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COMMODORE FORMAT

Welcome to another fantablious issue of the world's best selling Commodore magazine...

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Did Mayhem come top? What do you think? Anyway, discover which games claimed the other 49 positions. It's not quite as predictable as you might think.

13 DIARY OF A GAME: 10TH DAN

Over six months in the making! And still no end in sight. But the graphics are coming together and the men are beginning to kick each other with gusto. But what's programmer Jon Wells been up to this month?

34 INTERVIEW: JEROEN TEL, C64 COMPOSER

The name might not be familiar but the music will be. Mr Tel is responsible for the track to games like *Lemmings*, *Smash TV*, *Outrun Europa* and *Turtles The Coin-Op*. What a dude.

14 THE TOP 20 PD GAMES EVER

Not voted by you! But trust us on this lot, okay? We even tell you how you can order the whole lot for less than the price of the number one game in the Top 50.

10 GAME REVIEW: HEAVENBOUND

Who says they don't make games like that anymore? Whoever they are, they'll be silenced by this fab platformer that owes a lot to *Rainbow Islands*.

26 GAMEBUSTERS

There's a complete guide to *Wizard's Pet*, plus tips for taking the easy option with games like *Archetype*, *Cool World*, *Deliverance*, *Exile*, *City Bomber*, *Batman* and *Supercars*.

9 ON THE POWERPACK...

Dropzone

DROPZONE

It's at number 16 in our Top 50, and we reckon that if it had been on the Power Pack a couple of months ago it would have powered into the top 10. Discover why the consoles are falling over themselves to have versions of this superb *Defender*-style shoot-'em-up.

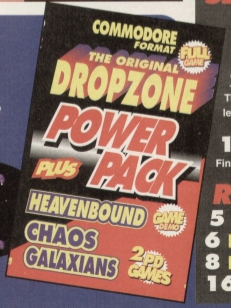
Chaos

HEAVENBOUND DEMO

It's up, up and and away with a demo of this excellent vertically-scrolling platformer from Austria.

GALAXIANS & CHAOS

Two addictive little blasters plucked from this month's



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JOn Wells continues to try and produce the greatest beat-'em-up ever seen on the C64.

17 THE ALL-TIME TOP 50 C64 GAMES – VOTED BY YOU
Here we are, then – the definitive Top 50. And there are quite a few surprises – and shocks – in there.

34 INTERVIEW: C64 COMPOSER JEROEN TEL
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11 REVIEW: CASHMAN COMPILATION
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Final part of our Assembly series.

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16 READER ADS

TURN TO PAGE 9 FOR THE FULL COVERTAPE BRIEFING...

SNIPPETS

News, gossip and other bits of miscellaneous info that didn't really fit neatly into any other part of the magazine...

GLOBULAR GAME

Just out from M&P software is a new brain-bending puzzle-orientated game called *Amorphous*.

M&P, who were also responsible for *Squarescape* (reviewed in CF44), claim that the new puzzler has been specially written to take into account all the criticisms of their previous game, which met with a luke-warm response.

It involves a blob who has to find his path through various maze-like levels, the twist being that when he meets intersections, he always follows a strict set of rules about which route he'll take – in other words, if there's a choice between up or left, he will always head upwards.

Add to this the fact that he can only cross each tile in the maze once, and we've got what sounds like the elements of a classic puzzler.

The game costs £3.50. Make cheques payable to Paul Kibiszyn, and send your orders to M&P Software, 21 Stockwell Road, Milton Malsor, Northampton, NN7 3AN. Or you might like to wait for our review next issue (we like to think we serve some kind of useful purpose here on *CF*).

IT'S A CRACKER

These days it isn't just professional mags that carry covertape software. Fanzines are getting in on the act.

Commodore Cracker is a new A5 'zine boasting 24 mono pages and a rather packed covertape called the Crackin' Cassette. The tape features mainly PD games, plus a couple of demos and messages from the editorial team.

There's games reviews, PD reviews, techie tips, letters, news, type-ins and... hang on, this is sounding very familiar...

Oh, what the heck, let's face it – Commodore Cracker is the fan-produced version of Commodore Format. And if you can't wait four weeks between issues of *CF* then *Cracker* should fill the gap pretty well.

Issue one costs £1.60 (and that includes the tape) and make cheques payable to Brian Turner. Write to: Commodore Cracker, Turner Magazines, 46a Kent Avenue, Ashford, Kent TN24 8NQ.

DAVE'S OFF

It's a farewell to Dave again, as he leaves Commodore Format for the second time to go off and deputy edit that games mag we told you about last month, Ultimate Future Games.

In the meantime we'd like to thank Tim Norris for stepping into the gap temporarily until a permanent new ed is found. And you'll find out who he, or she, is next issue.

RUMOURS & UPDATES

● The Electric Boys have been in conversation with the BBC, no less. At a recent Computer Trade Show the Boys bumped into a team from Auntie and managed to convince them that a feature on a computer that produces top-quality games at a fraction of the price of console software was a really good idea. So you never know, you could see the C64 on *Going Live* pretty soon. Maybe.

Could we see Lions of the Universe on the POwerPack soon?

● Still with the EB's, as you will no doubt have worked out from this month's covertape demo and the review on page 10, have finally started releasing some of that Eurosoftware we've been raving about for the last few months.

Unfortunately, negotiations with CP Verlag – the German company that does most of the software the EB's are interested in – are going a bit slower than expected, but hopefully there should be a few games coming over the next few months, including *Lions of the Universe* and *Fred's Back*.

There is even the possibility that some might turn up the Power Pack (but don't hold your breath).

In the meantime, feel free to hassle CP Verlag yourself to convince them that releasing this stuff in the UK is a REALLY GOOD IDEA. You can contact them on ☎ 010 911/96832-0. (Remember to get permission of the people who pay the phone bills).

● The Electric Boy's very own *Defensive*, meanwhile, is also nearing completion.

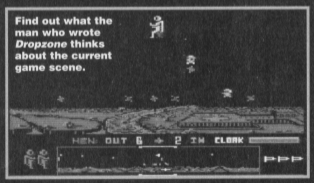
● Meanwhile, over in the Jon Wells/Visualize camp, work on 10th Dan and the very promising-looking platformer *Germ Alert* continues feverishly. It looks like *Germ Alert* could be released this side of Christmas, though *10th Dan* will more likely blast onto your 64 early in 1995. Hopefully we should have a demo of *Germ Alert* on the Power Pack in a couple of

YOU'LL KICK YOURSELF IF YOU MISS IT!

The Future Entertainment show is nearly upon us, so if you haven't decided that you're going to go yet, here are a few more reasons why you really shouldn't miss out on what's going to be the biggest computer event of the year.

It's going to be taking place in the cavernous hall at Earls Court 2 on 26th-30th October. Besides all the stuff we've told you about so far – all the latest software on show, all the biggest companies exhibiting, tons of hardware for sale, lots of workshops to get involved with and stuff like that – there's also going to be a special seminar by two past giants of 8-bit computer programming.

Jeff Minter (*Attack of the Mutant Camels*) and Archer Maclean (*Dropzone*) will be talking about the lack of originality in console games. So you can bet they're going to say loads of nice things about the C64, and how things were much better when people used computers instead of consoles. That all happens on the Saturday, by the way.



Find out what the man who wrote *Dropzone* thinks about the current game scene.

Plus the *CF* crew – including Simon and Dave – are going to be there on some of the days (hint – don't go on Friday), so you can meet us and tell us exactly what you think of the mag (but please be kind, okay).

So what are you waiting for? Phone ☎ 0369 4235 now and order your tickets. They're only £6. If you leave it to the last moment and pay at the door you'll have to fork out £7.

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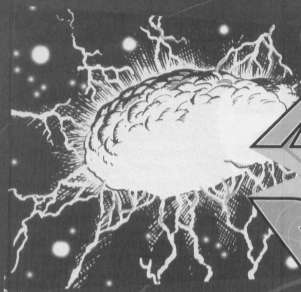


THE MIGHTY BRAIN

More intelligent than Carol Vordeman. More mysterious than the London Underground timetable. More legless than Oliver Reed. It's The Mighty Brain, and once again he's been rummaging through the CF mailbag. Odd.

CHUFFED

Dear TMB,
1 If the Rowlands (Apex) make a *Mayhem 2*, could you suggest to them from me that they include end-of-level guardians for every level and include some bonus stages?
2 Oh, and before I forget, I would like to thank the *CF* crew for printing the lives cheat for *Mayhem*, because I completed it thanks to the listing. And I would like to thank the Rowlands for making such a brilliant game in the first place.
3 *Mortal Kombat* – I know you've told lots of people it's not coming out on the C64, but why not? I mean, the Sega Master system had it and that's an 8-bit the same as the C64.
4 Why, on some games, don't you get any music. On *Turrican* on the NES you get music, but on the C64 *Turrican* you don't get so much as a note.
Chris Bromley, Lowestoft.

1 Unfortunately it now looks like the Rowlands definitely won't be making a *Mayhem 2* for the C64. It's a shame, but the have moved onto other more lucrative ventures, and you can hardly blame them. You never know, though, *Mayhem* might be a *WWF 3*?
David Pierce, no fixed abode (apparently)

Actually we have said some nice things about the original *WWF* game, but *European Rampage* was pretty dire. That's why we always slag it off. *WWF3*? Most unlikely (and unwanted). **TMB**

BITS'N'PIECES

● Why are the Electric Boys so brilliant?
Ben Hawes, Milton Keynes.

Because they care. **TMB**

● Does cost a lot of money to buy the rights to a game?
D Gray, Peterborough.

That depends on what the game is. Some ancient 8-bit stuff that the author has trouble remembering they wrote it will probably go for a few hundred. Street Fighter 2, meanwhile would set you back quite a few thousand, I expect. **TMB**

● Do you have any friends?
Anon, Derby.

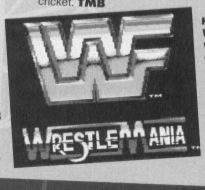
Not in the sense you understand. Besides, with some of the most evil races in the universe out to get me, I am a dangerous person to know. It is not fair of me to get involved too closely with anyone. And anyway, most humans are about as interesting as stale bread. **TMB**

● Why does the *CF* crew always put down the *WWF* games? Will there ever be a *WWF 3*?
David Pierce, no fixed abode (apparently)

Actually we have said some nice things about the original *WWF* game, but *European Rampage* was pretty dire. That's why we always slag it off. *WWF3*? Most unlikely (and unwanted). **TMB**

● Why, oh why don't you go and bomb Sega and Nintendo?
Jonathan Davidson, Newcastle.

Are you asking me to become a software terrorist? Sorry, I must decline. Needless violence isn't the answer to anything. Fun, yes, but not really, well, cricket. **TMB**



How do the WWF wrestlers do all that pre-fight shouting and stuff without feeling stupid?

well turn up on another format, at which point we can all smile smugly and say, "well we had that game years ago."
2 I do have a moral problem with cheats – if you buy a game surely you want to play it, not cheat your way through? However, you have to admit, it would be a shame if you didn't get to see all those lovely levels the Rowlands designed just because you can't play the game.
3 The reason why Mortal Kombat's less likely to come out on the C64 than Dave is to pass a fish and chip shop without popping in, has less to do with the C64's capabilities and more to do with the major software companies not taking the machine seriously anymore. Anyway, you can bet that *10th dan* is going to be light years better than some crummy conversion done for a fast buck would be.
4 It's down to lazy programming, basically. **TMB**

CREEP

Dear Sir (*creep – Dave*),
Is there any chance that there might be a section in the mag on how to program games from scratch, ie, how to put your ideas into code and where and how to put sprites and music into a game. We could then piece a game together month by month.
D Gray, Peterborough.

Now that Jason's Machine Code series has come to an end the lazy great lump has got nothing better to do, so we'll get him on the case. And I reckon that I should be the star of this game. I feel I should be immortalised in code. Except that I'm pretty much immortal already. **TMB**

TEMPTED

Dear TMB,
Your mag is the best, even if the covertapes are getting worse with every issue.
1 Should I get a MegaDrive?
2 What happened to the Early Warning Scanner?
3 When is *Batman Returns* coming out?
4 The Charts have gone too? Where is everything going?
5 Any hope of the horse racing game that was on the Sports Pack by Prism getting on the covertape?
6 How about a football management game on the Powerpack too?
7 The *Mean Machine* demos were a waste. Who would buy a disk just to see some pictures?
8 What was on your first ever covertape?
Garry Irwin, Croom, Ireland.

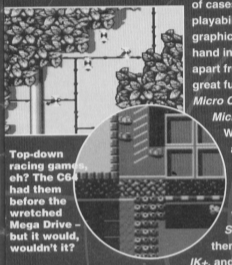
1 You write in to a C64 mag and ask that? What kind of answer do you expect? A sarcastic one, I expect. In which case I refuse to humour you. It's just not the sort of thing you should joke about.
2 It proved unreliable.
3 Probably never. It's another case of the big software houses losing interest.
4 Strange that, isn't it. Yes the Charts have 'gone' but they haven't actually 'gone' to anywhere. Is that just one of the vagueries of your limited language, or perhaps a indication of some sub-space anomaly which semantics can only strain to convey?

5 Where there's life there's hope. But in this case the life must belong to a wood louse that's just about to be crushed underfoot.
6 Remember the crushed wood louse?
7 That's practically what most console owners do every time they buy a cart.
8 On *CF*'s very first Powerpack were *Revolution*, *Tau Ceti*, *Rebel*, *Iron Man* and *Saint Dragon*. **TMB**

CONCERNED

Dear TMB,
I thought I would write and express my opinion concerning the C64 gaming industry, or what's left of it. Amigas, Ataris, PCs and Segas along with Nintendos boast amazing graphics, stunning sound and speed with ease of loading. Ah, but where's the hookability, the the lastability and PLAYABILITY?

In the last three years the computer industry has expanded to the degree that graphics rule; playability, well – boo! On the C64, in the majority of cases, the playability, sound and graphics go hand-in-hand in the game, but apart from this, they're great fun. Who wants *Micro Cars*, or is that *Micro Machines*? We have *Slicks* and *Carnage*. If some C64 owners were not pleased with the C64 *Street Fighter 2*, then they should try *IK+*, and when *10th Dan* comes out, they should buy that, because it's going to be GREAT.



Top-down racing games, eh? The C64 had them before the wretched Mega Drive – but it would, wouldn't it?

Who wants smelly *Mario* and *Sonic the Craphog*. *Mayhem*, *Bobix* and *Fred's Back 3* are better. Concerning sports games, look at *CF*43 for some real gems.

A VR machine is being put on the market – for HOME USE. Money wasted, methinks. Jon Wells, The Electric Boys and Binary Zone PD are providing games in large amounts and selling them fast. Through the efforts of these companies it would be possible for the C64 to go back to its once powerful status. Your 'Design a game' compo can only help as well.

All the best.
Sean (Dr Who) McKiernan, Co Cavan, Eire.
PS Publish my letter or my mates the Daleks will get you.

Indeed, as we proved in our family tree of the shoot-'em-up last issue, the consoles nicked all their best ideas from the 8-bit machines anyway. And as for the Daleks, they don't scare me – they're just fictional characters (that cry of anguish, by the way, came from Dave – it's a bit like when he learned there was no Father Christmas). **TMB**

LAZY

Dear TMB,
1 Would it be worthwhile to buy a diskdive?
2 What's the best adventure game for the C64?
3 I have recently bought a C64, but I can hardly find any games. Why?
4 Could you give me a free copy of Mayhem In Monsterland?
John Larmour, Antrim.

1 They certainly make life a lot easier. And the Electric Boys are planning to release a lot of software on disk only, and there's a lot of disk-only software on the continent as well. So it's definitely worth considering.
2 If you're talking text adventures, you really are very sad. But *Bard's Tale*, I'm told, is excellent and *Lord of the Rings* and *Lords of Midnight* are held in high esteem as well. If you're thinking more along role-playing lines then *HeroQuest* is a fine game.
3 You're not looking hard enough. Check out our cover feature last issue to see what you're missing.
4 Yes. But we won't. **TMB**

CLICHÉ-FREE ZONE

Dear TMB,
I thought it was time I should convey a few ideas you could possibly incorporate into *CF*.
1 How about doing a round-up of classic C64 games like Pastmasters (in *CF*19).
2 Although the games charts are now defunct because software houses have stopped supporting the C64, you could print a readers' chart. Guess which game will sit at the number one slot every month?
3 The Mean Machine Code series is great, the Gamebusters section is brill and the game diary is rivetting.
4 How about a Powerpack awards special? You could ask readers to vote for their favourite Powerpack game/demo/utility.
5 How about a Games Bible? You could list all the games reviewed with the marks they got.
Arif Pervez, Manchester
PS Please title this letter Blast From The Past.

1 Well, with a new editor coming in (I must have really hurt Dave with that Dalek's comment) I think they will probably want to bring in some new ideas rather than re-use old ones. But, to tell the truth, I expect there'll be something along the lines of Pastmasters, just with a different name.
2 Surely the Top 50 this month must be the ultimate readers' chart.
3 What about my section?
4 I bet *Repton 3* wouldn't win any awards.
5 I wouldn't be surprised if that very feature doesn't turn up in the next couple of month's (especially as one industrious reader has already done all the hard research for it). **TMB**

EXPRESS YOURSELF

If you want to be heard, register your opinions on the C64 world by sending a letter into The Mighty Brain. It's the world's largest C64 forum and the trendiest place to be seen this side of the Black Hole nightclub on Tarsus IV. So write to: The Mighty Brain, *Commodore Format*, Future Publishing, 30 Monmouth Street, Bath, Avon BA1 2BW. You know it makes sense (well, you do now, because we just told you so).

COMMODORE FORMAT

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November 1994
We've reached the half-century

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Tim would like to thank: REM (great new album). Jack Law (cute baby). Dave Golder (top geezer). CF (fab mag). Violet Berlin (and your new finger nails). Digitiser (best thing on Teletext).

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BACK ISSUES

CF17 Power Pack games: *Cyberdyne Warrior, Battle Valley, Sensitive, Indy Heat* demo. Reviews: *First Samurai, Creatures 2, Neighbours Space Gun*. Gamebusters: *Smash TV, Rodland, Knightmare*.

CF19 Power Pack games: *Attack of the Mutant Camels, Sheep In Space, Aquablaster*. Reviews: *Catalypse, The Jetsons, Super Seymour, Winter Super Sports*. Gamebusters: *Cyberdyne Warrior, Hudson Hawk*.

CF20 Power Pack games: *Maze Mania, Ant Attack, Catalypse demo, Bod Squad* demo. Reviews: *Space Crusade, Stryker, Q10 Tankbuster*. Gamebusters: *Dizzy, Prince of the Yolkfolk, Hudson Hawk, Spellbound Dizzy*.

