so if you've given a machine for buy one second-hand you either have to get your manufacturer to deal with the shop or, under negligence laws, go back to the main supplier. Another example: Bunker said this but in their guarantee which is "no transferable".

However, under the Supply of Goods (Implied Terms) Act [83] there is a general contract with the

manufacturer. The golden rule here is, never fall in a guarantee and keep the shop tight instead. Despite Atari's 17000 guarantee shall only be effective if ... stated within 30 days of delivery (for Commodore's it should be forwarded within 28 days), there is absolutely no requirement to do so. Though most are unwilling to see the guarantee (800) not affect the purchaser's statutory rights, and it is in fact a general offence under the Unfair Contracts Act 1977 to try and limit such rights, by signing if you indicate that you accept the manufacturer's conditions, conceding a bit of legal ground. While you are nothing at all by not signing.

Most guarantees undertake to replace or repair defective equipment within 12 months of purchase through Atari only give you six months. This sounds very nice at first, but alas, it's not up to the manufacturer to decide when his legal liability ends. The question a court would ask is, how long should a computer be reasonably expected to last? Inevitably, Commodore's 12-month guarantee also says that the 80 should give "many enjoyable years of trouble free use". To the "many" is at least three and probably more, and a court would almost certainly take the same view. Obviously the more you pay the more you can expect and a BBC, for instance, can reasonably be expected to last longer than an Amstron, but both should hold up for longer than six months.

Commodore lies, as with Atari and Commodore's, state of rights and liability is written to the actual hardware, but this isn't so. The maker is liable for related equipment just as a shop is. Where both shops and manufacturers are on safe ground is when they discover machines that have been dropped, modified, defaced or otherwise abused. Lion House's best story is of someone who acquired a Spectrum in a wooden case, drilling in wood screws from underneath, and then complained that the machine didn't work!

"When a machine goes in for repair, whether to a repair shop, the original dealer or the manufacturer, there's another contract, again with four conditions. These are fairly straightforward, the work will be carried out to a reasonable standard, the materials used will be of good quality and reasonably fit for use, and the work will be done as agreed.

The fourth is a bit unclear — that the repairer will take "reasonable care" of your goods. Attempts to exclude liability, the right being "good will at customer's risk", are an offence under the Unfair Contracting Act. The only guarantee I've seen that does attempt to limit

liability is Atari's, which states that "the Company does not accept responsibility for any loss or damage during transit to or from the dealer of the Company". QED (unless you're the fan of the company) is that if you hand over a dual machine, you can legally expect to have a fully functioning one returned to you. Once it's out of your hands, hand in the repairer's, it's the repairer's responsibility, except in the event of his being able to prove that he was not negligent.

When it comes down to it that you have a lot of rights that nobody, but nobody, is going to tell you about. With some shops you'll have to trouble at all — with others, nothing but. And the same with manufacturers. What the hard case must hope is that you'll get up and do their best job without whining. Hope never given you enough to know how to fight back.

COPYRIGHT

UNLESS THIS is the very first computer mag you've ever read, you'll know that software publishers do a lot of worrying about "unauthorised reproduction". In plain language, almost none attempted to copy the industry £100m within a year.

There is now plenty of time and money in developing programs and their efforts are, in theory protected by the Copyright Act 1988 and the Universal Copyright Convention, which most countries have signed.

Copyright covers any original work, "literary" or "artistic" (or both) into which the author has sufficient brain put sufficient labour, skill or judgement clearly to differentiate it from any existing work.



The Act forbids the reproduction, publication, or adaptation of such work by any unauthorized person. Even though software is not specifically mentioned in the statute, there is absolutely no doubt that the limited protection does exist, for it has been extensively tested in the courts. The only area of doubt is whether ROMs and EPROMs are covered by copyright or patent law.

No registration is necessary if you have to do it in order to do something new, convert it to paper, tape or disc, or if you did it before 1989 and you start worrying about pirates. Unless you work for a software pub-

lisher, there is a book carried out in the course of employment under a contract of service, written or implied, normally belongs to the employer. However, ownership of copyright will depend on the conditions of employment as there are plenty of provisions between full-time salaried employees and commissioned freelancers. Freelancers usually retain copyright, but even that depends on the nature and wording of the commission. Programmers now have their own professional body, the Society of Software Authors & Developers (SASAD), Whitehouse Lane (South), Dogmers, Essex, which hopes to thrust that the problems involved in contracts and copy-

right. The classic adventure game Adventure and adventures, the Colonel Croak, has never been copyrighted and thus is in what is called the Public Domain. This means that anybody can copy, publish or adapt it, but nobody can gain any legal rights over their version which can in turn be copied, published or adapted. However, the Videogame and game which Level 1 added to their implementation, Colonel Adventure, is clearly a work of labor, skill and judgment and thus copyright. So if somebody you're keen to copy the first two kinds of it which only contain obvious alterations, but not the last two.