CF23 Power Pack games: *Defenders of The Earth, Johnny Reb 2*. Demos: *Bug Bomber, Nobby The Aardvark, Biff*. Reviews: *Cool Croc Twins, Turbo The Tortoise, Xenomorph*. Gamebusters: *Maze Mania, Rainbow Islands, Super Seymour*.

CF24 Power Pack games: *Famous Five* Demos: *Light, Cool Croc Twins, Match of the Day, Fuzzball* (never released). Reviews: *Mega Sports, Light, Elvira 2, Hagar The Horrible, Nobby The Aardvark*. Gamebusters: *Space Crusade*. Specials: Getting the most out of your datassette (a popular one this), Typing in listings.

CF26 Power Pack: *Twin Tiger, Cosmic Causeway, Bomber*. Demos: *Stuntman Seymour, Doc Croc*. Reviews: *Stuntman Seymour, Super All-Stars, Popeye 3*. Gamebusters: *Space Crusade, DJ Puff*. Specials: First part of Let's Make A Monster.

CF27 Power Pack games: *Defektor, Alternative World Games, The Muncher*. Demo: *Sceptre of Baghdad*. Reviews: *Crystal Kingdom Dizzy, Bully's Sporting Darts, Crazy Cars, Locomotion*. Gamebusters: *13-page Creatures 2 special*.

CF29 Power Pack games: *Hendrix, Battleships, Highway Encounter*. Demo: *Carnage*. Gamebusters: *Winter Camp, Spellbound Dizzy, Batman – The Caped Crusader*. Reviews: *WWF European Rampage, Sceptre of Baghdad, Playdays, Magic Rufus, Dalek Attack, Street Fighter 2, Superstar Seymour, Lethal Weapon*.

CF30 Power Pack games: *Sloper, Rebounder, Daedalus, Blackjack 21*. Gamebusters: *Creatures, Reckless Rufus, Winter Camp*. Reviews: *Carnage, Gladiators, Football Manager 3, Spelling Fair*. Specials: Writing good *SEUCK* games.

CF31 Power Pack games: *Cauldron 2, Snare, Subterranea, Monster Mash*. Demo: *Arrow 2*. Gamebusters: *Stuntman Seymour, Dalek Attack, Crystal Kingdom Dizzy*. Reviews: *McDonaldland, Table Tennis, Snare*. Specials: Football management sims.

CF32 Power Pack games: *Thrust, Steel, Corya*. Full Utility: *FROST* (sprite designer). Gamebusters: *Stuntman Seymour, Lethal Weapon, Dalek Attack, Wild West Seymour*. Reviews: *ARNIE 2, Flat Fighter, Trolls*. Specials: Shoot-Em-Ups.

CF33 Power Pack games: *Snackman, ATA, Water Polo, Corya 2*. Gamebusters: *Lethal Weapon, Thrust*. Reviews: *Sleepwalker, Robin Hood, WWF, Robocod, Darkman, 4-Most World Sports*.

CF34 Power Pack games: *Arac, Corya 3, Shellshock*. Gamebusters: *Lethal Weapon, The Simpsons, Argon Factor, Addams Family, Liverpool*. 24-page special: The best C64 games still available.

CF35 Power Pack games: *Space Academy, Hallex*. Demo: *Lemmings*. Gamebusters: *Last Ninja 1 & 3*. Reviews: *Suburban Commando, Pirates, Mercs, Turbocharge*. Specials: The 64SX, Ultimate Beat-'Em-Up.

CF36 Power Pack games: *Starray, Squibbly Skwob*. Demos: *Suburban Commando, Breakthrough*. Gamebusters: *The Simpsons, Carnage, Street Fighter 2, Lethal Weapon, Cool World*. Review: *Bee 52*. Specials: Ultimate Flight Sim, Inside Your C64.

CF38 Power Pack games: *Lifeforce, Freddy Hardest, Jailbreak*. Demo: *Mayhem In Monsterland*. Gamebusters: *The Simpsons, Nebulus, Suburban Commando, Castle Master, Game Over, Nobby The Aardvark, SF 2, Bee 52*. Review: *Mayhem*.

CF39 Power Pack games: *Freddy Hardest Part 2, Deep Strike, Volcan, Robber*. Gamebusters: *Simpsons* (yawn), *Nebulus, Suburban Commando, Castle Master, SF2, Nobby*. Reviews: *Lemmings*. Special: The Apex Boyz show you how to design games.

CF40 Power Pack games: *Jocky Wilson's Darts, IO, Interword*. Gamebusters: *Mayhem, Suburban Commando*. Specials: Microtrees.

CF41 Power Pack games: *Future Knight, Vengeance*. Gamebusters: *Dizzy, Nobby The Aardvark, Mayhem, Volcan*. Specials: Essential EDOS – loadsareviews.

CF42 Power Pack games: *Stormlord, Deliverance*. Gamebusters: *Dizzy, Prince of the Yolk Folk, IO, Seymour Goes To Hollywood, Nobby The Aardvark, Sceptre of Baghdad*. Special: The best and worse games ever.

CF43 Power Pack games: Reader games extravaganza. Gamebusters: *Mayhem, Nobby, Future Knight*. Specials: How to make your games scroll, A-Z of sports sims, The return of Secret of *SUECK*cess.

CF44 Power Pack: *Carnage, Mayhem Mega Mix Part 1*. Gamebusters: *Mayhem, Nobby, Future Knight*. Reviews: *Penguin Tower, Arthetype, Time Crystal*. Specials: Making music, PD library list, diary of a game: 10th Dan.

CF45 Power Pack: *Repton 3, Speech* (synthesiser), *Mayhem MegaMix Part 2*, 6510+ Assembler. Gamebusters: *Stormlord, Nobby, Mayhem*. Specials: Multi-player games, Electric Boys interviewed, how to draw better graphics.

CF46 Power Pack: *Bonecruncher*, Complete level of *Mayhem, Quadrapod Tearaways* music demo. Gamebusters: Final level of *Mayhem, Stormlord, Wizball, Carnage*. Reviews: *Squarescape, Escape From Arth, Wiberforce*.

CF47 Power Pack: *The Legend of Sinbad, Reason, Moon Machine* demos. Gamebusters: *Sleepwalker*. Previews: loads of new games from Germany, including *Super Nibby* and *Lords of the Universe*. Special: the best puzzle games for the C64.

CF48 Power Pack: *Tilt (CodeMasters), City Bomber* demo. Repair, Wizard's Pet. Gamebusters: *First Samurai*. Reviews: *Lions of the Universe, Bobix, Super Nibby*.

CF49 Power Pack: *Fantasy World Dizzy, Penguin Towers* demo. Gamebusters: *Legend of Sinbad*. Features: What C64 products you should spend you £64 on; How to create new colours. Review: *Fred's Back 3*.

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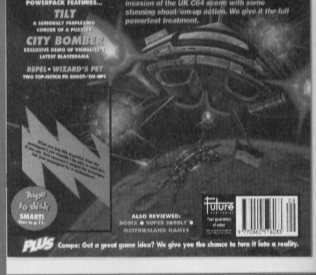

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POWER PACK

Let's have a butchers at what's on the covertape...

THE ORIGINAL DROPZONE

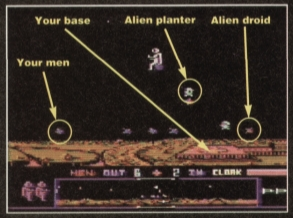
If you go to the FES this year (and if not, why not) you might come across an interesting little panel session all about the lack of originality in console games. One of the blokes involved is Archer Maclean, a legendary programmer from the heyday of the 8-bit home computer revolution. And you want to know what? He's busy working on console conversions of the a game he wrote over ten years ago. It's a game still regarded by many as one of the best shoot-'em-ups ever. Indeed, it nabbed position 18 in our all-time top 50 (see page 17). That game is *Dropzone*, and now you're lucky enough to own it.

Dropzone is very much like Defender, but better. You take control of a bloke with a Jetpack who 'nings around the horizontally-scrolling landscape shooting any alien that dares to show its tentacles. But things get a bit more complex than that; I mean, you could just ignore your little blue men who crawl along the rocky terrain, and let them be destroyed by the aliens, but I wouldn't. You see, if all your men are killed, the whole planet turns against you and there'll be so much flak flying, you'll be lucky to survive more than a few seconds.

The problem is that the green alien ships drop off androids who then trudge across the terrain in search of humans to massacre. When one of these 'droids is about to be released you will hear an alarm and an arrow will appear just below the play area telling you which direction to go in order to intercept and destroy it.

But you don't have to leave your men out in the open. You can also swoop down and pick them up and then drop them off at the red base (which shows up as a white cross on the radar). Once all your men are in there, you can concentrate on a bit of alien-bashing. But watch out – if you take too long to clear an attack wave a Nmeye will appear, and believe us, those things are FAST!

When the landscape goes this colour it means all your men have been killed and you're in big trouble.



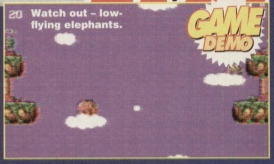
QUICKSTART INFO

JOYSTICK IN PORT 2

JOYSTICK	Up, down, left right
F1	Pause
SPACE	Smart Bomb
ANY OTHER KEY	Cloak ON/OFF
EXTRA LIFE /SMART BOMB	Every 10,000 points

OTHER INFO: The cloak half refills at the beginning of every level. Your men reappear after every trailer invasion wave. If all your men are destroyed, the volcanoes start spitting out loads of dangerous stuff.

GAME DEMO



20 Watch out – low-flying elephants.

At last – positive prove that the Electric Boys' quest to find top Euro software to licence for release on the C64 in the UK has come up trumps. *Heavenbound* comes from Austria and is programmed by the same team as *Fred's Back 3* which we gave such a glowing review last month. You can tell – the graphics are similarly gobsmacking.

The concept is simple enough, though bizarre. You play the part of an elephant who hops from cloud to cloud in an attempt to reach that great watering hole in the sky. Okay, so in the real world the only clouds dense enough to support a pachyderm are the ones that have taken up permanent residence over Leeds, but this game take place in a jungle-infested ravine, so there are loads of ledges for the betrunked one to have a rest on as well.

Oh yeah, and talking of trunks, this one's armed and lethal. Which is handy because all the other wildlife has got it in for our elephantine hero. If it's got eyes, steer well clear and shoot if possible.

One problem – there's a time limit. And it's harsh. But don't panic, because when you shoot some of the nasties they leave behind pick-ups, including some for extra time, as well as extra firepower, which always comes in handy.

So play the demo, reach for the skies, read the review on page 10, and then try saying to yourself with any real conviction, "I don't think I'll buy this game." We bet you can't.

Nellie's head was always in the clouds...

NO LOAD ZONE

If you're having trouble loading this month's Power Pack then plonk the duff tape in a jiffy bag, slip in a tape-sized SAE, seal it up and send it to: *CF50* Tape Replacement Service, Ablex Audio Video Ltd., Harcourt Halesfield 14, Telford, Shropshire.

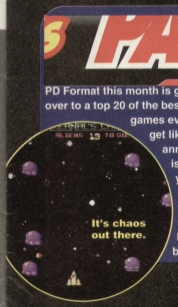
TAPE TO DISK

This month's Power Pack is also available on disk. To get the disk version simply cut out the token on the tape inlay card, write your name and full address on a piece of paper, pop 'em in an envelope with a cheque or postal order, made out to Ablex Audio Video, for £1.50 (to cover duplication costs) and send it to: CF50 Tape To Disk, Ablex Audio Video Ltd, Harcourt Halesfield 14, Telford, Shropshire TF7 4QD.

PAC & HEAVENBOUND

PD Format this month is given over to a top 20 of the best PD games ever (we get like that in anniversary issues y'see). And we thought it would be the biggest missed opportunity since EMI dropped the Sex Pistols not to stick a couple of them on the covertape. So we have.

Chaos and *Galaxians* are two top-notch blasters that'll have you zapping aliens for hours. Do we really need to explain the rules? You just move your ship around the bottom of the screen shooting everything else that moves. About the only thing more complicated than that is that in *Chaos* there's a counter which tells you how many more aliens to shoot before the next wave. Good honest, meaty, shoot-'em-up action. Can't be bad.



It's chaos out there.

This looks familiar...

Sometimes it feels like the whole world is against you.

HEAVEN BOUND

This is the first time Dave's seen a pink elephant when he's been sober.

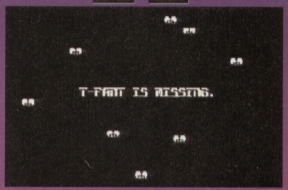
It's not often you discover elephants in Austria, especially pink ones. But this pachyderm the Electric Boys poached from Europe is something a bit special. *Heavenbound* is the first official release from the Electric Boys following their mission to trawl Europe for the best C64 software and bring it back here to the UK. And they could hardly have picked a better example to show how impressive some of the stuff Eurocoders are producing can be.

The game is from the same team who produced *Fred's Back 3* which we reviewed last issue (and which, paradoxically, won't be released just yet – these international licensing deals are a nightmare apparently). We gave that a thumbs up. This one gets an even higher thumbs up (er, if that makes sense).

T-phant is missing, according to the intro, and he's heavenbound. Which doesn't really prepare you for what happens in the game. You control a pink elephant who leaps between clouds and rocky outcrops in an attempt to get to that great watering hole in the sky (has he got some weird death wish?).

Anyway, on the way loads of nasty what-nots try to knock him off before he reaches Nirvana (presumably sending him to Old Nick instead). Some spit fire, others throw cannonballs, a few dive bomb, but all of them are lethal to the touch.

If it starts raining, this elephant's had it. The clouds don't look like they hold much water.



The presentation of the game, right from the second you first load up, is impressively slick.

There aren't levels, you just keep on going. You've got three lives and a time limit, but there are time bonuses dotted generously around the place so that you can keep on going – you don't have to complete the game within the 65 seconds with which you start the game. Phew.

The gameplay is a bit limited, but it does get tougher at an intelligent rate. You need to hone both your joystick dexterity and puzzling skills to get past some of the later obstacles. So what the game loses in variety it makes up for in sheer playability. It is surprisingly addictive once you get the hang of the admittedly muddy and unresponsive controls.

What helps is that the aesthetics are gorgeous. It looks and sounds nearly as good as *Mayhem*, and even the intro and loading screens are impressive.

On the minus side the collision detection is dreadful, but at least it works both in your favour sometimes so that balances things out a bit.

Overall, though, it's a very impressive game. Let's hope the 'Leccy Boys can discover more where this came from.

When the enemy starts throwing cannonballs, it's the time to stop being Mr Nice Elephant.

Although you can head straight up, it's better to kill a few nasties to see what bonuses they leave.

BONUS POINTS

When T-phant kills some of the nasties, they leave behind handy bonuses. An S will give the pink pachyderm extra fire-power, T gives boosts the time limit by 30 seconds and B will let him jump a bit higher.

HEAVEN BOUND

Publisher: EBES
☎ 081 668 5795
Price: £7.99 disk/£8.99 tape
Available right now, matey.

- ▲ Completely lush graphics and music – very impressive.
- ▲ Immediately playable, and gets trickier at an intelligent rate.
- ▲ There's a great cast of nasties who just get keep on getting nastier.
- ▲ The rabid hunt for time bonuses keeps things interesting.
- ▼ Absolutely appalling collision detection – you fall through clouds.

POWER RATING

90%

CASHMAN COMPILATION

New from The Electric Boys is this compilation of three short games. It's not a major, top line release, but at only £1.50 you could hardly go wrong, or could you? Let's find out...

CASHMAN

This title game ain't no great looker, it has to be admitted, but it doesn't actually play all that badly. Loads of guys pour out of the top of the screen. Your job is to kill them and nick their money.

A few hours of mugging fun.

If Codemasters released this game they'd probably have called it *Pro Mugging Simulator*. Being a mugger in this game, however, is quite a lot of fun (if not very politically correct). There's always loads of victims on screen, and the game moves at quite a pace. The difficulty level is just right, with victims needing more hits to be killed with every level.

The major drawback with *Cashman* is that it doesn't have much long-term appeal. It does have a few hours of amusement in it though. **62%**

Knock yer blocks off.

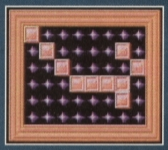
SYNOPSIS

This is a fun puzzler starring a Smiley who bounces around a number of blocks, which automatically disintegrate when he touches them, the aim being to clear the screen. If our grinning friend bounces into an empty space, he dies. Careful thought about the order of destruction is therefore necessary.

Not all squares are the same – some need to be hit twice, others not at all and some force you to go in a certain direction. The trick is to make sure that you don't leave yourself in a position with no block to jump on to.

It might not sound exciting, but if you like your puzzle games, you'll enjoy this. It's a bit slow, but being a puzzler that hardly matters. By my reckoning, *Synopsis* is the best game of the pack. **80%**

MINDMAZE


A rather dull puzzler, frankly.

Unfortunately *Mindmaze*, the second puzzler, isn't nearly as good as *Synopsis*. It looks okay, but is, frankly, dull.

The aim is to eliminate all blocks from the screen. You do this by choosing a square with your cursor and pressing fire. Extra blocks are then added to four squares around you. However, if there's a block there already the two cancel each other out and you've made some progress.

The time limit is tight and you've got no lives, so progression is difficult. But the game's such little fun that you probably won't bother trying anyway. **40%**

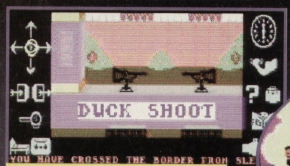
OVERALL

Not surprisingly this is a mixed bag of games, with one good, one average and one bad, but at the paltry £1.50 asking price, it's actually very good value. **Keith Woods**

CASHMAN

Price: £1.50
Available from: The Electric Boys, 917b Brighton Road, Purley, Surrey CR8 6SZ
☎ 081 668 7595

POWER RATING 72%



Duck Shoot? Surely shome mishtake. Still, at least it tells me I've crossed the border – I've always wanted to cross the border.

Zzzz

The Stem Interview: Rip van Winkle

Captain Stem, ever on the case, treks through the trackless voids to interview suitable historical and fictional characters. This time, legendary sleeper Rip van Winkle must face the searching questions of the time-travelling maestro.

'Hello, Mr van Winkle? Hello? Can you hear me? I want your opinion on this adventure game I've got here. Would you like to say a few words for the CF readers? Hello? I think he's asleep.'

Pathetic, isn't it?

Tim Norris has trouble sleeping, so we thought he ought to take a look at a sleepy adventure.

Oh, great, I thought, just what we need – another text adventure. I love text adventures, but I'm always a bit wary – they're so often complete rubbish, knocked up one rainy afternoon by someone who didn't have anything better to do. Still, I though, there's no point pre-judging it, best to load it up and have a look.

The introduction looks great, at least. With big, well-drawn, cartoony graphics and – hurrah – some smooth animation, it sets the scene nicely. As you may have guessed from the title, it's got something to do with sleeping. When I was little, I couldn't work out what 'Zzzz' meant whenever I read it in the Beano. It wasn't until much later when I realised it was pronounced 'Zzzz' and not 'Zzzz' that it all began to make sense. (It still doesn't make any sense to me. I thought it was pronounced 'Zzzz' – Dave).

Anyway, off you go to sleep, and stuff happens to you (well, it would, wouldn't it?). It's quite neat and the parser works acceptably well. Although it doesn't understand 'it'. Surely this is standard by now? Surely 'it' is the last object the game described?

'You see a spade,' says the game. 'Take it,' you reply. 'You take the spade,' says the game. Not here, mate. 'There's no it here,' it says, 'it must be a figment of your imagination.' Pah.

A lovely room. Note the HUGE teddy on the left.

If there's one thing guaranteed to break my heart, it's the cry of a child from upper floors...

While we're on the subject of smart-alec parsers, who really thinks the wisecrack replies are funny every time they read them? They're okay the first time, but not every wretched time. Pack it in at once or you'll not get any ice cream.

I'm sorry, where was I? Ah yes, *Zzzz*. The puzzles are fairly straightforward, but some of them are a little tiresome. Not because they're too tough, but because you have to do things you might never have thought of doing. For instance, you need a lift at one point but don't bother with the bus, you need to wait till a strange bloke goes by on a bike. Hmmm. That's certainly my first choice whenever I want to go anywhere. Other than that, it's not too bad.

It's not the world's hugest game (the complete solution, which I have, fits onto two-thirds of a sheet of A4) but it's quite fun and the newly-added graphics pep things up no end.

If you want an entertaining diversion, then *Zzzz* might prove to be quite fun for a few hours, at least. But it's not that much of a challenge and when all's said and done, there's not that much of a 'hook' in the story to really grip you.

Just don't say 'Take it' – you'll only regret it.

Zzzz

Price: £2.99
Format: Disk and tape
Available from: Visualize Software, 9 De Grey Road, King's Lynn, Norfolk, PE30 4PH.

- ▲ Smart graphics
- ▼ Dim parser
- ▼ Not especially inspiring puzzles
- ▼ Dull story
- ▼ It's not very big

POWER RATING

55%

MAKING 10TH DAN

Jon Wells continues to recount the trials and tribulations of trying to bring 10th Dan to your C64 monitor screens...

THE STORY SO FAR...

Jon Wells, the brains behind Visualize Software, has laboured mightily these last 18 months or so on the game everyone hopes will be the best C64 beat-'em-up ever. And he reckons it'll challenge a lot of console beat-'em-ups in terms in playability as well. So far the graphics for the first level are complete, the map editor is in place, the actual fighting routines are underway and now he's made a start on the sprite editor. Not sure what a sprite editor is? Read on…

DIARY OF A GAME: MONTH SEVEN

Hello again, and welcome to part 7 of the *10th Dan* diary. This month We'll be covering the actual design and structure of the SPRITE EDITOR for the animations of the fighters, but before we start here are a few bits 'n blobs you might like to know…

Quite a few people have been asking when *10th Dan* and *Germ Alert* will be released. Well, *Germ Alert* will be available some time around this November, a demo will be appearing very soon. *10th Dan* is sceduled for a Christmas release (so I've got my work cut out!). Though of course, if it isn't ready for Xmas then it (obviously!) won't be, the last thing i'm going to do is release a rushed product. Oh, and while I'm on the subject of releases, *City Bomber* and Phil's *Deadline* will be reviewed next month. I've been having a few problems with packaging and last minute bugs, which is why *City Bomber*'s been slightly delayed – though this will all be history by the time you read this!

I've just found out that Phil's going away on a college course this month for 3 years! So he'll be too busy to do any more games or graphics, he'd only just got *Deadline* finished in time. This means that I'm now lumbered up with doing the whole game, graphics, intros – EVERYTHING! Aaarrrggh help! I'm just gonna have to work non-stop and hope this doesn't affect the release date.

At the moment FeekZoid (The Musician!) is meditating, psyching himself up to do some nice lengthy soundtracks for the game. In the meantime I've been up-dating the excellent USA – Music player (this is the editor he uses, y'see). Normally you can only have 1 tune per 1 player, but I've spent the last couple of weeks re-programming the whole darn thing. The same editor can still be used, but I've revised the player. You can link or merge as many tunes as the 64 can hold, but instead of wasting valuable memory with those extra players, it now only needs the one player. This can all be converted, linked and relocated anywhere in memory, with a totally different editor that I programmed. I've also programmed a sound effects/music generator which can play 3 channel music and 3 channel sound.

3 CHANNEL SOUND???

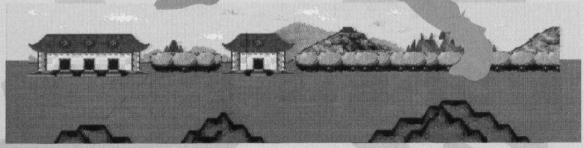
It doesn't operate 3 channel music and sound simultaneously, it's a bit complicated but what it does is this… imagine you've got 3 channel music, when a sound effect is needed the new player will hide say, music channel 3 and play sound effect channel 3. Once the sound has finished, effect channel 3 is turned off and music channel 3 enabled again. This doesn't affect the track channel 3 in any way as it's constantly being played, whether hidden or not.

City Bomber and *Germ* alert use this technique, and it gives the impression of 3 channel music and sound effects – though we're not using this in *10th Dan* – it already uses samples, remember?

I'm currently planning and designing the sprite editor. This must not only cover all my needs for *10th Dan*, but also for any other game style available. The problem with all present sprite editors is the limitation of the Commodore's 8 sprites, animations and features. This editor will be able to link up to 60 sprites side by side, to enable me to develope and animate the fighters with ease, drawing the sprites as though they're a bitmap screen. This editor could then be used to develope big end of level baddies in shoot-'em-ups, big logos and so on, while still being able to develope single, double, or even Hi- res overlays (just like APEX's *Mayhem*). This is quite a big project which obviously, is going to be alot more complicated than anything I've done on *10th Dan* so far. I just hope it doesn't take too long eh?

The first thing I needed to take into account is the memory restrictions, so I started by mapping everything out. I've reserved 32k (512+ sprites) for the sprite memory, though normally I could only choose from 256 to look at. The 64 holds 4 sprite banks of only 256 possible sprites (16k) each, to overcome this 60 main view sprite locations are reserved, and the 512 (or more if compacted) sprites are crunched and stored in the 32k memory available. To view any of the 512 sprites, they are uncruched and stored in the 60 main sprites – where they can be seen… on the screen! If the sprites have been modified and other sprite memory is viewed, the program will store those modified sprites automatically. The hardest part of the Editor will be the Multi-plexor, this needs to handle the overlaped Hi-res sprites and the large linked sprites. The best and only way for me to achieve this, is to program a series of Multi-plexors to handle each and every style of mode.

The whole editor is still in its early stages, but I'm looking forward to finishing it and starting on the fighters animations and controls. I've designed 12 different fighters, and I'm hopeing to push this up to at least 30 for the fighter select screen. More on all that and the editor in part 8…



STAY TUNED...

It seems the sprite editor is something of a mammoth task, so there'll be more of that next month, together with more of the exciting news on the game characters. 30, eh? We don't think there are as many as 30 people in the whole world. At least not in our little bit of it. We'll just have to wait and see...

PD FORMAT TOP 20

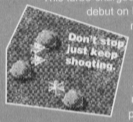
It's big, it's bold, and if you hold it up to the light you might just be able to make out the top 20 PD games of all time. Andy Roberts compares them against the leading non-bio...

MISSION MONDAY

Willy at war in a little tiny jeep.

This splendid *Army Moves* variant was written by the legendary duo Ash and Dave, who later went on to write some 'proper' games (such as the rather playable *Slicks* from Codemasters). This early binary outing stars Willy Warm start – quite a hero in the C64 world, I understand. The game itself is very simple in concept; take a classic game such as *Silkworm*, remove the second player (ie. the helicopter), and you're left with a heavily-armed jeep traversing the ever-treacherous landscape. Gameplay is a little samey, but it's very easy to become engrossed in the action. If you can make your way past the onslaught of barriers, mines, bouncing bombs, jeeps and enemy soldiers, then you might just get that purple heart.

TWIN TIGERS


Don't stop just keep shooting.

This turbo-charged *SEUCK* creation made its debut on Power Pack 26, and is one of many such games by *SEUCK* master Alf Yngve. This version features a decent title screen, high score table, and some absolutely superb music (the main theme from *Airwolf* in particular). The game is, surprisingly, a vertically scrolling shoot-'em-up, and owes a great deal to the likes of *1942*, *1943* and other such wartime escapades (even though *Tigers* is infinitely superior). The graphics are superbly detailed, with plenty of animations and effects, but it's the sheer playability which makes this one a real corker. If it's playable enough to keep Trenton Webb and James Leach away from the Dog & Duck, it must be addictive.

REUTER'S WORLD

It's not about a news agency.

Remember that classic isometric arcade adventure called *Mission Impossabubble*? Well, *Reuter's World* bears a striking resemblance to it (an 'inspired variant' as we say in the trade). This is rather surprising because games by Alf Yngve are usually more imaginative. But whatever the game lacks in originality it makes up for with some polished gameplay. Ignoring the bizarre storyline (your girlfriend has been captured because she hasn't paid her council tax… er, yes, okay), what we have is Reuter making his way through some pretty devious levels, firing bubbles in the direction of any dangerous nasties.

GAMEBOY TETRIS

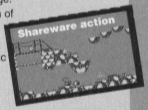
There can't be a single self-respecting gamesplayer who hasn't played the original version of this software classic. Personally, I couldn't bear to take a long-distance train journey without this tucked into my back pocket. And now, at last, you can play the game from the comfort of your own armchair (without the added hassle of over-priced buffet food and screaming children). This version was originally included as part of a *Paradize Megademo*, but has since emerged as a pretty darned top-notch game in its own right. Not surprising, as it's a virtually perfect conversion. Yep, the same playability, the same 'feel', and even the same nail-biting addiction. You don't even need to change the batteries.

A strangely familiar shape.

FLUBBLE & SQUIJ

Technically speaking, this game shouldn't really be included in the top-20, because it's actually a shareware game (which means you have to pay to register with the authors). But what the heck, we might as well include it. And those Amiga rags always include shareware in their PD coverage.

F&S is basically a version of *Creatures*, but without the glossy presentation, dreamy graphics or ear-warming music and sound effects. There is, however, plenty of gameplay tucked away amid the garish platforms and laughable animation. If you're prepared to dig below the surface, *F&S* can be an immensely enjoyable romp. It isn't in the *Mayhem* league, but then again, what is?


Shareware action

VIORIS

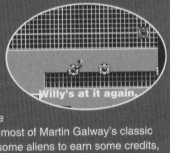
Two *Tetris* clones in one Top 20? As strange as it may seem, Vioris appears for one reason alone – it has a rather delicious two player head-to-head mode (strangely absent from the Gameboy Tetris version mentioned earlier). Written by a demo group, the authors have taken it upon themselves to add certain elements which true *Tetris* aficionados will probably dislike, such as the non-standard blocks. Similarly, the 'feel' of the controls is lacking, and as such the game is less enjoyable than its counterpart. But the two-player mode balances out these drawbacks.

Top two-player Tetris.

TERMINAL CITY

Another game by the C64 gurus Ash and Dave, and another game starring that cute little fellow called Willy Warm start. As in *Mission Monday*, Willy makes a short appearance at the start of the game as he attempts to push the familiar 'start-up' screen out of sight.

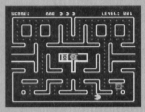
The game bears an uncanny resemblance to the sub-game from *Parallax*. Indeed, the game features most of Martin Galway's classic *Parallax* tunes. The plot is relatively simple – shoot some aliens to earn some credits, enter a terminal and buy a disk, then take the disk to another specific terminal in order to log-on successfully. Although the graphics are basic, the gameplay is simple and extremely compelling.


Willy's at it again.

MONSTER MASH

Another re-vamped *SEUCK* game, this time from the legendary (?) programmer Jon Wells (responsible for dozens of other *SEUCK* facelifts). This particular adventure has made its way on to the Power Pack on no less than two occasions (*look, I can explain – Dave*), and if you've followed Jon's *SEUCK* features then this is the sort of game you can produce. Although the game is essentially a vertically scrolling shoot-'em-up, the unique main character (a dinosaur,would you believe) and Jurassic-style setting makes the experience a little more interesting. Amid the volcanoes and angry cavemen, you'll encounter all manner of fiendish 'sauruses. Strikingly original, but a little on the tough side.

Tricky blighter, Johnny Dino.

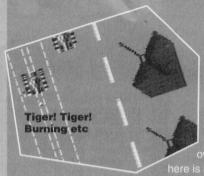


You can't tell the difference between *Snack Man* and margarine.

SNACK MAN

The original *Pac Man* must be one of the most cloned games ever, so how can we possibly single out one particular version? Well, we have. How. By judging it on one vital criterion.

If memory of the arcade machine serves me correctly, this 'conversion' is probably the closest to the original. It's impossible to update the concept, and there are only so many possible maze-layouts, but the playability is spookily similar. Call me nostalgic (you're nostalgic – Dave), but this one took me back to the fun-fair arcades of the mid 1980s. On face value, it's just a *Pac Man* clone, but boy is it a good one.



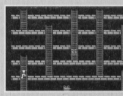
Tiger! Tiger! Burning etc

TIGER HELL

Upgraded *SEUCK* games are cropping up all over the place, and here is another example of what can be achieved. This particular one was written by a member of a demo group, and features a new title screen and music. The basic concept (apart from being a vertically scrolling... etc) is similar to the old classic *Flying Shark*, but the resident arcade guru John Rowlands assures me that it is, in fact, based on the ancient game called *Tiger Heli* (hence the name). The control of the helicopter (and, indeed, the pace of the game) is much slower than its nearest rival *Twin Tigers*, but the game require more skill – there's more to this one than sticking on autofire and letting rip.

MONSTERS 64

This must be the oldest game in the entire collection, and was created way back in 1984 (in the days when people used to listen to *The Human League*). The game itself is a near-perfect version of the classic arcade game called *Space Panic*, which also appeared on the doomed CBS Coleco-Vision. And the concept? It's basically a platforms-and-ladders game, in which our intrepid hero must wipe out the aliens which roam the screen. To do this, he must dig a hole, allow an alien to fall into it, and then fill the hole back in again. Sounds too simple to be true... and sadly it is. It's great fun for a while but rapidly becomes 'samey'. If you're the sort of person who likes to wallow in the classics of yester year, then this one is right up your boulevard.



A real platformer

CHAOS

As with *Mission Monday* and *Terminal City*, this one was written by a *Compunet* freak, and should really have been titled *Spot the Sprites*, because it features more game sprites than a particularly large family-sized bag of game sprites. The game itself is reminiscent of *Crazy Comets* (as if the *Crazy Comets* music and *Crazy Comets* sprites didn't give it away), and is a very simple but enjoyable shoot-'em-up. There are plenty of whizzy effects, and so many animated characters you'd think it was a Jon Wells game. If you're tense, irritable and frustrated, you could do a lot worse than boot this up for an hour or so. Aaah, I feel so calm now.

HALLAX

As with *Twin Tigers* and *Monster Mash*, this too has made an appearance on the Power Pack, and if you're going to include as many game styles as possible in a Top 20 then you really need to include a *Breakout* clone. Although it lacks the polish and professionalism of the more notable bat'n'ball games (such as *Arkanoid* and *Ball Blasta*), *Hallax* retains the basic gameplay guts and addiction factor of its full-priced forebears. Despite the fact that the game only has 10 different levels, the inclusion of a level-designer means that you'll never tire of the experience — unless, of course, it's way past your bed time.

More Power Pack fun.

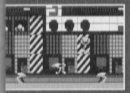
Just land in the pod.

LUNA LANDA

Yet another of those ex-Power Pack games. The basic concept has been copied more times than an internal memo, and although the graphics and sound have been upgraded a little in this version, it is still too basic. When your ship is released at the top of the screen, you need to guide it safely to the landing pod at the bottom. If successful, you must then fly it back to the release-cage at the top. Gripping stuff... well, perhaps not gripping so much as just about holding on. The only consolation is the title music, which happens to be a rather smart rendition of the music from *Nightmare on Elm Street*.

ALIENATOR '93

Yet another souped-up *SEUCK* creation from the vertically-scrolling maestro known as Alf Yngve. Check out the screenshot and you'll see that it bears a very striking resemblance to that old chestnut *Space Gun*, albeit with a shorter loading time and oodles more gameplay than that dire arcade conversion. The game is based on a static-screen, with the player (that's you, that is) controlling a gunsight rather than the ubiquitous spaceship. And the plot? Destroy anything that isn't human, basically. It may be a ground breaking SEUCK product, but the actual game is a touch repetitive.



Good looking, but repetitive.

GALAXIAN

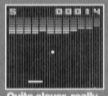
If you've never heard of *Galaxian*, you can't really call yourself a games fan. It's the arcade machine that swallowed nearly half of Britain's entire stock of 10 pence coins in the 1980s, spawned more than a dozen different clones, and made me late for English lessons on more than one occasion.

The plot needs very few brain cells to comprehend; your ship is at the bottom of the screen, the aliens are at the top, and you shoot them. That wasn't too hard to follow, was it? *Galaxian* is one of those rare games which, despite lacking glossy presentation and whizzy effects, retains the most important commodity – authentic gameplay. And that's what counts.

FREAK OUT

This second *Breakout* variant probably needs no introduction whatsoever,and probably started out as a simple programming exercise for the author. Remember what I was saying about *Hallax* lacking the polish of other *Breakout* clones? *Freak Out* is so basic it makes *Hallax* look polished!

The game is probably unique because it doesn't use the screen at all – everything is sprite-based (which gives the game a very unusual feel). The gameplay is far from gripping, but there are several decent bits of music (*Transformers*, *Hyperball*, *Space Harrier*, and *Sigma 7*) to keep you amused should the novelty wear off.



Quite clever, really.