BOOTLEGGING

There are three distinct forms of piracy — individual, plagiarism and bootlegging. If you or I, God forbid, should make a copy of a program and use it in breach of copyright law as we would be in making a film off the telly or making from a record, but on this level it's really an ethical or moral question — how we personally feel about ripping people off — because, let's face it, there isn't much anybody can do about it. But the "software is copyrighted" argument isn't even though admittedly Alan's piece used to be a virtual no-man's-land in piracy. The truth is that an awful lot of games and utilities are illegally written (and used) by ones for a start, while some, like Wordstar, Eudora, etc, are very successful for what you get. I'd like to see software shouldn't be published, but you would paying over the odds by using judgement.

Software houses use every legal copy to a full end, which probably overstates the case somewhat, as it seems pretty obvious that a lot of bootlegging goes on for obsessive collecting of books, not matter what. But they also make wild copyright

claims. Take a typical, and real, example: "Unauthorized copying, using, lending or sale and repurchase prohibited". A lot of this is just hot air, because once you've paid your money, software is your property and if you want to hire, lend or sell it, that's your privilege and the manufacturers can take a walk.

COPYING

Plagiarism is the one that really causes the hot blood in the biz. This is when one software house adapts another's program and markets it under a different (though usually not very different) title. Large development costs keep big profits. This often practice is rarely widespread as you can tell from the number of clone games around, endless variations on Star Trek, Monkey King, Aster 2048, or whatever. There have been several successful civil actions taken for infringement of copyright, but the problem is demonstrating that one program is substantially identical to another. That "substantially" is an iffy word which brings it down to shading, though minor variations and/or later changes has a good chance of beating the rap.

The real market is large-scale book market publications of other people's products, usually games, and it's in this area that software publishers want to see changes in the law. While Part 1 of the Copyright Act, the stuff that works OK, part 2, the criminal sections, doesn't. The first criminal prosecution, brought by Crystal Software Inc. Design, Design against Yankovic Software, ended with the defendants being fined 100 and 500 each. As Crystal estimated that Yankovic cost them 100,000, this result was in their view a bit inadequate. Moreover, Crystal wasn't even able to establish that software piracy was a criminal offense, because, being clever, they stuck to claiming infringement of their trade mark, a Tall Order. If Yankovic had remained it, even that wouldn't have worked.

EVIDENCE

Mirrored, seems to Auld vision in a chip had (stated as, Collier) in the Jungle, have succeeded in obtaining what's called an Amos Pillar today against a bootlegging operation in California. The idea of the order is that evidence of the alleged crime can be seized by the police before the accused get wind of the impending color feeling and destroy it. Tapes, what tapes? But they

will have to deal with the shortcomings of the Act.

FAST, the Federation Against Software Theft, has drafted a Bill that amends the Copyright Act so that it specifically covers software and provides the police with greater search powers and the courts with much greater penalties, up to 100,000 fines and/or two years imprisonment. A similar amendment was made in 1982 to cover video tapes. Nicholas Berghal MP introduced it under the 10 Minute Rule in July. The government has more or less promised to support such a Bill, but it will be a long time before it becomes law, no matter what.

FAST's biggest problem is that a lot of pirate creators are so good that they can't be told from the originals. So, in order for the police to be able to work on proposed changes in the law, software houses will have to come up with some way of branding their originals in ways that the pirates can't copy. Otherwise proving theft will be virtually impossible.

BOOTLEG SOFTWARE

Even a new law won't help with the most glaring example of software piracy, the Portuguese company that is openly selling, and even advertising, bootleg software. These days it seems to be copying the usually British victims can do about it. The law is on their side, OK, but international litigation would be slow, expensive and uncertain. All Vireco has to do is spin things out as long as possible, then do a runner with his ill-gotten assets. His brother set-up under a different name and somebody's back where they started.

The answer to piracy seems to be run as much in the open as the law, even awarded, though that might help against the profit in the development of built-in security locks or anti-on devices designed that will make it impossible to copy programs. However, given the dynamic state of computer science, that's easier said than done. An American company recently produced a program called Locksmith which would copy any supposedly protected software. The only thing it couldn't copy was Locksmith itself. You guessed it — another company promptly came up with a program that could in theory an unbreakable security device already exists, Jim Lammert's famous program which the government claim is a threat to national security and has been linked up.



LETTERBASE

Letters to BIG

WANNA WIN A FIVER?

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IPC Magazines Ltd
Kings Reach Tower
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A sea glass of fifty? It's a small percentage for B Kelly, Leeds.

action that never fail to underwhelm me. The difference is not ideological.

BLUNT

Could you please tell me when the VIC and G4s turn to mag items.

M. COX,
Hoburn,
Type & Wear.

• Ah. Commodore Business Machines! Always it was to wither obscure solution to a commonplace problem. And why bother making different machines manually compatible? Such a sense of humour! Yes, the VIC and the G4 are totally different. The VIC 20 doesn't have bit-mapped graphics at all. Instead, you have to simulate high resolution mode using resolvable characters. You fill the screen with 512 resolvable characters, and then adjust these to give the illusion of motion. This is not a lost procedure in BASIC and frankly I wouldn't bother unless you're doing it in assembly.

On the 84 high-resolution programming is also slow, but at least there's a true bit-mapped screen. This would normally reside at address \$9E, but due to the VIC chip's necessary paging system, you can relocate it almost anywhere. A couple of other in other case, and I'd recommend you to get hold of a more technical manual, such as Commodore's own Programmer's Reference Manual if you really want to live in sleep. — P.S.

OUTRAGE

You've really done it this time. If your editor had any games sense, Vultures would never have been included in Game Games. It's the game of the year!
DAVID SMART,
Dingwall,
Rothesay.

HACKER HAS HUMP

How unhappy I am that you do not take a more liberal view of hacking and hackers, nor write about them more! I am writing to protest hackers have future standing. You MUST write more about The Art of Hacking (and Hacked).

HIMMY MONSTER,
Morpeth.

HACK FIMBLES

I like B.C. 881 (with the idea of hacking women and drooping over the head. Imagine how bright we some of the best games on the Spectrum. Let me tell Nicky Kirkham that his review is as informative as a melted ice-cream that a cat's been sick on.

EDWARD JOHN,
Wylam, North.

IDEOLOGUE

You don't like B.C. 881 just because you think it's sexist.
J. GREAT
Birmingham.

• You've both got hold of the wrong end of the — ahem — club, I'm afraid. It's B.C. 881's graphics and

DOPELGAINGER

I have written the review of *Miss Marm* in order to become a regular reviewer for *Commodore 64* games.

LEE STUBBS,
Gards Vale, Birmingham.

I have written the review of *Miss Marm* in order to become a regular reviewer for

Commodore 64 games.
LEON BOBO
Gards Vale, Birmingham.

• An incredible dump of para-psychological powers — both applicants live in the same street, no less, and both have provided identical copies of *Miss Marm*. Truly, the frontiers of science keep receding.

BIG KRYPTIC

Something has been occurring at her door under. What is the official definition of 'hacker' and the numerous other linguistic entries in *881 K7*? We do have our theories as to the meaning but are not absolutely sure. Could you publish a guide to British computer lingo?

Despite its cryptic language, *881 K* is the best mag of its kind — and we get 20% of what's available down here. Keep us the bump side!

NICHOLAS MURRAY,
East Downcast
Australia.

• A hacker is one who hacks. Hacking is performed on a computer via the telephone system and a device called a modem. This enables a hacker to 'hook up' (plug his equipment in), 'log on' (open a channel) and 'talk' (talk) with other hackers. If such hackers, please submit your electronic argon for Gory oxidation.

Meanwhile, Nick, I just happen to have a real live captive hacker here for your personal . . . I.P.S. What's 'bump'?

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ON THE COST OF
SOFTWARE
AND HARDWARE
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<p>CUBE CRAWLER</p>  <p>CUBE CRAWLER</p>	<p>for Sinclair QL</p> <p>PROGRAM</p> 	<p>Trust In Peace</p>  <p>Trust In Peace</p>	<p>for ATARI</p> <p>PROGRAM</p> 
<p>Paint Roller</p>  <p>Paint Roller</p>	<p>for Dragon</p> <p>PROGRAM</p> 	<p>BLACK JACK</p>  <p>BLACK JACK</p>	<p>for BBC</p> <p>PROGRAM</p> 

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JEFF MINTER

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- *The Llamasoft line-up: games featuring furry creatures, among other strange objects.
- *EXCLUSIVE PREVIEW of Minter's newest runner — *Marco Llamas!*

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The Spectrum listing that unlocks the mega-secrets of BIG K's reviewing style. You won't believe it — we don't believe it!

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NOT TO MENTION

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All non-human life is here. . . read it at your own risk

REMEMBER

— in BIG K no one can hear you scream. . .

Paint Roller

by Alan Heywood

Life in the Corridors of Power isn't easy. Someone's got to arrange to do the frequent whitewash jobs that every government needs.

This exciting game, based on authenticated Civil Service leaks, has you struggling to paint every bit of floor space, but beware of your paint running out.