STARS & RINGS

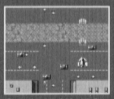
There isn't any easy way to describe this – in fact, there isn't a C64 game which I can compare it to. Yes, believe it or not, this is an ORIGINAL GAME CONCEPT. And it isn't bad, either. The basic premise is this: you control a little star, which will move in a circle as long as you hold down the fire button. If you release the fire button, the star moves in whatever direction it was moving when you released it. Confused? You will be.

The aim of the game is to use the star to collect various rings which appear randomly throughout the play area. The graphics and sound are very basic, but the concept is pure genius.

Catch a falling star.

SUPERSTRIKE

Another *SEUCK* classic from the talented mind of Alf Yngve, and for the hard of thinking it's a vertically scrolling shoot-'em-up. You're probably thinking that there's only so much you can say about these sort of games, but *Superstrike* manages to stand out. It's quite similar to *Twin Tigers* in concept, but has much more aggression, firepower and action. As you captain your jet fighter through the cities and across enemy lines, you'll encounter all manner of hostile forces, impressive animation and very clever programming tricks. Yes it is just another shoot-'em-up, but it's playable enough to warrant special attention.



Good old Alf, eh?

CENTRIPOD

The final game in this Top 20 is an unashamed clone of *Centipede*, that ancient classic from the Atari 800 console. Having played quite a few Centipede clones, I can't really differentiate between them – the gameplay is pretty much the same, whatever version you play. Avoid the spiders and snakes, shoot the mushrooms and destroy the centipede. Er, yeah, great.

HERE'S THE DEAL

Being such clever people here at *CF*, we knew that you'd like to get your hands on the Top 20 PD games, so we've asked Binary Zone PD to put together an exclusive compilation especially for *CF* readers. You can get your mitts on the 20 games for the paltry sum of £3.99 on cassette or disk. Sounds too good to be true, doesn't it? And if that hasn't convinced you, then check out the two taster games from the compilation that we've got on this month's Power Pack. If you're impressed, then you could have ten times that amount of gaming action for just £3.99.

Anyway, simply fill out the coupon below, tick the relevant box for cassette/disk, and post it to: *CF* PD GAMES OFFER, Binary Zone PD, 34 Portland Road, Droitwich, Worcs, WR9 7QW. Don't forget to include a Cheque/Postal Order made payable to BINARY ZONE PD.

UNCLE DAVE'S BUY-A-RAMA FOR SALE

FOR SALE

Commodore C64 games for sale. All originals from 75p. Tel (021) 525 6018 after 6pm, please.

Many C64 games for sale, very cheap. For list write to Jamie Lawrence, 4 Straws Close, Irthlingborough, Northants, NN9 5PL

C128 vgc datasette, software, magazines and CP/M disk. £30 ono. Contact Mike Summers, 11 Cumberland House, Warwick Street, Preston, Lancs PR1 1LH

Cheap Software! Loads of stuff from 25p to £2.50. SAE Jiffy for list on (free) cassette to: Mike Summers, 11 Cumberland House, Warwick Street, Preston, Lancs PR1 1LH

C64 game The Great Giana Sisters (original) by Rainbow Arts. best offer secures. Telephone Ian on 0983 292387 after 5pm.

Commodore C64, datasette, over 50 games (non copied) all with cases, all leads, instructions. £35 ono. Phone 0252 542926.

Games on tape and disk, all boxed originals from 50p. Also some books, mags and hardware. SAE gets list. Eddie, 151 Balsusney Road, Kirkaldy, KY2 5LH.

100 plus tape games from 50p to 3.50, budget to compilation. All boxed. Plus C64 mags and tapes. Plus books. SAE for list.

C128 with over 200 games, joystick, datasette, diskdrive, mouse and utilities. £160 ono. Phone 01203 395501 after 5pm

WANTED

Urgently Wanted! I require an Action Replay cartridge at a cheap price! Must include instruction manual, and be in good condition. Please help me. Daniel Duncan, 2/44 Edmonstone St, Newmarket, Queensland, Australia, 4051

Mini Office 2 on 5.25 inch disk for C64, also wanted, MacDonald and other disk games for C64. Contact Chris 0909 567448.

Wargames, RPGs, simulators or wargame creation kit, preferably on dis. (ie *Battle Command*, *Ramparts*, *Gunship*, *Destroyer* and any games for the Magnum Light Gun). P R Brine, 5 Southmland Cloe, St Johns Estate, Colchester, Essex, CO4 4QU.

Wanted: Last Ninja Remix or LN2 on cartridge or cassette. £6-£8. Alan Lancaster, 217 Gaunt Road, Sheffield, S14 1GP (open to swaps – send want list).

Will swap Streetfighter II cassette, Renegade III cassette and Elven Warrior cassette for your Creatures II disk or cassette. Telephone Philip after 5pm (0960) 378954.

Colour monitor for Commodore C64 in gwo. Will collect if near M2, M20, M25. Fair price paid. Colin 0634 (Gillingham) 379140.

Commodore mouse 1351, 1350, contact 051 822503 ask for Mark after 8pm.

Wanted:
C64 tape
Sleepwalker. Will pay up to £4. Write to Alan, 7 Spafield Crescent,Cashel, Co Tipperary, Eire.

Action Replay cart – will pay reasonable price. Wanted boxed, in good condition with instructions. Phone (010353) 018310043. (Dublin)

Wanted: *GAC*, *Flimbo's Quest*, *Battle Command*, *Wargame Construction Kit*, *Chips Challenge*, *Bismark* (must be tapes). Also Action Replay cartridge Mark VI. Phone 061 789 1570.

Wanted on cassette, C64 versions of Elite and Gunship. Write to Sean, 21 John Sheply Street, Hyde, Cheshire.

Wizball and other classic games needed desperately. Please send lists and prices to Mr R Kentish, 77 Yately Crescent, Great Barr, Birmingham, B42 1JH.

Adventures old or new, text or graphic. Also hints and solutions wanted. Send lists and prices to: Sophie Lee, 43 Shirley Avenue, Shirley, Southampton, Hants, SO15 5NH.

BARG! CF 1-45 FOR SALE complete with cover tapes. All in top condition. Will take best offer. Call 0925 223164. (PS Keep up the good work) *(Okay, will do – Dave)*

ZZAP 64 binders, issue 76 (must have coverlape 20) CF issue 5 (with tape). Write to Iain Steel, 154 Queen Margaret Drive, Glasgow, G20 8NY.

Commodore Format issue 40 (January 1994) in good (mint) condition with or without coverlape. S Ross, 3 Deanbank Street, Dundee, DD2 2EA.

Look!! Please say you'll swap your disk drive for my Master System and Gameboy. Both in good condition with games, Phone Kenny on (0307) 850057.

Crusade in europe 5.25" disk from MicroProse for C64. To buy or swap. Peter 071 289 9691.

Wanted by private collector, software for the Commodore C16 and Plus/4 computers. Anything considered. Ring Peter with details on 0444 440647 (West Sussex).

Wanted – Gauntlet 1,2 or 3 on tape or disk. Any reasonable price paid. Write to Craig, 248 Batley Road, Alverthorpe Estate, Wakefield, West Yorks, WF2 0AL.

C64 business software urgently wanted. Especially wages/payroll, please. Telephone 041 639 9757.

Commodore Model 1701 colour monitor. Can collect London and nearby counties. Telephone 0689 852177 (Orpinton, Kent) leave message for Richard.

Printer for C64 preferably colour with manual. Please write to Jan Bowen, 52 Preston Avenue, Wymouth, Norfolk, NR18 9JE.

Disk contacts wanted, C64/128, over 700 games, demos, utilities to swap, including Gianna Sisters, Kick Start 128. Write to Jase, 19 Haslemere Gardens, Hayling Island, Hants, PO11 9SD or phone 0705 464949, fax 0705 465565.

Software wanted for new PD group. Catalogues can be ordered from the same address. Please send an SAE to: Graham Pinnock, Dynamic PD, 10 Roseberry Road, Norwich, Norfolk, NR3 3NA.

C64 disk drive needed. Will pay any reasonable price. Must have instructions. Write to G Sutton, Tighna-Sun, Main Street, Guildtown, Perthshire PH2 6BS.

Wanted urgently. 1541 Mk2 disk drive and any disks will be appreciated for C64. Will pay reasonable price. Phone Andy on 0772 258012.

A copy of Elite or Supreme Challenge. Must have instruction. Does not have to be boxed. Will pay good money. Phone 0628 669724.

Wanted: Fox PD/Binary Zone utilities tapes 1 and 2. Will swap binary games for tape 1 and pay £1.50 for tape 2. It is legal to copy PD. Tel 0821 650409.

Wanted: Action Replay. Must work. Will swap for a Simon's Basic cart with no box/instructions but works. If you can help phone 0539 543636. Between 4-9pm.

Wanted: TV Sports Football (available on disk only) by Mirrorsoft. Will pay full price for genuine copy. Please tel Dean 0386 761291.

Hobbit (disk), LCP (disk), Kayleth, Great Gianna Sisters, Salamander (disk), Knightlyme, Stormbringer, Sabrewulf, Tir-na-Nog, Mario Bros, Terrormolinos, Cybernoid 2, Renegade 3 (disk). Write to me at 81 Norway Road, Putney, London SW15 1PH.

Urgently wanted: 1541 Mk2 disk drive. Will pay postage. Call Paul Hitz at 010 353 21 282481 anytime to 2 Cherry Drive, Cross Douglas Road, Cork, Eire.

Wanted: RPG's, C64 disks, boxed with instruction, Bard's Tale, Ultima, etc. Clue books if possible. Write to Phil Duncan, 6 Oakapple House, Maidstone, Kent ME16 9NU.

Could anyone please either provide me with clues or solutions to the following games: The Quest (part of Commodore Compilation disk; text only, this game was part of a package with the disk drive 1982); Starship Andromeda (disk), Lord of the Rings Part One (tape). Kevin Jones, 24 East King Street, Helesburgh, Dunbartonshire, Scotland G84 7QP.

Unhappy boy asks for any spare C64C keyboard, C128 keyboard, power supplies, disk drives and games. Free or under £5. Send to 29 Binyon Crescent, Stanmore, Middlesex HA7 3ND (*address it to Mr hopeful, I would – Dave*).

Wanted: C64 Space Gun, preferably cart. Will pay up to £6. Call Mark on 0908 674660 (*or it might be 0908 614660 – you should see his writing – Dave*).

1541 disk drive, swap for new 3.5 1.44Mb drive and multi I/O card. Make up asking price in cash. Phone Jon on 021 427 3930.

3D Construction Kit £3. Speed Ball 2 £2. Also I want a C64 mouse and mat for £8. And issue 12 of Commodore Format. Phone James on 0353 722426.

GEOS suite or parts. Also Trilogic cart, sound sampler, eg, Datel. I'll swap (SAE please) or pay cash. Please help a serious 64er. 021 373 7504.

Rim Runner and Roland's Rat Race wanted. Also any old software (tape/disk) plus Action Replay and Zzap64 issue 27, 34, 66-78, 82, 83 and 85 onwards. 0222 599733.

Wanted: Exile, Alter Ego, Dragon wars, LCP, Alien Storm, Pirates, GAC, any strategy, on disk. Write to 24 Avenue Parade, Accrington, Lancashire BB5 6PJ.

Wanted: C64 DTP software. Cassette or disk. Please ring 071 251 4196 or write to me at 8b Peabody Estate, Farringdon lane, London EC1R 3BA.

Does anyone have Locomotion by Kingsoft, tape or disk? (*I'm sure somebody does – why, do you want it? – Dave*) Andy Thorn, 19 Keene Road, South Lynn, King's Lynn, Norfolk PE30 5EL

PEN PAL C64 PROGRAMMER wants a male, non-homophobic 5.25 disk pal. Must like rave. *(But no music lovers, then – Dave)* Ben Raisbeck, 1 Dunelm Road, Trimdon Village, Co Durham, TS29 6PX.

Urgent: searched everywhere for Multi-Player Soccer Manager. If anyone has it I'd buy it! Locally to Feltham. Call Dave on 081 384 7568. Urgent.

Disk drive wanted. 5.25-inch if possible. Plus some disks at a low price. Contact Simon Lamb, 13 Victoria Road, Gourock, Scotland, PA19 1LD. 0475 638885.

Commodore C16 and Plus 4 software wanted on tape or disk. Anything considered. Also wanted Pause Plus by Ancp. Ring Peter on 0444 440847.

Adventures on tape and disk. Please send lists to Dave the Sprite. Also needed, back issue of CF37. 23 Athenaeum Street, Plymouth, Devon PL1 2RH.

Microsounds Digital Music system with four octave keyboard or Microvax sampler (Supersoft) plus Pro-cartridge. Must be very cheap. Write to Mike, 14 Borough Place, Church Street, Whitby, YO22 4BJ.

Wanted: an Amiga 600, a mouse, a joystick, transformer. No games. Prices please. Phone Richard on 021 550 2788.

Wanted: Project Stealth Fighter (Microprose) on Kixx label. Cassette only. Local to Reading. Please phone Martyn on 0734862355.

Zoids, Action Force and Judge Dread wanted. Tape only. Pay £5. Complete. Tel Luke on 0882 484910 Mon to Sat from 7.30pm.

USER GROUPS

Cheat And Beat a new cheat program for the Commodore 64. Disk £2.50, tape £3.50. Telephone 0908 502399 for an information pack.

C64 User Mart Magazine (like buy-a-rama except a lot bigger) starting soon. For more information: Wayne Pyrah, 31 Spencer Street, Lincoln, LN5 8JH. (01522) 540580.

BUY-A-RAMA ORDER FORM

NAME

ADDRESS

Classification: Tick box; ❑ For sale ❑ Wanted ❑ Services ❑ User groups ❑ Pen pals

BUYING? SELLING? DOING SOMETHING ELSE THAT THE C64 WORLD SHOULD KNOW ABOUT? THEN CF IS THE PLACE TO ADVERTISE...

And it's as easy as filling in this 'ere form and sending it to us here at Uncle Dave's Buy-A-Drama, *Commodore Format*, Future Publishing, 30 Monmouth Street, Bath, Avon BA1 2BW. And it's free! But that doesn't mean you can take liberties. It's one word to a box in the grid. Cram in more and your ad will be heading binwards.

THE ALL-TIME TOP 50 C64 GAMES!

Here they are. The games you voted for! Dave Golder surveys the survey.

1 MAYHEM IN MONSTERLAND

(Apex, 1993)

Right from the first day the voting forms started coming in there was never any doubt which game was going to be the chart topper. *Mayhem* polled over six times as many votes as the number two game - an awesome achievement. *Mayhem In Monsterland* proves that the C64 can produce games that trounce the platform-fodder churned out on the consoles, in terms of graphics as well as playability. Quite simply, *Mayhem* isn't just the best game on the C64, it's one of the best games ever on any format.

Number one fopr fun.

He looks scared, don't he?

2 LEMMINGS

(Psygnosis, 1993)

The green-haired rodents managed to nab the runner-up position and stop the Rowlands from dominating the top three places. Many doubted that the complex puzzling of *Lemmings* could be achieved on the C64, but the Dutch coding team, Alter development, proved everybody wrong and turned out this stunning conversion.

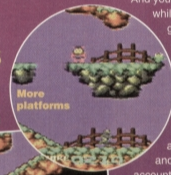
Classic puzzler

Green hair

3 CREATURES

(Thalamus, 1990)

A bit of a surprise, this. Not that *Creatures* has been rated so highly, but that it beat its sequel into fourth place. But no-one can deny that the Rowlands' polished platform formula is a real winner - superb graphics, varied and gripping gameplay and memorable characters.



More platforms

'Memorable characters'

4 CREATURES 2

(Thalamus, 1991)

Clyde returned in this spectacular sequel with some of the most gruesome scenes ever seen in a C64. Less of a platformer and more of a an arcade puzzlers, *Creatures 2* proved that the Rowlands were the finest programmers ever to work on the C64, never content to settle for second best, and constantly pushing the C64 to its limits.

Keep your head down, matey.

5 MICROPROSE SOCCER

(Microprose, 1989)

Written by Sensible Software, who went on to produce the near legendary *Sensible Soccer* on the Amiga, Microprose Soccer came top of the sports sim league in our chart. And that's not surprising considering its superb soccer action and gorgeous graphics.

Even if you hate football...

Xxxxxx xx

6 ELITE

(Firebird Gold, 1985)

Elite is one of those games that aging computer game journos, the sort who claim to have reviewed *Pong* on the BBC micro, go all nostalgic about. And you've got to admit that while the wireframe graphics are about as primitive as cave paintings, the space-trading gameplay has a complexity and depth that account for its popularity.

Keep on tradin'

7 IK+

(System 3, 1985)

This is good to see - I was worried that with all the hype, *Street Fighter 2* might beat IK+. But you lot obviously know quality and put this excellent beat-'em-up in the top 10. Three fighters, lush graphics, responsive controls and a cheat which involves the fighters pants falling down combine to make this oldie a goldie.

Shoes shined, sir?

8 WIZBALL
(Ocean, 1987)

Here's a bit of a surprise. I never realised *Wizball* was so popular. But its curious combination of bouncy action and puzzling elements obviously make it a hit with a sizeable number of you lot.

Bouncy

9 BUBBLE BOBBLE
(Firebird, 1987)

Very cute

I would never have forgiven you lot if this hadn't made it into the Top 10. It's the game that introduced Bub and Bob to the world, before they went on to star in *Rainbow Islands* and the aborted *Parasol Stars*. And it's great.

10 TURRICAN 2
(Rainbow Arts, 1991)

The original *Turrican* just missed out on a top 50 position, but this stunning-looking sequel stormed into the upper regions of the chart. And anyone who's had a go at its non-stop blasting action won't begrudge it its placing.

11 LAST NINJA 2
(System 3, 1987)

Okay, I'll let you in on a secret. None of the *CF* crew has ever been able to work out why these *Last Ninja* games are so popular. But they are. And, apparently, the middle game in this series of weirdly-viewed scrolling beat-'em-ups is the one you like the best.

Man with stick

12 FLIMBO'S QUEST
(System 3, 1990)

And in with a bullet at number 12 we have *Flimbo's Quest*, the game that took *Gauntlet* and made it cute. Hmmm. I've never been convinced about this gaudy arcade adventure, but then, what do I know? The public adore it.

13 RAINBOW ISLANDS
(Ocean, 1991)

Bub and Bob make their second appearance in the chart, and deservedly so. *Rainbow Islands* is almost a text-book example of how to create a classic platformer. And it looks great too.

14 JAMES POND 2, ROBOCOD
(Millennium, 1992)

The scaly superspy stuck on a robotic suit of armour to become one of the most extraordinary sprites ever seen on the C64, and an instant hit with you lot.

15 PARADROID
(Hewson, 1986)

This stunning overhead-viewed shoot-'em-up from the mighty Andy Braybrook was hailed as an instant calssic when it was released, and time has not dulled its impact one iota.

Keep shooting

16 MANIC MINER
(Buy-byte, 1985)

This is quite possibly the oldest game in the Top 50, but its simple excavation action obviously still strikes a chord with a large chunk of *CF* readers.

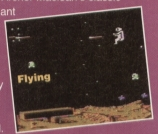
17 DEFENDER OF THE CROWN
(Cinemaware, 1986)

Back in the days of yore, men wore tights, women got captured and locked in castle turrets and Kings went off to do battle in foreign lands leaving their country in the hands of evil in-laws. All of which is a great setting for an adventure/strategy game if you ask me.

Political

18 DROPZONE
(US Gold, 1984)

Archer Maclean's classic *Defender* variant is now regarded by people in the computer game industry as one of the finest games ever released. And now you own it, because it's on this month's Powerpack. You lucky people.



19 STREET FIGHTER 2
(US Gold, 1992)

To be honest, *SF2* on the C64 was not the best of conversions, but loads of people were still satisfied enough with the 8-bit antics of Chun-li, Blanka, M Bison and the gang.

Fight, fight, fight!

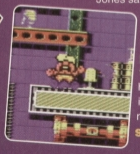
20 SLICKS
(CodeMasters, 1992)

Bizarre. Don't get me wrong, *Slicks* is a fine game, but I would never have expected it to be the highest rated racing game in the charts. What happened to *Turbocharge*? And *Outrun Europa*? You lot are weird.

Speedy

21 RICK DANGEROUS 2
(Microstyle, 1990)

The computer world's answer to Indianna Jones saved the world from invading aliens in this stunning sequel, proving that follow-ups don't have to be inferior rehashes.


Sequel

22 LIVERPOOL
(Grandslam, 1993)

If you can ignore the fact that the game is based on Liverpool (which is difficult) this is a brilliant football sim, it's only problem being that it isn't quite as good as *Microprose Soccer*. And that's what this chart seems to prove as well.

You'll never walk alone.

23 HYPER SPORTS
(Imagine, 1985)

This ancient conversion of the Konami coin-op classic was the original joystick-waggling sim on the C64. And loads of people obviously still reckon that it's the best.

24 STORMLORD
(Hewson, 1991)

Rafaelle Cecco churned out quality shoot-'em-ups like some kind of programming production line. *Stormlord* is one of his best and bears all his hallmarks – an all-action blasterama with colourful graphics and loads of big-breasted women.

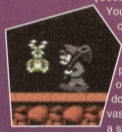
25 SPY VS SPY
(First Star, 1984)

If it wasn't for the fact that it went on to spawn a series of sequels, *Spy Vs Spy* would be a truly original game. The two-player split screen action is a bit disorientating at first, but the gameplay soon becomes absorbing.

Mad magazine

26 SLEEP-WALKER
(Ocean, 1993)

You might expect a charity game to be a bit crap, but this official Red Nose platformer is a peach of a game. Ralph the dog rushes around the vast levels trying to find a safe route for his somnambulistic master, Lee. Great stuff.


Zzzzzzzzzz!

27 NEW ZEALAND STORY
(Ocean, 1991)

You like like your cute platformers, don't you? And here at number 27 we have one of the cutest. That Kiwi oozes cuteness out of every fluffy feather. But don't let that put you off. The game's still a beaut.

THE ALL-TIME TOP 50 C64 GAMES!

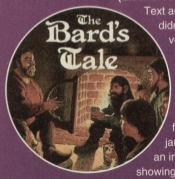
28 GUNSHIP
(Microprose, 1987)

On disk this is probably the best flight sim there is, as you take control of a mighty AH64A Apache Attack helicopter. But one to avoid on tape, because it comes across more like a demo version. This is the top rating flight sim in the chart, by the way.

Chopper

29 BARD'S TALE
(Electronic Arts)

Text adventures didn't feature very strongly in the overall voting, but this classic fantasy jaunt made an impressive showing. Indeed, it is quite possibly the best text adventure ever.



Texty

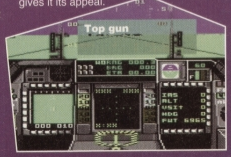
30 FOOTBALL MANAGER 3
(Addictive, 1993)

Camel coat

The original *Football Manager* is a bit of a legend, but it was no great looker. Through two sequels the game was developed to the more eye-friendly and instantly accessible version we have here.

31 F16 - COMBAT PILOT
(Digital Integration, 1985)

This is probably the most complex flight sim on the C64 - there seems to me more to keep track of than you'd get in Concord. But it's this kind of depth which obviously gives it its appeal.



32 IKARI WARRIORS
(Elite, 1988)

Ikari Warriors has probably got the best two-player option in any shoot-'em-up, but even if you can't rope anybody else into playing with you, the Commando-style action is rivetting.

Shoot-'em-up with a friend.

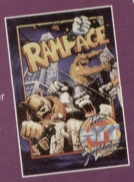
33 SMASH TV
(Ocean, 1991)

While we have to put up with Pets Mean Prizes and Supermarket Sweep, the game shows of tomorrow will be more like a mix between It's a Knockout and Rambo. More action per second than any other game.

Shhot-'em-up on telly.

34 RAMPAGE
(Ocean, 1987)

This is one seriously odd game. Monsters climb up sky scrapers and throws chunks of buildings at each other. It can't be long before Super Rampage on the SNES comes out, surely?



Building battle

35 NEBULUS
(Hewson, 1985)

We have definitely entered the Twilight zone, because here's another seriously bizarre game. A pea on legs climbs up the outside of a series of round towers trying to avoid getting killed on the way. The weird scrolling is unique and certainly makes the games memorable.

Walking pea

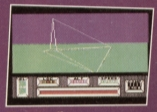
36 FIRST SAMURAI
(Imageworks, 1992)

First Samurai features some of the best graphics you'll find on the C64. The main sprite is gorgeously animated and the horizontally-scrolling beat-'em-up action twists and turns all over the place.

Ancient Japan

37 MERCENARY
(Novagen, 1987)

Ah, those wire-frame graphics bring the memories flooding back. *Mercenary* might look primitive but the depth of gameplay is undeniable. These space trading games are still mightily popular.


More trading

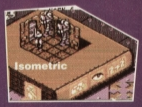
38 BUG BOMBER
(Kingsoft, 1986)

The title says it all really. You bomb bugs. But *Bug Bomber* is less of a blaster and more of a puzzler as you try to work your way around the mazes and where the best places to plant your bombs are. Classic gameplay that inspired things like *Super Bomberman* on the SNES.

Blasting puzzler

39 HEROQUEST
(Gremlin, 1991)

This is an excellent computer version of the world-famous board game, with 12 missions and four warriors from which to choose. Graphically it's a bit lame, but there's enough gameplaying meat to keep you questing.


Isometric

40 FOOTBALL MANAGER 2
(Addictive, 1987)

Quite how people can choose *FM2* over *FM3* or vice versa is beyond me. I wonder if there had only been one Football Manger to choose from it would have got all the votes given for all three games separately?

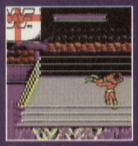
41 EXOLON
(Hewson, 1985)

Oh look. It's another one of the Raf Cecco shoot-'em-ups. This man really was a master of his art. *Exolon* was perhaps not quite as original as some of other games, but it was still a quality blaster.

Quality blaster

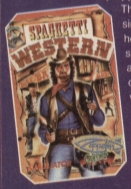
42 WWF EUROPEAN RAMPAGE
(Ocean, 1993)

Is this supposed to be some kind of a joke? You all know how much I loathe this game. To be honest, not many people voted for it, but the ones who did all put it top of their list, so it amassed enough votes to make a showing. But do they really like this limp beat-'em-up?



More dumb wrestlers

43 SPAGHETTI WESTERN SIMULATOR
(Zeppelin, 1990)



This is not, in fact, a simulator at all, but a horizontally-scrolling shoot-'em-up. And not a particularly good one, either. Who voted for this rubbish? I think we should name names. Er, perhaps not.

What???

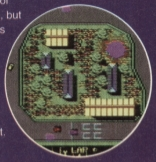
44 EMLYN HUGHES INTERNATIONAL SOCCER
(Touchdown, 1992)

Phew, back on track after a couple of dodgy entries with another brilliant football game. This time the action is viewed from the side, and Roger Frames reckoned it was much better than going down the park for a kickabout.

Don't tell me...

45 CARNAGE
(Zeppelin, 1993)

I suspect this crept into the 50 owing to its place on the Powerpack a few months back. It is a pretty cool driving game, but like *Sticks*, it's certainly not one of the best. Still, this is your chart; I'm not going to tamper with it.



Average race-fest

46 URIDIUM
(Hewson, 1986)

Another recent Powerpack star. Another Cecco shoot-'em-up. Another deserving position in the Top 50. I wonder what the guy is up to now? I bet he could turn out another decent C64 shoot-'em-up in his sleep.

Shooty, spacey thing

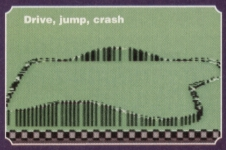
47 TREASURE ISLAND DIZZY
(CodeMasters, 1990)

A solitary appearance in the chart for CodeMasters' most famous character. I was surprised there wasn't a bigger fanbase. Still, Treasure Island is one of the better Dizzy adventures.

That damn egg

48 STUNT CAR RACER
(Microstyle, 1991)

If this game had been on the covertape recently I bet it would have made it into the Top 10. It is superb. The best racing game ever in my humble opinion. Search it out. Get educated.



Drive, jump, crash

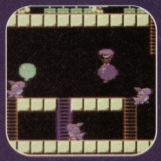
49 SPINDIZZY
(Electric Dreams, 1985)

This is one of those infuriating games that some people take to in seconds and some never master. But whether you can play it or not, you can't deny that it's a mighty fine slice of software.

Marble maze fun

50 RODLAND
(Storm, 1992)

In which cute sprites bash nasty sprites with big sticks. Surprisingly addictive platform jaunt that oozes playability and addictiveness. A real classic that deserves a place in everybody's collection.



Cute fun with baddy-bashing

THE BOTTOM 10

And these are the games you really lothed. And once again, the game that came out top (of the bottom if you see what I mean) was way ahead of its competitors...

1.
Dizzy Panic

2.
Final Fight

3.
Repton 3

4.
Hard Drivin

5.
Final Fight – again!

6.
Dizzy

7.
Last Ninja 3

8.
Dick Tracy

9.
Street Fighter 2

10.
Cauldron 2

TECHIE TIPS

53272,30 to see it, although you won't notice much of a change. You can change memory locations $3800-$3FFF to redefine the characters.

```
0 REM CHARACTER SET COPIER BY J.FINCH
1 FOR X=49152 TO 49195:READ Y:POKE
X,Y:C=C+Y:NEXT X
2 IF C<>7069 THEN PRINT "DATA ERROR":END
3 SYS 49152
10 DATA 120,169,051,133,001,169,000,133
11 DATA 251,133,253,169,208,133,252,169
12 DATA 056,133,254,160,000,177,251,145
13 DATA 253,200,208,249,230,252,230,254
14 DATA 165,254,201,064,208,239,169,055
15 DATA 133,001,088,096
```

8 No dramas, dude. **Jason**

MULTIPLICATION QUANTIFICATION

Dear Techie Tips,

First I'd like to tell you that your section is my favourite bit of the mag. How do you do simple multiplication and division in machine code? I need to do access location 50000+PEEK(2)*16.
Lawrence Mercer, Fife.

Try this for size:

```
100 *=49152
110 LDA 2
120 LDX #4; 16 IS 2^4
130 LOOP ;
140 ASL A
150 DEX
160 BNE LOOP
170 TAX
180 LDA 50000,X
190 RTS
```

The ASL can be changed to LSR to divide by 16 instead. Bear in mind that this

UNNATURAL PERIPHERAL

Dear Techie Tips,

1 Why are you so cool?
2 Why do you hate TMB?
3 Do you need software to use the "Hand Scanner 64" (as in ish 48), and is it any good?
4 What is a GenLock and is it any good?
5 How would you be able to use a hard drive on the C64 and do you need extra software to use it?
6 Is all this stuff worth the bomb it costs?
7 Could you give me a routine as a Basic loader to copy the upper case letters into Basic because the one I have is slow. I need it to be quick.
8 Thanks a bunch matey.
Hugh "The Meanest Muncher Around" Caffrey, Oldham.

1 Excellent opening question. Tricky to answer. Maybe because I spend most of my life in the Fridge. No, sweetie, it's a club.
2 I couldn't possibly hate TMB; that roundish lump of pulsating grey sponge is beautiful.
3 I'm sure you could point it at things and try to scan them in, but without any software you're going to be hard pushed to get anything up on your screen. You expect the computer just to think spontaneously, "ooh, he's moving the scanner, I better have a look what he's scanning"?
4 Well originally I thought it was a crude and rather painful tool for torturing people. However, it is in fact a video device that synchronises two video signals. This means you could get the signal from your computer, and the signal from a video recorder and then overlay them both properly. This is useful for titling and stuff.
5 No extra software is needed. You use them the same way you would use any other C64 disk drive. The fact it's hard and not floppy isn't an issue.
6 If you're going to use it. It will shut all your Amiga and console owning friends up anyway.
7 Copy them into Basic? I can't admit to being sure what you mean, but here's a machine code routine, as a Basic loader, that puts a copy of the standard upper case character set at 14336 ($3800). Do a POKE

COMPATIBILITY POSSIBILITY

Dear Techie Tips,

1 I've just bought a Seikosha SL-90+ 24-pin dot matrix printer. It works fine on my Amiga but not properly on my C64. It prints out okay from the *Mini Office 2* word processor but not from anything else. *OCP Art Studio* causes it to go mad. It's a clone of the Epson LQ-850, if that helps, and the interface I am using is the 92008/g from Trading Post. When I try to use the AR printer dump option, the printer adds small gaps between each line. The interface seems to convert the printer to an MPS801 but I want to use the printer's underline and other options. From Basic I can use OPEN 1,4,1 and so on to send commands to the printer but all other programs don't want to know.
2 I also need the Epson LQ-1500 printer driver for GEOS but I don't know where to get it from.
3 The 1541 MkII power supply apparently works with the Excelerator+Plus disk drive. The Excelerator disk drive wasn't 100% C64 compatible anyway; most games didn't work on it.
4 To all that know me, I am NOT obsessed with Mary Nightingale!
Steven Croucher, Chingford.

1 It could well be that the interface converts it into a basic model printer, like the MPS801. Your best bet is to go for the Universal Printer Interface supplied by Meedmore Ltd (☎ 051 521 2202). It costs a lot more, but is intelligent in that it will work out what you want to do and will, more often than not, do it correctly.
2 The best place to ask about all things GEOS-like is the UK GeoClub. Contact Frank Cassidy at 55 High Bank Road, Droylsden, Manchester.
3 It could well be that the 1541 MkII power supply will do. These things tend to be standardised and I'd never thought of that. I beg to differ on the Excelerator+Plus compatibility issue though; I had one and it always worked fine. The Managing Director of Evesham Micros even offered an Amiga and the chance to watch him eat his hat if someone found a piece of incompatible software.
4 No, I'd heard it was Shirley Bassey. Seriously though, we all know you are indeed obsessed with Ms Nightingale and, as she fancies the pants off you, I think you should ask her out. **Jason**

only works with single byte numbers and therefore you need something more complicated if you want the full 0 to 65535 range.

```
100 *=49152
110 LDA 2
120 STA 251; LOW BYTE
130 LDA #0
140 STA 252; HIGH BYTE
150 LDX #4; 16 IS 2^4
160 LOOP ;
170 ASL 251
180 ROL 252
190 DEX
200 BNE LOOP
210 RTS
```

The above bit of code will multiply a single byte number by 16 to produce a two-byte number in the usual low/high byte format. It reads the single byte number in from location 2 and stores the result in 251/252. **Jason**

FAVOURING SAVING

Dear Techie Tips,

1 How do I load machine code data directly from tape and into memory without having to POKE it in via a Basic program?

2 With the *6510+ Assembler*, how do I save the machine code so I can load it back into memory, without the assembler resident, and execute it?

Peter Griffiths, Gwent.

1 Just do `LOAD"FILENAME",1,1` and type `NEW` afterwards to reset the Basic pointers that will be screwed up by doing that. From within a Basic program you use the following method:

```
10 A=A+1:IF A=1 THEN LOAD"PART 1 CODE",1,1
20 IF A=2 THEN LOAD"PART 2 CODE",1,1
30 IF A=3 THEN LOAD"PART 3 CODE",1,1
40 REM .. REST OF PROGRAM FOLLOWS ..
```

2 When you have assembled the code, enter `MONITOR` and type `S"FILENAME",1,C000,C350` to save a piece of code from $C000 to $C34F inclusive to tape. Note how you must add one to the end address. **Jason**

GRAPHICS CLASSICS

Dear Techie Tips,

1 Can I use *OCP Advanced Art Studio* to make levels for my games? They are static screen games so I don't mind using 9K of memory.

2 Is it possible to use *OCP Advanced Art Studio* with *Loader Maker* (*CF*37). If so, how?

Adam Bodestyne, Australia.

1 Yes, there's no problem. You simply have to load in the MPIC file and display it as normal. A method for doing this is demonstrated in the *Advanced Art Studio*'s manual. I also gave a machine code version of the same thing way back in *CF*35.

2 *Loader Maker* expects pictures to be in *Saracen Paint* format, unless I'm very much mistaken. Which I could be because my *CF*37 Power Pack has given up on me and I don't have a back-up. Incompetent, or what? You need to convert your *Advanced Art Studio* files into the same format as *Saracen Paint* files.