CONTROLS:

Left cursor: Go left

Right cursor: Go right

Space bar: Blast through obstruction

```
10 *PAINT* ROLLER*
20 *FREE* *BL* *IN* *CORRIDOR*
30 *CORRIDOR* * * * *
40 *FLOOR* * * * *
50 *CORR* *C*
60 *CORR* *L*
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First of an engaging — and subtle — new BIG K series in which we profile Great Dead (or Near Dead) Computers of Our Time. . .

THESE WE HAVE LOVED

No. 1 THE JUPITER ACE

A VICTIM OF THE DEARTH OF FORTH

BY BILL BENNETT

THE BEST THING about the Jupiter Ace was that it doesn't use boring old BASIC. Gone were difficult concepts like line numbers, logical program flow and simple to understand commands.

Instead, the Jupiter Ace used Forth, the computer language of the space age, designed to control radio-telescopes. Forth makes use of simple, easy to grasp features like scanlines, stacks and peculiar symbols. Gary Kildall, the father of CP/M, describes Forth as a "write-only language", pointing out how difficult it is to understand a Forth program, particularly somebody else's.

This is one of the most useful aspects of the language for professional programmers. After all, if programming was simple then any old person could manage to do it, and programmers would not be able to pose in wine bars discussing their work in very loud voices and even louder shirts.

Of all the advantages of Forth, the best is that it doesn't use much memory. The Jupiter Ace had only 8k of ROM so it was less likely to contain bugs, and there was a compact 3k of RAM. This

ultra-thin plastic which could be wiped with an ordinary dishcloth to remove unwelcome fingerprints. It came in a tasterful white or scheme complete with go-faster stripes. The ultra-thin plastic had been specially developed for lightness and flexibility.

One of the most pleasing aspects of the construction came into play when programming in a draughty room — should a sudden gust suddenly blow your micca away, it would gently float to the ground.

Ergonomically the Ace was a triumph. It used the tasteful "dead-feet"-style keyboard first made popular on the ZX Spectrum. But amazingly the keys had been crammed into a smaller space. The net only means that the computer was most compact — taking up only a 1/3th of the space of Commodore 64 — but also made playing games more skilful as the keys were harder to hit, especially liked the way the key markings wore off after a while, making the computer even more severe against prying hands.

Everybody knows that one of the most important aspects of any computer is the associated software base. There was never a good deal of software for the Jupiter Ace, but what did (does?) exist was (is) certainly interesting. Take, for example, the Mastermind program. This microcomputing breakthrough featured on-screen display in breathtaking monochrome, state-of-the-art keyboard entry and made use of the integrated keypad. Most of the rest of the software for the machine took the form of toolkits and utility packages, so Jupiter Ace owners weren't going to be wasting their time playing games.

There weren't a lot of peripherals available to the Ace — though apparently someone used to the Yorkshire area did buy the disc drive. The wasn't the drawback it appeared to be, because the interface at the back of the machine doesn't work too well. Normally the Jupiter Ace came with a white on black TV output. However if you had a soldering iron, a degree in electronics, a month of Sundays and some money to spend, building a colour monitor output was a trifle easier. A high-resolution mode of 256x128 pixels placed the Ace in the same class as the Commodore 64.

The Jupiter Ace was not the only micro in the Jupiter Cinnabar range of computers. Later models came with a cavernous 19k of RAM, and a special switch which could "turn-off" the Forth ROM. Shortly before the company went bust there were rumours of a version of BASIC available on tape. Gone... but not forgotten.



added to the speed of the machine as there weren't much memory to address. As RAM memory can cost as much as £1 a kilobyte, this also meant that the Jupiter Ace didn't cost too much at £80.

Just because the Jupiter Ace was cheap to buy, there was no reason to assume that the manufacturer — Jupiter Cinnabar — had cut any corners. The case was made of the highest quality

GULPO!

Yes, it's here again. The column that dares to name names and point the accusing finger — mostly at ourselves. Did you spot these classic blunders for the past...?

To Write One (B&K No.8, p.8)

Apologies to Jean Frost of Addictive Games, for it was she who translated Football Manager for the Commodore 64, and not Peter Lutz. All credit goes to Peter for the BBC version.

Box of Gold for VIC 20

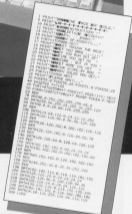
B&K No.8, p.8

Confused VIC 20 owners need assured, you are not going crazy — we are! For did a long time ago, depending on who you believe. Part of this games listing was missing, also is the first section of the games which must be added before the section that appeared in B&K No.8. Note that the listing here is untransliterated and consists of the necessary Commodore graphics characters. Just type straight in. Apologies and thanks to Mike of Goldstar G. Roberts — as well as the few billion VIC 20 owners out there.

Templates Total for Dots (B&K No.8, p.26), Bar Shooting for VIC 20

B&K No.8, p.114.

Portions of these listings were rendered illegible due to a bug in a reproduction operating system. We apologize. The bug has been shot. Desperate programmers write to B&K for a correct and clear listing.



BIG K FUNNIES

BY ROGER WARD WACKER



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