That is a bit tricky, though, because Basic variables will overwrite bits of the converted picture. Not good. So load in your MPIC file and then use the machine code produced by this Basic loader. As soon as the conversion is done it will prompt you to PRESS RECORD & PLAY ON TAPE and will save a file called SARACEN PIC. It takes the normal year or so to save so be patient. *Loader Maker* should, in theory, use the new file without any problems.

```
0 REM "PICTURE CONVERTER" BY J.FINCH
1 FOR X=49152 TO 49293:READ Y:POKE
X,Y:C=C+Y:NEXT X
2 IF C<>19810 THEN PRINT "DATA ERROR":END
3 PRINT CHR$(147)
4 PRINT "LOAD OCP PICTURE INTO MEMORY AND
THEN"
5 PRINT "ENTER SYS 49152 TO CONVERT AND
SAVE"
6 PRINT "PICTURE AS A SARACEN PAINT FILE"
10 DATA 162,000,189,064,063,157,000,120
11 DATA 189,064,064,157,000,121,189,064
12 DATA 065,157,000,122,189,040,066,157
13 DATA 232,122,189,056,067,157,000,156
14 DATA 189,056,068,157,000,157,189,056
15 DATA 069,157,000,158,189,032,070,157
16 DATA 232,158,232,208,205,173,041,067
17 DATA 141,240,123,169,000,133,251,133
18 DATA 253,169,032,133,252,169,124,133
19 DATA 254,160,000,177,251,145,253,200
```

THE ALL-TIME CF TOP 50 TECHIE TIPS (AND WHERE TO FIND THEM)

SPRITES

1 Making a sprite 'jump' (*CF*33)
2 Putting sprites in the upper and lower borders (*CF*25)
3 Displaying more than one sprite at a time (*CF*48)
4 Moving a sprite around using a joystick (*CF*43)
5 Detecting sprite to background collision (*CF*41)
6 Making a sprite move in a circle (*CF*35)

PROGRAMMING

7 Creating a menu with a highlight bar (*CF*35)
8 Reading the joysticks (*CF*48)
9 Specialised INPUT routine (*CF*39)
10 Creating an array of non-repeated random numbers (*CF*43)
11 Detecting the pressing of the RESTORE key (*CF*36)
12 Detecting the left and right SHIFT keys separately (*CF*34)
13 Merging two Basic programs from tape (*CF*47)
14 Using numeric variables in GOTO commands (*CF*22)
15 Using the RESTORE command to read from a particular DATA line (*CF*41)
16 Using string variables (*CF*29)
17 Curing the flicker on raster colour bars (*CF*46)
18 Playing music while you program (*CF*43)

PRINTERS AND DRIVES

19 Connecting printers to the computer (*CF*37)
20 Buying a printer (*CF*47)
21 Simple use of a printer (*CF*22)
22 Printing in colour on a colour printer (*CF*45)
23 Reading sectors off a disk in machine code (*CF*41)
24 Checking that the disk drive is switched on (*CF*39)
25 Checking that the printer is switched on (*CF*42)
26 Using the Commodore 1520 printer/plotter (*CF*45)

GRAPHICS

27 Producing Mandelbrot sets in Basic (*CF*34)
28 Creating the flashing title effect from *Creatures 2* (*CF*25)
29 Smooth scrolling text horizontally (*CF*33)
30 Colour mixing to get more than 16 colours (*CF*45)
31 Switching the banks in order to get more graphics memory (*CF*40)
32 Combining high resolution and multicolour characters (*CF*37)
33 Producing large text on screen (*CF*45)
34 Producing double height characters (*CF*29)
35 Displaying OCP Advanced Art Studio pictures instantly (*CF*35)
36 Displaying Saracen Paint pictures (*CF*32)
37 Scrolling text up the screen (*CF*41)

THE BITMAP SCREEN

38 Clearing the bitmap screen quickly (*CF*40)
39 Plotting points on the bitmap screen (*CF*39)
40 Drawing lines on the bitmap screen (*CF*37)
41 Printing text on the bitmap screen (*CF*36)
42 Dumping the bitmap screen to a printer (*CF*35)

OTHER THINGS

43 Producing a TouchTone phone dialler (*CF*30)
44 Cables for connecting a monitor (*CF*46)
45 Cutest picture of Mark Owen from Take That (*you what? – Dave*) (*CF*33)
46 Defining the function keys (*CF*26)
47 Changing the cursor character and colour (*CF*31)
48 Finding C64 manuals and parts (*CF*24)
49 Displaying the system clock permanently (*CF*30)
50 Upgrading a C64 to an Amiga (*CF*47)

And remember, if there's a tip you need in an issue you haven't got, then you can make use of our handy Back Issues service on page 8.

```
20 DATA 208,249,230,252,230,254,165,254
21 DATA 201,156,208,239,169,001,170,168
22 DATA 032,186,255,169,016,162,126,160
23 DATA 192,032,189,255,169,000,133,251
24 DATA 169,120,133,252,162,234,160,159
25 DATA 169,251,032,216,255,096,202,215
26 DATA 215,203,032,083,065,082,065,067
27 DATA 069,078,032,080,073,067
```

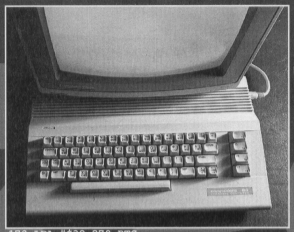
That should do the trick. **Jason**

FOREBODING CODING

Dear Techie Tips,
1 What registers are involved in setting up raster interrupts?
2 What would I POKE into them?
3 Why do you need interrupt masks?
4 Once an interrupt has been initiated and the code is being executed, what command would I finish the code off with – an RTS or a BRK?
David Gammon, Essex.

1 The IRQ Occurred Flag at $DC0D, the Raster Read/Write Register at $D012, the IRQ Vector at $0314/5, the VIC Interrupt Flag Register at $D019 and the IRQ Mask Register at $D01A. Each time you cause an interrupt you must write to $D019 again.
2 How about I just show you how to set up a raster interrupt? The value #$31 at line 170 is the position for the first latch; the top of the screen. There are other ways to set up raster interrupts but you'll find this the easiest to work out and control.

```
100 *=49152 200 STA $0314
110 SEI 210 LDA #>INT
120 LDA #$7F 220 STA $0315
130 STA $DC0D 230 LDA #$01
140 LDA $DC0D 240 STA $D019
150 LDA #$1B 250 STA $D01A
160 STA $D011 260 CLI
```



```
170 LDA #$32 270 RTS
180 STA $D012 280 ;
190 LDA #<INT 290 INT ;
```

3 Because it's all just a big Masquerade Ball and you'd look out of place if you didn't have a mask.
4 Using the method above you end it with JMP $EA31 if you want the computer to scan the keyboard, JMP $EA81 otherwise. If you have multiple latches you should balance out the number of JMP $EA31s and JMP $EA81s. You can also end interrupts with RTI instructions (ReTurn from Interrupt) but that won't work with the above set-up. Add the following bits of code which will generate a bit of machine code that has two latches, one at the top of the screen and one at the bottom. It's based on the WIDESCREEN TV code I gave a few issues back.

```
300 LDA #$01 430 STA $D012
310 STA $D019 440 JMP $EA31
320 LDA FLAG 450 BOTTOM ;
330 EOR #1 460 NOP
340 STA FLAG 470 NOP
350 BEQ BOTTOM 480 NOP
360 TOP ; 490 LDA #$00
370 LDX #13 500 STA $D020
380 LOOPA DEX 510 LDA #$31
390 BNE LOOPA 520 STA $D012
400 LDA $D021 530 JMP $EA81
410 STA $D020 540 FLAG ;
420 LDA #$FA 550 BYT 0
```

Lines 300-310 set the Raster Compare IRQ bit of the Interrupt Flag Register again so that another interrupt will occur. Lines 320-350 toggle a flag to keep track of whether it's at the top or the bottom and branch accordingly. Note that lines 420-440 and 510-530 are the end of each interrupt call and that a new value is put into the Raster Read/Write Register; it's the location of the next interrupt. **Jason**

CF

QUICK SHOTS

● Please can you tell me where I can obtain colour pens for my Commodore 1520 printer/plotter?
Len Iceton, Cleveland.

The Tandy plotter is quite similar in construction to the 1520 and you should be able to get hold of four pens from Tandy stores that will do the job. Take your used ones in and make a comparison before buying, just to make sure you've got the right ones. **Jason**

● In *CF47* someone wrote in asking you if you knew of a Spectrum emulator for the C64. One is available from Binary Zone PD. It's called *Spec-Tacular* and is on Disk BZD006. The disk also contains an Amstrad CPC emulator as well as several demos.
Matthew Withers, Crewe.

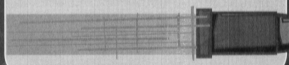
The emulator that came out many moons ago allowed people to load Spectrum games from tape using the C64's datasette. I didn't think that *Spec-Tacular* allowed this. However, it has been known for me to be wildly off the mark and totally wrong, so I stand corrected if this is the case. **Jason**

● I know you have to freeze the cartridge to install POKEs, but how do you freeze the cartridge?
E Mylum, Reading.

I suppose, "Put it in the ice-cube tray of your freezer," is too obvious an answer? You don't actually freeze the cartridge, you use the cartridge to freeze the games. Which cartridge are you talking about? Most cartridges will have one or two buttons on one end and it is normal for one of these to be a reset button and the other a freeze button. Your cartridge may not have a freeze facility. **Jason**

● How would you rate the EXPERT cartridge compared to other cartridges?
Ben Keetley, Derbyshire.

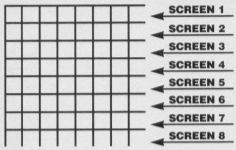
Equal third with the Final Cartridge 3; below Action Replay and Super Snapshot. **Jason**



TECHIE QUERIES – DON'T CALL US

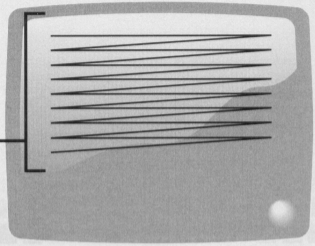
If you have any technical queries about your CPC, the only person on the magazine that can help you is Jason Finch, and he can only be contacted by post as he does not work in the *CF* office. If you phone up the office there is no-one here that can help you – as much as we'd like to, we simply aren't brainy enough – and it prevents an already over stretched team from getting on with the job of producing the magazine. In fact, if you phone the office all you'll get is an answerphone message telling what it says here, so there's no point in wasting your phone bill. Please send all techie queries BY POST to: Techie Tips, *Commodore Format*, Future Publishing, 30 Monmouth Street, Bath, Avon BA1 2BW.

How FLI splits rasters



(with character colours blue and red for example)

(with character colours yellow and grey for example)



Right – this is very much out of scale, but it's a representation, okay. Right is the screen with the raster moving down. Eight lines is omne character high, and for each line within a character FLI can call a screen map form different parts of memory (above)

COLOUR ME BAD PART 2

In last month's feature on creating new colours on your C64 we glibly mentioned a method called FLI. This month Russ Michaels explains what this little baby can do for you...

FLI stands for Flexible Line Interlacing, and the overall effect is being able to use more colours per character in your pictures. In a standard bitmap graphics screen you are allowed to use three colours per character position plus the background colour. This is because there are only three possible bit combinations to say which colour the pixels are set at.

Why's that? Well, we explained that last month and we're not going through it all gain here. If you didn't get last month's copy, go and rewatch your mum's entire collection of Michael Ball videos, but order a back issue first, okay.

First I suppose we better clear up exactly what we mean by raster.

WHAT'S A RASTER, THEN?

For those of you that don't know a raster is not a black guy with dreadlocks, but the horizontal line, one pixel high, that continually travels down the screen updating the display. The very top of the screen is raster position £$32, the bottom is £$FA, and any alterations you make to the screen variables will be effective from the position you stop the raster.

If you have ever seen a computer on television you will have seen the rasters moving down the screen. It looks like it is moving slowly and as if it is a line the width of the screen. But in fact it is moving incredibly fast down the screen and moves from left to right (the slowness is caused by the same effect that makes wheels look like they are moving backwards sometimes on television).

What FLI does is split the screen on every raster. On each split it reads the screen from a different part of memory. So because there are eight lines to each character, eight different screens can be used.

AND WHAT GOOD IS THAT?

Because colours one and two are stored on the screen (see last month), changing the screen's location means that different colours for one and two can be stored in those different screen locations. The normal screen is from $0400-$07E8 (1024-2023 decimal) and the colour map at $d800. The colour map cannot be moved so colour three must always remain the same in all lines, but the screen can be moved to almost anywhere in memory, and as each screen location holds two colours, by changing the screen on each pixel line you get all 16 colours in one character, two per line.

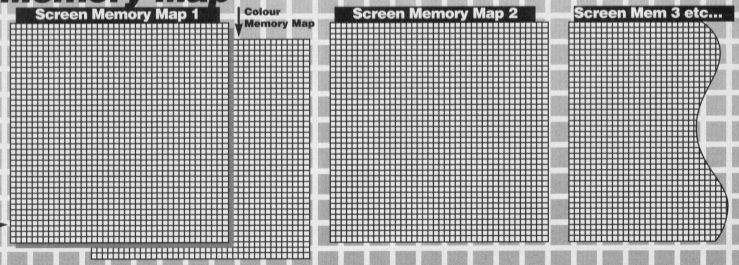
So what basically happens is that the raster moves along the top line of the screen accessing one of the screens held in memory. When it leaps to the next line, it accesses another screen in another area of memory which hold two different colours. The same thing can happen up to eight times, which basically means that all 16 colours can be used in the same character (remember that a chapter is eight pixels by eight pixels and that the raster is one pixel high). See Fig 1.

The colours can only be split horizontally, though, so once a colour has been defined for one line it has to remain the same the whole way across the screen.

So in any one horizontal line of pixels you can still have only three colours (plus the background colour, of course), but vertically within a character, thanks to FLI, you can now have different sets of three colours. This is a bit restrictive but hey, who's complaining when it allows you to play around with at least a few more colours.

Screen Memory Map

The Colour Memory Map remains constant, but using FLI up to eight different Screen Memory Maps, each containing different character colours, can be called and overlaid over the top of the Colour Memory Map.



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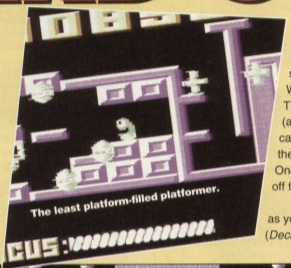
GAMEBUSTERS

WIZARD'S PET

GAMES TIPS

Double, double, toil and trouble. Yep, being a Wizard's apprentice is quite a formidable task, especially if you happen to be a small amorphous green blob. Thankfully, Andy Roberts knows the secrets.

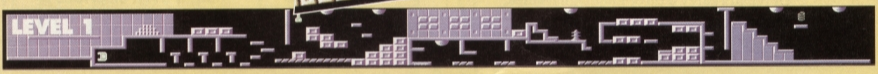


The least platform-filled platformer.

THE GAME

In case you're wondering what the heck you're supposed to do, here is a brief overview: as the Wizard's apprentice, it seems you've messed up a little. The aim of each level is to collect three magical objects (a POTION, a SCROLL and a SPRING). As you can only carry one object at a time, you need to take the objects to the teleporter (a small chequered platform) individually. Once the final object has been teleported, you can whizz off to the next level via the sub-game.

It's worth noting that you can hover above the ground as you jump by repeatedly tapping the joystick upwards (*Decathlon*-style).



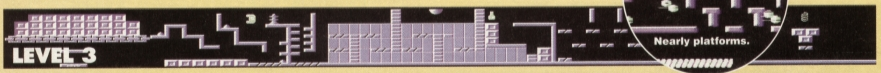
LEVEL 1

This is the ideal place to familiarise yourself with the game, the control system and the various annoying little quirks. The first point to note is that if you fall off the bottom of the screen, you re-appear at the top. Sounds good in theory, at least. This first level is surprisingly tricky, but don't let that put you off. Grab the SPRING from the far right initially, then the POTION, and finally the SCROLL. The teleporter is a little awkward to get to, especially for first-timers.

LEVEL 2

Strangely, this level is much easier than the previous one (and getting to the teleporter is a doddle). You'll probably have noticed that the attack waves have no intelligence, and move in a very linear fashion – keep the trigger finger moving. As before, collect the furthest object first (ie, the SPRING), followed by the POTION and the SCROLL. Some objects won't appear on the screen when you start the level – you'll need to walk off the screen and come back on.

Double, double, toil and trouble



Nearly platforms.

LEVEL 3

This level contains quite a few tricky twists and turns, and there are some very awkward platforms to negotiate in order to collect the SPRING at the far-right of the level. Again, it is important to keep firing at all times, as the alien onslaught never lets up. The teleporter is situated underneath the start position (at the far-left), and requires some pretty precise jumping to reach. Once you've returned the spring, collect the POTION and the SCROLL as before.

LEVEL 4

The most notable thing about this level is the platforms, or rather, the lack of them. If you're no good at long-distance jumps, this one will be almost impossible. Some can be crossed by falling off the bottom of the screen, but others demand frantic joystick-waggling. The teleporter, as before, is under the start position, and is fairly easy to reach by dropping off the bottom of the screen. Collect the objects in the same order as before, taking care when you collect the POTION.

THE SUB-GAME

There's nothing unduly complicated about this little part of the game. It's basically just an opportunity to earn masses and masses of bonus points by the repeated destruction of the toadying lackeys of the oppressing imperialist alien bourgeousie (*in other words, blast anything that moves – Dave*). Er, yes, just blast anything that moves. Sorry, Dave.

You won't lose energy by crashing into the aliens, and your HOCUS level merely ticks away to act as a time limit. So simply fly back and forth and blast the aliens until the time runs out – the more you hit, the more points you get. And what do points make? Well, sharp points make holes in things… *(you're barking – Dave).*

WIZARD TIPS

If that bucket load of advice was barely enough for you, here are a few more hints to help you on your way courtesy of Richard Beckett from York.

- Your energy can be re-filled at any point during the game by pausing and unpausing the game a few times in a row (by using the return key).
- You can't move or change direction during a jump, and neither can you jump straight up, so be very cautious when timing your jumps.
- If you own an Action Replay cartridge, you can remove blockages by selecting the EDIT SCREEN function – simply use the spacebar to erase any unnecessary obstructions.

Izzy Wizzy let's get busy. Or something like that, I'm sure.

GAMES TIPS

LEVEL 5

This level is the real test, designed to separate the men from the boys (or the blobs from the apprentices – whichever applies). The SCROLL is fairly easy to collect, and the teleporter reasonably straightforward to reach, but as for the SPRING and POTION… There's a very, very long jump mid-way through the level, which will probably take dozens of attempts to cross. And once you've crossed it to collect the POTION, you'll need to do it all again for the SPRING.

LEVEL 6

After the frenzied waggling of the previous level, this one's almost calm. At first glance, it appears that the SCROLL is missing, but it's under the start position and doesn't appear at the start of the level. If you go right a couple of screens and then back to the start, the SCROLL will be there – grab it, then make for the teleporter at the far right. It's awkward to reach, and needs a bit of slow, rhythmic waggling. Then collect the POTION and the SPRING in that order to complete the level.

...fire burn and cauldron bubble...

LEVEL 7

Another exceedingly awkward level, with more of those tricky, frustrating jumps we all know and love. The SCROLL is fairly easy to reach, and you should collect it first and return it to the teleporter (which,thankfully, is pretty accessible too). However, the POTION and SPRING are very tricky to reach. In fact, you'll actually need to drop off the bottom of the screen in order to collect the SPRING (which can be dangerous if your HOCUS level is low).

LEVEL 8

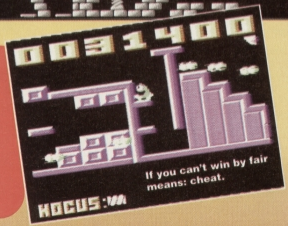
The final level, but a few familiar situations. First, as with level six,the SCROLL is underneath your starting position, but you'll need to exit the screen and re-enter it in order to collect it. As before, it may be necessary to drop off the bottom of the screen in order to progress; indeed this is the only way to collect the POTION. And finally, be extremely cautious when collecting the SPRING at the far-right of the level – if you fall off to the right, you'll be stuck forever. Take care, little fellah.

WIZARD'S PET

(POWERPACK 48)

Infinite hocus is the order of the day, so if you fancy getting to the end of this revamped Mastertronic classic why not type in this splendid listing POKE. Note that you still lose your hocus on the sub-game, but this is, like, essential for completing the game.

```
0 REM WIZARDS PET CHEAT BY WAZ
1 FOR X=516 TO 562:READ Y:C=C+Y:POKE
X,Y:NEXT
2 IF C<>5468 THEN PRINT "DATA ERROR":END
3 POKE 157,128:SYS 516
4 DATA 032,086,245,169,019,141,207,003
5 DATA 206,208,003,096,087,065,090,169
6 DATA 032,141,175,008,169,002,141,176
7 DATA 008,076,230,003,169,173,141,002
8 DATA 092,169,234,141,234,096,141,235
9 DATA 096,141,236,096,076,001,008
```



If you can't win by fair means: cheat.

ARCHETYPE

(PSYTRONIK)

Not a bad little arcade romp. In fact it's hard to believe that it started life as a simple *SEUCK* creation. Any road up, here is a relatively simple cheat mode which rewards both players with infinite lives:

On the title screen, simply hold down the keys C, H, E, A and T. The border will turn red, the music will change and you can now start a much easier game than before.

EXILE

(AUDIOGENIC)

It may be just my imagination, but this Duke doesn't look very happy.

Over three years since its original release, this huge arcade adventure seems to be attracting more attention than ever before. Anyway, here's Tim Smardon from Bristol with a few handy tips for budding explorers.

- By feeding the 'Slimes' a coronium crystal, they will turn solid. This allows you to place them under some acid, whereupon they are transformed into coronium rocks.
- You can squeeze through certain small gaps by pushing towards the gap while turning upside-down. Note that this won't work on some gaps which are simply too small to fit through.
- Most items can be used more than once during the game, so be careful not to discard items where they may be impossible to collect again later.
- If and when you find Chatter the robot, feeding him coronium crystals will give him energy. Activate him by using the whistle, then quickly de-activate him. If all is well, he will release a power pack. You can do this as many times as needed, just as long as you have some coronium crystals for him (he'll give you approximately three power packs per crystal).
- The main objects to find are the RCD, Radiation Immunity, the Gun and Icer, Fluffy, the Protection Suit and the Booster – they are all invaluable. These items can be found in the eastern side of the complex, and will help enormously when you attempt to get past the western door.
- Read the manual carefully, because it contains some clues as to what you can do during the game. Pirates will obviously have to make do without it – tough luck and we hope you're crap at the game.

CITY BOMBER

(POWERPACK 48)

Jon Wells' latest blockbuster can be made a touch easier with the help of this nifty cheat. Simply type it in and RUN it for infinite lives (on player one and/or player 2), plus the option to rescue just one man.

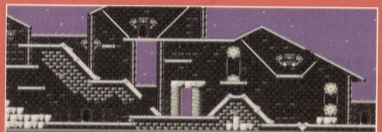
```
0 REM CITY BOMBER CHEAT BY WAZ
1 FOR X=516 TO 561:READ Y:C=C+Y:POKE
X,Y:NEXT
2 IF C<>4916 THEN PRINT "DATA ERROR":END
3 INPUT "INFINITE LIVES P1 Y/N";A$:IF
A$="N" THEN POKE 545,206
4 INPUT "INFINITE LIVES P2 Y/N";B$:IF
B$="N" THEN POKE 550,206
5 INPUT "1 MAN TO SAVE Y/N";C$:IF C$="N"
THEN POKE 555,22
6 POKE 157,128:SYS 516
10 DATA 032,086,245,169,019,141,207,003
11 DATA 206,208,003,096,087,065,090,169
12 DATA 032,141,013,010,169,002,141,014
13 DATA 010,076,230,003,169,173,141,238
14 DATA 142,169,173,141,238,141,169,001
15 DATA 141,002,114,076,013,008
```

GAMES TIPS

COOL WORLD

(OCEAN/KIXX)

It's the second part of our mini-guide through the codeways of this marvellous budget re-release. If you can stand the gaudy graphics and eerie silences, you might just make it back into the real world...



Not many people know that Dave is actually a cartoon.

LEVELS 5 & 6 THE COMIC SHOP

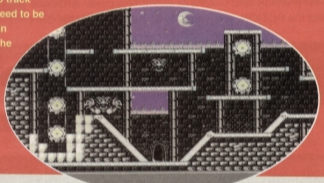
As you might expect, the action reaches a frenetic pace from here on, and it's worth learning the level layouts thoroughly to avoid disaster. Teleport into the real world as soon as you start, then destroy as many doodles as possible (chasing after some doodles is necessary as they just won't stay still). Now teleport back to the cool world, kill as many doodles as you can, then send back any real world objects that are lying around. You'll need to repeat this process until the time runs out. The doodles move around the real world rather quickly, making it very tricky to track them down and destroy them. In fact, you need to be very careful that they don't crash into you (in other words, run like crazy). Employ much the same tactics as the previous level, destroying the doodles in the real world before teleporting to the cool world to send back any objects. Occasionally, you may encounter a 'rogue doodle' which sprays out bullets – shoot it before it shoots you.

LEVELS 7 & 8 THE OCEAN CASINO

If you aren't using any sort of cheat mode or POKEs, you'll probably start to regret it now! It is essential to spend all of your time in the real world, seeing off the relentless doodles. Only teleport to the cool world if an object has been taken through a vortex. Here you'll encounter a man-sized doodle which will follow you around the level at an incredible speed; your only hope is to shoot it at the earliest opportunity. Oh, and take care in the real world, as there are dozens of dead ends to get stuck in. Ultimately, if in doubt, consult the scanner at the bottom of the screen to find your way around.

Not surprisingly, the final level is a nightmare to complete. As with the previous level, stay in the real world to prevent the number of doodles increasing. It's worth collecting a few bonuses here too, as the extra lives and energy are particularly useful at this stage. If you spot a flashing red ink blot, shoot it immediately, as these usually turn into the nasty red blobs which steal the objects. When the time limit reaches zero you'll have to tackle one final doodle, which looks rather like a very old Bernie Clifton (complete with squawking bird). Destroy him and victory is yours.

And still there's no sign of Kim Basinger.



Incey Wincey Spider climbed up the water spout...

DELIVERANCE

(POWERPACK 42)

If the stack of sound advice we gave you in *CF45* wasn't enough to keep you cheat-crazy crazies happy, here are a couple of codes (sent in by Richard Beckett) for maximum lives and fairies:

LEVEL 2 - RAEQWEH2
LEVEL 3 - ABVLREYS

SPONDULICKS!

We're after tips, maps, solutions, POKEs, listings, cheats, in fact anything which you think the C64 public would find useful. If you know the location of that elusive secret room, if you know a cheat which will make a game infinitely easier, let us know! Simply stuff your stuff into an envelope, then post it to: Andy Roberts' Gamebusters, *Commodore Format*, 30 Monmouth Street, Bath, Avon BA1 2BW. Don't forget to include your full name and address, along with a packet of fig rolls.

TILT

(POWERPACK 48)

If you're after a little bit more than a cheat listing, good old Richard Beckett is back again with another handsome batch of tips for would-be Tilters. Take it away, Richie...

● Try and stay in the centre of the passageways, as this makes it less likely for you to crash while turning corners.

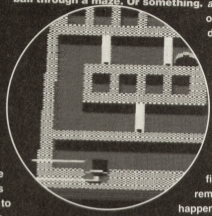
● Don't move unless you're turning a corner, as this will usually result in a deadly collision.

● When approaching a corner (*sounds like the Highway Code – Dave*), turn slightly in advance to allow for the ball's inertia.

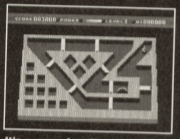
● Also, open gates in advance so that the ball doesn't collide with a half-open or half-closed gate.

● Be especially cautious when on back-up power, as one crash will finish you off for good.

● Power can be gained from each gate passed, as well as for the distance covered through the maze.



Have a ball in a maze. Or guide a ball through a maze. Or something.



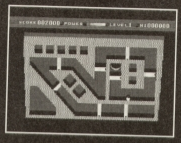
It's a-maze-ing. I'm really sorry.

● Speed traps (*it's the Highway code again – Dave*) appear from level two onwards. When they are white they are dangerous, when they are black it is safe to pass. To slow yourself down, move backwards and forwards.

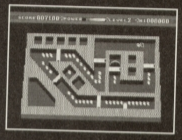
● When the ball becomes bigger, accurate movement is even more important as there is less room for movement between the ball and the walls.

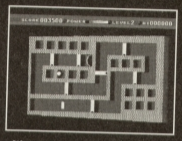
● Level advancement is as follows: when you have completed the four mazes of the first level, one of the gates in each maze is removed and a speed trap is added. This happens until level five, where there are a maximum of four speed traps. On levels six through to 10, the ball grows in size each time. From then on, all levels are the same as level 10.

● If you have an Action Replay cartridge, you can use the Sprite Killer to disable the collision detection (which makes things much easier). If not, just use this Warren Pilkington listing to storm through all the levels. Simply select the 'No Collisions' option for no hassles or, if you fancy a little challenge, just opt for infinite power.



It's a pity we've already done the "it's a-maze-ing" gag, it's just about the only thing you can say about these screenshots. They're great, and all, but at the end of the day they're just pictures of mazes. Ho-hum.



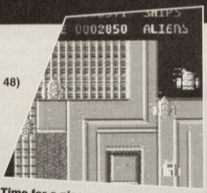


12 It's more of a labyrinth, really.

```
0 REM TILT CHEAT BY WAZ
1 FOR X=516 TO 556:READ Y:C=C+Y:POKE
X,Y:NEXT
2 IF C<>4059 THEN PRINT "DATA ERROR":END
3 INPUT "INFINITE POWER Y/N";A$:IF A$="N"
THEN POKE 545,173
4
INPUT "NO COLLISIONS Y/N";B$:IF B$="N"
THEN POKE 550,8
5 POKE 157,128:SYS 516
10 DATA 032,086,245,169,019,141, 207,003
11 DATA 206,208,003,096,087,065, 090,169
DATA 032,141,013,010,169,002, 141,014
13 DATA 010,076,230,003,169,096, 141,217
14 DATA 110,169,000,141,145,093, 076,027
15 DATA 008
```

REPEL

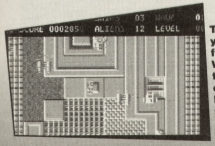
(POWERPACK 48)



Time for a nice cup of coffee.

Swash, buckle, hack and slash your way through the entire game with considerable ease – simply type in the following listing POKE and RUN it for infinite lives and time.

```
0 REM REPEL CHEAT BY WAZ
1 FOR X=49165 TO 49215:READ Y:C=C+Y:POKE
X,Y:NEXT
2 IF C<>5816 THEN PRINT "DATA ERROR":END
3 INPUT "INFINITE LIVES Y/N";A$:IF A$="N"
THEN POKE 49204,206
4 INPUT "INFINITE ENERGY Y/N";B$:IF B$="N"
THEN POKE 49209,166
5 PRINT CHR$(147);"PRESS A
KEY TO RESET, THEN SYS 49165 TO START"
6 POKE 198,0:WAIT 198,1:SYS 64738
10 DATA 032,086,245,169,032,141,084,003
11 DATA 141,085,003,169,192,141,086,003
12 DATA 076,167,002,072,169,051,141,225
13 DATA 116,169,192,141,226,116,104,173
14 DATA 013,220,096,087,065,090,169,173
15 DATA 141,173,093,169,096,141,172,081
16 DATA 076,001,008
```



There was a young man from Dundee, Who decided to rent a camper van, It was... I'm sorry, where was I?

ACTION REPLAY POKES

It's another grand selection of cheats designed specifically for use with that wonderful invention known as the Action Replay Cartridge. To use them simply freeze the game, press E to enter the POKEs, then press F3 to restart the game. A big thank you, as always, to Warren Pilkington for sending them in.

WIZARD'S PET

POKE 29733,173	
POKE 31001,234	
POKE 31002,234	
POKE 31003,234	Infinite hocus

CITY BOMBER

POKE 48787,173	Infinite lives P1
POKE 48531,173	Infinite lives P2
POKE 36336,1	One man to save

TILT

POKE 29511,96	Infinite power
POKE 25062,0	No collisions

REPEL

POKE 29573,173	Infinite lives
POKE 26365,96	Infinite energy

SOS

In case you haven't strayed into this part of the mag before, the concept is simple: you play a game, you get stuck, you write in for help, and our Andy comes to the rescue. That's the theory, anyway...

BATMAN THE CAPED CRUSADER

(OCEAN/HIT SQUAD)

Stephen Hawker (of no fixed abode, apparently) wrote in for some assistance with this superb arcade adventure. So, here is the solution for the Penguin plot (with the Joker plot and a handy cheat to follow next month).From the start: L • get FALSE NOSE • D • L • get BATARANG • R • R • get LOCKPICK • R • R • get HAND GRENADE • L • U • L • get CONTROL DISK • U • get SET OF TOOLS • D • L • use SET OF TOOLS • use CONTROL DISK • R • U • U • L • L • get DOOR KEY • R • R • R • R • R • get SWEET • R • get TRANNIES • L • L • climb UP • get ROPE • R • R • use LOCKPICK • go through door • use DOOR KEY • go through door • R • U • R • R • get LIFT KEY • L • L • D • stand on lift • use LIFT KEY • U • R • R • D • L • D • L • get TOAST • get DART • R • R • R • R • get GAMES DISK • U • L • U • L • get FRIED EGG • use ROPE • climb UP • get MAGNET • use DART • get PASS CARD • D • R • D • R • D • L • L • L • U • R • U • L • L • D • stand on lift • use LIFT KEY • U • R • R • D • R • R • R • D • L • L • L • D • L • L • climb DOWN • L • L • L • L • L • L • L • L • L • climb UP • R • R • get LEMONADE • R • R • get FLASHLIGHT • L • L • L • L • climb DOWN • R • R • use PASS CARD • U • use FLASHLIGHT • L • L • get VIDEO TAPE • R • R • R • R • R • U • L • L • use VIDEO TAPE • U • L • L • U • get CUP CAKE • R • R • R • D • L • D • L • get DAGGER • R • R • R • U • R • U • R • get BANANA • L • D • R • U • L • U • get TRUMPET • R • use GAME DISK to finish the game.

Dinner, dinner, dinner...

SUPERCARS

(GREMLIN GRAPHICS)

Ivan McClusky from Dublin is after infinite time, money and damage for this rather enjoyable racing game. Well feast your eyes (and typing fingers) on this splendid array of cheats and Action Replay POKEs...

When prompted to enter your name at the start of the game, try any of the following cheats:

HARVEY – to start on Class 2.
ELLA – to start on Class 3.
LOADED – to start with £500,000.
FONDLE – to fondle the shop girl (for a price).

Alternatively, use an Action Replay to enter:

```
POKE 10829,173
POKE 10835,141
```

This will multiply any prize money by 10.

SUMMER CAMP

(THALAMUS/KIXX)

Young Garry Irwin from County Limerick is having a little bit of trouble with the second level of this trek through Camp Wotadump. In particular, he can't get the ACME crate on the screen with the ghosts that disappear into the walls (even using the CALAMITY cheat mode for infinite lives). Basically, there is a particularly awkward series of jumps to navigate in order to get it. No tricks, no tips, just skill. There's no substitute for practice, so keep trying.

FAST FOOD DIZZY

(CODEMASTERS)

Fancy an Action Replay POKE? Greg Shepherd from Northampton does and he doesn't care who knows. If you'd like infinite lives, simply freeze the game and enter: `POKE 17783, 173`. It couldn't be simpler (well it could, but let's not be pedantic, eh?).

Dizzy, eh? What a love.

DRAGONS LAIR 1 & 2

(ENCORE)

Ian Richardson, from Bromsgrove, wrote in for cheats for both the *Dragons Lair* games. And here are a couple of listings for infinite lives. They work fine on the original versions and should, fingers crossed, work on the Encore re-releases too.

```
0 REM DRAGONS LAIR CHEAT
1 FOR X=49152 TO 49225:READ Y:C=C+Y:
POKE X,Y:NEXT
2 IF C<>8477 THEN PRINT "DATA ERROR":END
3 POKE 157,128:SYS 49152
10 DATA 169,001,168,170,032,186,255,169
11 DATA 000,032,189,255,032,213,255,162
12 DATA 025,189,040,192,157,096,001,202
13 DATA 016,247,162,006,189,066,192,157
14 DATA 156,008,202,016,247,076,032,008
15 DATA 120,162,002,189,119,001,157,245
16 DATA 069,202,016,247,076,001,068,169
17 DATA 165,141,229,015,076,000,012,076
18 DATA 111,001,165,010,240,250,076,096
19 DATA 001,256

0 REM DRAGONS LAIR 2 CHEAT
1 FOR X=49152 TO 49220:READ Y:C=C+Y:
POKE X,Y:NEXT
2 IF C<>7747 THEN PRINT "DATA ERROR":END
3 POKE 157,128:SYS 49152
10 DATA 169,001,168,170,032,186,255,169
11 DATA 000,032,189,255,032,213,255,169
12 DATA 096,141,045,009,169,001,141,215
13 DATA 008,162,029,189,039,192,157,096
14 DATA 001,202,016,247,076,032,008,120
15 DATA 072,169,076,141,241,069,169,118
16 DATA 141,242,069,169,001,141,243,069
17 DATA 104,088,076,000,068,169,165,141
18 DATA 016,016,076,000,012
```

ROBOCOP

(OCEAN/HIT SQUAD)

Here are a couple of cheats for Ian Cripps of Swindon. The Action Replay code `POKE 44416,0` gives infinite energy. Or try typing SUEDEHEAD on the title screen of level one to load the next part. You could even type DISAPPOINTED to load the bit after that. And you can make the horizontally-scrolling sections easier by holding the keys F, G, H and J while pushing the joystick left/right to magically levitate (hold those keys and up-left/up-right to move down again). CF

PINING FOR A POKE?

Don't worry, it happens to the best of us from time to time. If you're stuck on any game, no matter how old, try this fail-safe remedy: get hold of a postcard or sealed envelope, jot down the games you're stuck on (including the publisher), specify the type of cheat you'd prefer or the part of the game you're stuck on, then send it along with your name and address to – SOS, *Commodore Format*, 30 Monmouth Street, Bath, Avon BA1 2BW.

MEAN machine CODE

Part 6

It's the beginning of the end for the Machine Language series as Jason Finch ties up all those loose ends to bring everything to a neat and tidy conclusion.

Don't all cry at once, but this is the last in the series of Mean Machine Code. We've been through a lot together and we've struggled through the hard times but hopefully you've had a few laughs on the way. Like that time the screen went blank and the smoke started coming out of the back of the computer. Ahh, those were the days.

In this final part we'll cover only one new instruction. Though that'll leave you a few short; there are aspects of machine language I'm not going to tell you about – this is meant to be a beginners' course and you don't need any extra hassle. The fact I don't understand them myself doesn't come into it! No, I jest, it's just unlikely you'll ever need to use them.

SPRITE FLIGHT

Let's start at the beginning with the *=49152. You know that simply means the code is to be assembled at location 49152 onwards in memory. In this section I'll break the program down into its component parts and explain what they do and why. Remember that the entire program was given last month, or you could just type in these bits to make up one long working program.

```
1000 *=49152
1010 ;
1020 INIT !
1030 JSR $E20E
1040 JSR $AD9E
1050 JSR $B7F7
1060 LDA 21
1070 STA SPEEDX
1080 LDA 20
1090 STA SPEEDY
```

The INIT routine uses ROM calls to read a value placed after a comma in the SYS call. This value is returned in the normal low/high byte format at locations 20 and 21. The machine language then reads in the values and stores them back at locations referenced by SPEEDX and SPEEDY. These are just memory locations and are reserved at the end of the program.

MAKESPRITE

```
1100 ;
1110 MAKESPRITE ;
1120 LDX #0
1130 LDA #%11111111
1140 MAKESPR1 ;
1150 STA 832,X
1160 INX
1170 CPX #64
1180 BNE MAKESPR1
```

The Makesprite routine uses a counter to fill 64 locations from 832 onwards with the binary value %11111111 which is 255 in decimal. This will become the square block sprite that is used by the program.

SETUP

```
1190 ;
1200 SETUP !
1210 LDA #<150
1220 STA SPRXLO
1230 LDA #>150
1240 STA SPRXHI
1250 LDA #120
1260 STA SPRY
1270 LDA #7
1280 STA SPRCOL
1290 LDA #(832/64)
1300 STA 2040
1310 LDA #1
1320 STA 53269
1330 JSR $E544
```

The bit of SETUP code stores a number of values in machine language variables. Of course, variables don't really exist in the true sense of the word; they are memory locations used by the program. The fact you've given them a label is irrelevant, you could equally do something like STA $C539 but labels mean you don't have to know the exact number. The assembler works it out.

Lines 1210-1260 deal with the horizontal and vertical position of the sprite, lines 1270-1280 with the colour and lines 1290-1300 with the definition. The 832/64 is the calculation for the sprite pointer. The final three lines switch the sprite on and clear the screen using a built-in ROM routine at $E544.

READJOY

```
1340 ;
1350 READJOY !
1360 LDA 56320
1370 LSR A
1380 BCS READ1
1390 PHA
1400 JSR JOYUP
1410 PLA
1420 READ1 ;
1430 LSR A
1440 BCS READ2
1450 PHA
1460 JSR JOYDOWN
1470 PLA
1480 READ2 ;
1490 LSR A
1500 BCS READ3
1510 PHA
1520 JSR JOYLEFT
1530 PLA
1540 READ3 ;
1550 LSR A
1560 BCS READ4
1570 PHA
1580 JSR JOYRIGHT
1590 PLA
1600 READ4 ;
1610 LSR A
1620 BCS READ5
1630 PHA
1640 JSR JOYFIRE
1650 PLA
1660 READ5 ;
1670 JSR POSITION
1680 JMP READJOY
```

It's big and meaty; it's the main loop. You may find this routine useful for your own programs. It reads the joystick at line 1360 and then shifts the bits along.

■ IT'S BUGGED

Remember that wonderful sprite routine I gave you on the Proggy Selector? Well, this month we'll take a look at that and see why it all works. It uses a lot of the instructions you have learned and therefore is a good place to end the series. In the meantime, you will hopefully remember the short assembly language program that I gave to demonstrate indexed addressing. The one that allegedly cleared the bitmap screen. Of course, you all noticed the somewhat accidental bug in it – line 240 should in fact read BNE LOOP-3 instead of just BNE LOOP. But unless you're a complete lemon you will have worked that one out for yourself.

checking whether each one is set or clear. It does this by shifting them into the carry flag and then checking the status of that. You will need five routines called JOYUP, JOYDOWN, JOYLEFT, JOYRIGHT and JOYFIRE as well. The jump to the POSITION routine at line 1670 simply repositions the sprite on the screen after any movement that has been done. You wouldn't need that in a normal joystick reading routine.

POSITION

```
1690 ;
1700 POSITION !
1710 LDA #0
1720 RASTWAIT ;
1730 CMP $D012
1740 BNE RASTWAIT
1750 LDA SPRXLO
1760 STA 53248
1770 LDA SPRXHI
1780 STA 53264
1790 LDA SPRY
1800 STA 53249
1810 LDA SPRCOL
1820 STA 53287
1830 RTS
```

The POSITION subroutine takes the values from SPRXLO and SPRXHI and stores them in the horizontal position register for sprite zero (53248) and the MSB register (53264). If you're using more than one sprite you would have to use a more sophisticated method for storing the high byte. The vertical position is taken from SPRY and stored in the appropriate register (53249), as is the colour information; it's taken from SPRCOL and stored in the colour byte for sprite zero (53287).

The less-than-fancy loop at the start, RASTWAIT, waits for the raster scan line to stop drawing the main display. This simply means your sprite won't flicker or wibble as you move it around. Technical, sweetie, technical. You see, the computer could have drawn half of your sprite before you decide to move it left. Then the bottom half appears a bit to the left of the top half on your display. Not good.

JOYUP

```
1840 ;
1850 JOYUP !
1860 LDA SPRY
1870 SEC
1880 SBC SPEEDY
1890 CMP #50
1900 BCS JOYUP1
1910 LDA #50
1920 JOYUP1 ;
1930 STA SPRY
1940 RTS
```

The JOYUP subroutine is called when the computer detects you've pushed the joystick up, funnily enough. It reads in the SPRY value and subtracts SPEEDY from it. With any luck you'll remember that the SEC in line 1870 is necessary to make the subtraction at line 1880 correct. It then checks this value against the decimal 50 and if it is greater than or equal to 50 it branches to JOYUP1 where the new value is stored back to SPRY. Eventually the SPRY value is stored at location 53249 (see the POSITION subroutine) which results in the sprite being repositioned on the screen. If it happened that pushing the joystick up would have taken SPRY below 50, the code simply ensures that doesn't happen; the LDA #50 in line 1910 takes care of that.

JOYDOWN

```
1950 ;
1960 JOYDOWN !
1970 LDA SPRY
1980 CLC
1990 ADC SPEEDY
2000 CMP #230
2010 BCC JOYDOWN1
2020 LDA #229
```

NOP INSTRUCTION

What may at first strike you as a useless instruction is NOP. It stands for No OPeration and simply means the computer does nothing for two cycles, or two millionths of a second. Building up a timing loop with these things is going to fill the memory, okay, so don't even think about it! NOP will come in useful when you start playing about with raster interrupts and I've explained it here just so that you know why they appear when you see them. It is usually used so that colour bars and scrolling bits of the screen don't flicker. Timing is all important, and it's NOP that helps solve many of the problems.

```
2030 JOYDOWN1 ;
2040 STA SPRY
2050 RTS
```

Working in much the same way as JOYUP, this subroutine is called when the joystick has been pushed in the down direction. This time, however, SPEEDY is added to SPRY. The intention is that SPRY should never be more than 229 and therefore if it is less than that value the code will simply go ahead and store it back. If it ends up being 230 or more, the branch at line 2010 will not occur and the value 229 will be stored instead and everyone's happy.

JOYLEFT

```
2060 ;
2070 JOYLEFT !
2080 LDA SPRXLO
2090 SEC
2100 SBC SPEEDX
2110 STA SPRXLO
2120 BCS JOYLEFT1
2130 LDA SPRXHI
2140 EOR #%00000001
2150 STA SPRXHI
2160 JOYLEFT1 ;
2170 LDA SPRXHI
2180 BNE JOYLEFT2
2190 LDA SPRXLO
2200 CMP #24
2210 BCS JOYLEFT2
2220 LDA #24
2230 STA SPRXLO
2240 JOYLEFT2 ;
2250 RTS
```

The JOYLEFT routine is hideously complicated in comparison with JOYUP and JOYDOWN. If you know anything about sprites, you should know that there is a line down the right hand side of the screen called the MSB line. You can't actually see it, but it exists. If the sprite crosses from the right hand side of the line to the left of it when you move the joystick, the computer has to update the high byte of the sprite's horizontal position as well as the low byte.

Lines 2080-2110 subtract SPEEDX from SPRXLO and store the new value back. If this has not resulted in a negative answer the routine will branch to JOYLEFT1. When I say a negative answer, I actually mean looping back to 255. You know that if you subtract 1 from numbers the computer stores ..,3,2,1,0,255, 254,253,.. and continues doing that loop. If the branch doesn't take place, then the value has looped from 0 to 255 which means the sprite has crossed the invisible MSB line. Shock horror. So lines 2130-2150 flip the appropriate bit of the high byte to show this has occurred.

Lines 2170-2180 check which side of the line the sprite is now on. If it's on the right, SPRXHI will be one, and the branch will go to JOYLEFT2 which simply returns from the subroutine. No further checking of how far left you have made the sprite go is necessary. On the other hand, if you're on the left side of the MSB line, lines 2190-2230 make sure the sprite isn't pushed so far left that it disappears off the left of the screen. Useful.

JOYRIGHT

```
2260 ;
2270 JOYRIGHT !
2280 LDA SPRXLO
2290 CLC
2300 ADC SPEEDX
2310 STA SPRXLO
2320 BCC JOYRIGHT1
2330 LDA SPRXHI
2340 EOR #%00000001
2350 STA SPRXHI
2360 JOYRIGHT1 ;
2370 LDA SPRXHI
2380 BEQ JOYRIGHT2
2390 LDA SPRXLO
2400 CMP #65
2410 BCC JOYRIGHT2
2420 LDA #64
2430 STA SPRXLO
2440 JOYRIGHT2 ;
2450 RTS
```

Are you getting the hang of this yet?

JOYFIRE

```
2460 ;
2470 JOYFIRE !
2480 LDX SPRCOL
2490 INX
2500 TXA
2510 AND #%00001111
2520 STA SPRCOL
2530 RTS
```

Guess what? JOYFIRE is called when the joystick fire button is pressed down. It reads the sprite colour into the X register and then adds one on to it. This value is transferred into the accumulator at line 2500. Line 2510 makes sure we only get the first four bits which restricts the value between 0 and 15. This is not strictly necessary but is useful in many areas. The value is stored back at line 2520; from the accumulator.

VARIABLES

```
2540 ;
2550 ! VARIABLES
2560 SPRXLO BYT 0 ;HORIZ POS LOW BYTE
2570 SPRXHI BYT 0 ;HORIZ POS HIGH BYTE
2580 SPRY BYT 0   ;VERT POS
2590 SPEEDX BYT 0 ;HORIZ MOVEMENT SPEED
2600 SPEEDY BYT 0 ;VERT MOVEMENT SPEED
2610 SPRCOL BYT 0 ;SPRITE COLOUR
```

This is an easy way to do variables in machine language. Obviously they're not, strictly speaking, proper variables, but they do the same job. You use memory locations referenced by labels to make life even easier.

NEXT MUNF?

Something tells me there isn't going to be any more of this series next month so I'm afraid that's it folks. Assuming I've done my job properly and you're not a plum tomato, you should be able to grasp at least the basics of machine language. You need to experiment with the commands you've learned and keep disassembling the routines I give away for free in Techie Tips. Try to do things where you can predict what is likely to occur and you should have hours of fun.

If you've got any follow-up questions to ask then please direct them to me at Techie Tips. Also feel free to furnish me with comments on how the series has gone. Take That and take care (well, I had to get them mentioned somewhere!).

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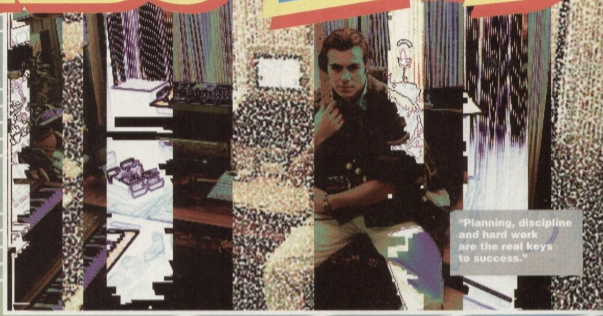
SOUNDS MAD

With soundtracks like Smash TV, Lemmings and OutRun Europa to his name Jeroen Tel is to C64 games what John Williams is to films. Jesper Larsen conducts the interview (conducts, geddit?)


"Planning, discipline and hard work are the real keys to success."

Right, let's get the Dutch clichés out of the way, because in this interview there are going to be no windmills, clogs, tulips or plastic-coated cheese. Nope. We're going to be concentrating on music. C64 music. And a man responsible for some of the best C64 music – Jeroen Tel of the legendary Dutch maestros Maniacs of Noise. He provided the excellent soundtracks for *OutRun Europa*, *Golden Axe*, *Smash TV*, *RoboCop 3*, *Turtles – The Coin-Op*, *Rubicon* and *Lemmings* to name but a mere few. Most of the titles he worked on were in conjunction with the UK programming team Probe, which has now gone quiet on the C64 front. But Jeroen has re-established Maniacs of Noise back in his native Netherlands and is once again interested in tackling a few C64-related projects. Jesper Larsen of Denmark's Profile Entertainment (see Snippets, page 5) prised Tel away from his keyboards long enough to get him to answer a few questions about his career.

How did the Maniacs of Noise come about and how did they manage to get involved in writing the music for so many UK-produced games?

I started composing music when I was 12. I wrote a BASIC music driver which was way too slow. My friends liked the music anyway. I did not have enough experience to write a machine-coded music driver then, so I decided to use *Soundmonitor*. I joined a computer group and wrote the music for a lot of the demos we did.

When I was 14 I met Charles Deenen (then with Scoop Designs) with whom I founded Maniacs of Noise. Charles programmed the Maniacs of Noise routine and built in all the effects I needed. I composed around 10 tunes for the PCW show (now the ECTS) in London. Companies must have liked them because the orders came in instantly. From that moment things really took off. I worked for a lot of companies as a freelancer. Most arcade game licences were done through the English development team Probe Software. I always had the freedom to change the original music.

At 18 I moved to England to work for Probe full time which was a good experience, because I got to work with a lot of great guys like Mark Kelley, Steve Crow and Simon Nicol. After working there for six months I moved back to the Netherlands to work as a freelancer again. I founded the company which is the Maniacs of Noise we know today. At the moment I am doing the music for a lot of different media – television programs, commercials and video games (including CD). I also write songs and occasionally release CDs of my own work.

I am also working on a library-music CD called Human Emotions. Library music is written especially for TV programs, commercials, films and other audio-visual products. These projects take up a lot of my time. In the remaining time I compose and write songs for myself and personal experiences. Eventually a lot of these songs will be released on an album. My song writing diversifies into a lot of different styles – pop, rock, soul, funk, house, rap, classical, etc. Too much to mention, really. You will just have to listen to understand what I mean.

Your most recent C64 project was *Lemmings*, written by the Dutch company Alter Development.

That was a lot of fun to do because, as you said, everybody working on the project was Dutch. We had to create an end-game picture with the four of us (Remi Ebus, Thomas Mittelmeyer, Leon Van Rooij and myself) holding a lemming high in the air, with applause in the background. We took a couple of pictures and scanned the best one. For the applause I recorded ourselves a couple of times and mixed it down to one big applause and sampled it on to the C64.

Why do you think Psygnosis went ahead with a C64 version which was said to be impossible?

Lemmings must have been one of the hardest games to program properly on the C64, what with all those individual lemmings running around. I think Psygnosis was impressed with our work and went ahead with the project on the C64.

Are you working on any other projects on the C64?

In the near future I will be providing the music for at least three more C64 games. Probe, though, do not make games for the C64 any more.

You've talked about starting an independent software company in the Netherlands. What can you tell us?

Unfortunately I cannot tell you much about it, but we are founding a software company indeed. Money is not all that it takes. Planning discipline and hard work are the real keys to success.

You arranged the music for *Turbo OutRun* in 1989, and *Golden Axe*, both written by Mark Kelley and Steve Crow. What was that like?

Turbo OutRun took about a month all together. It was a lot of fun, but I recomposed every tune about three times to get it all prefect. I still think it is one of the best audiotracks I ever did on the C64. *Golden Axe* was a piece of cake compared to *Turbo OutRun*. It took me one day (or should I say night?) to do the whole thing. Working with Mark and Steve has always been a pleasure. In 1991 I did the music for an NES game called *Overlord* (the US version of *Supremacy*) which was developed by the same team.

What do you think of the C64 market in the UK?

The C64 is not very interesting for most software companies because there is so much more money to be made by developing games for other more popular formats. Developing for the C64 is more risky than developing for the Amiga or PC.

But why don't companies convert games to as many formats as possible? Is it hard to find programmers?

Maybe. It is expensive to hire a programming team. A company would rather buy a finished product than paying for the whole production process.

What needs to happen to give the C64 a second wind?

If the C65 went into production, the C64/C65 market would grow immediately. But Commodore doesn't care enough.

Rumours say that Charles Deenan is employed in a TV commercial company in the States. Is that correct?

He works for Interplay, a software company in California.

When will the Maniacs of Noise music editor released?

The Audio Maniac will be released soon, but it will be limited to mail order only.

How do you see computer games developing?

In the future games will be playable films, but it will be at least another 10 years before that is fully realised. I think there will always be typical computer-style games around, because some people love the unique simplicity of these games.

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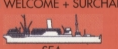
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