

NOT
an official
Amstrad
publication!!

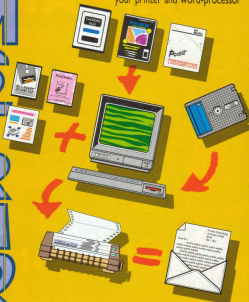
BRITAIN'S LEADING MAGAZINE DEVOTED TO THE AMSTRAD CPC 464, 564 AND 6128

No. 23 AUGUST 1987 £1.25

THE MONTH-BREAKING MAGAZINE FROM FUTURE PUBLISHING

WORDS WORK

Stretching mind and machine to get the best from
your printer and word-processor



MAG MAX MASTERGAME

Mega-blasting robot who'll blow your joystick away

UTILITY TYPE-INS

The best little listings get Serious and look good too

ACTION

THE LINE-UP

AMSTRAD ACTION AUGUST 1987

FRONT END

NEWS • LETTERS

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Problems with incompatible Epson printers, an up-gripped Dragon owner, lots of messages from ex-Amstrad readers and many more of the frontline letters in town.

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Help is at hand from the biggest-hearted, most helpful people we know - our helpers. Go ahead, make a friend.

12 AMSCENE

Keep-keep, here comes the Road Runner and more of other US Gold conversions, plus the rest-of-the news, reviews and extras.

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The latest hardware addition that will make your computer sound like a heavy-metal group.

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A suite of disk utilities for investigating the depths of your disks.

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A hardware plug-in that will always keep you in touch with the real world - don't be late reading this one.

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A new regular feature showing you how to get the most from your word-processor and printer. This month we look at time-saving shortcuts in all the major word processors.

34 MICROSTUFFER

Not as rude as it sounds, it is in fact a 64K printer buffer that will save hours printing out long documents.

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Microspares your text to stop ugly inconsistent spaces in justified text.

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A cheap 'competitor for Maxam II' is the assembler/monitor-editor stakes.

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You've read the test, now read the test. Details on what's in the best game reviews for the CPCs.

42 BARBARIAN

Hack, slash, chop and decapitate your way through a graphically superlative combat game. Forget the series, here's the game.

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If you were confused by Faber's cube then this will drive you up the wall - literally. Puzzling and absorbing combined delightfully.

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A shoot-'em-up with 3D and 3D stages, lots of levels, endless varieties of aliens, portable-smoking action and fabulous graphics. Thrills and a sure trigger finger guaranteed.



50 THING BOUNCES BACK

The bouncy star is back with lots more springy tactics to complete as he tries to collect a program to shut down an evil toy factory.



JAMES BOND 007[™] **IN** **THE LIVING DAYLIGHTS** **THE COMPUTER GAME**



ALBERT R. BROCCOLI

Presents

TIMOTHY DALTON

as IAN FLEMING'S

JAMES BOND 007[™]

THE LIVING DAYLIGHTS

Starring **MARTIN DONOVAN** **JOE DON EAKER** **ART MALIN** and **JORDEN KRAUSE**

Production Designer **PETER LAMONT** Music by **JOHN BARRY** Executive Producers **TIM PETROWER** and **BARBARA BROCCOLI**

Produced by **ALBERT R. BROCCOLI** and **MICHAEL G. WILSON** Directed by **JOHN GLICK** Screenplay by **RICHARD MALKIN** and **MICHAEL G. WILSON**

Executive Producer **MICHAEL G. WILSON**

Executive Producer **JOHN GLICK**

Executive Producer **ALBERT R. BROCCOLI**

Executive Producer **JOHN GLICK**

M

DOMARK

REACTION

You get the last word on the previous issue ... and the first words of this one. Keep those carlin's letters comin' in! Send to: **Reaction, 4 Queen Street, Bath, BA1 1EJ.** You're welcome to use electronic mail - **04161122** on Telecom Gold or **045 824 811** on Micronet - but do mention 'Reaction' as well as your own name and Bath address.

We cannot possibly reply individually, so please don't be offended: what we are busy writing is the next issue of your favourite magazine. If you have problems with subscriptions or mail-order, please write direct to those departments, which remain at the Old Barn, Somerton.

Don't be alienated, but...

I recently bought Electric Dreams. Alone on disk, I just cannot progress any further into the program. All I seem to do is kill the monsters that appear on the screen. I have not come across any item triggers or quests that should appear, or been able to get to the university or genetic chamber. Could you please help me and put me in touch with someone that could tell me what to do? I would be extremely grateful.

P Winter
118 Norwiche Road,
Bathford, W Yorks, YO19 0QZ

Since you're the first out of the Reaction bag this month, Paul, we'll make an uneasy remark about how we keep saying we just don't if we are to write near-monthly mag: give individual answers to all the questions we get about games problems - not even if you enclose a stamp. All we can say is watch the *Magazine* for someone offering the expertise you crave.



*WANT REAL GAMES ON MY 8088? I AM GIVING UP! PLEASE HELP ME!

Hi!

We do get phone calls from our loyal readers! One this morning was trying to clarify between *Amstrad* II and *Intercom*. He wanted us to read out the cover and good and bad news from AA, if *Amstrad* we'd have said, or *Intercom* as possible, no time. But this was international a Japanese hit in Holland.

For the rest of the call he would have bought both games.

Off the bottom shelf

All the time I've had my *Amstrad* I've read nothing stuffy *Amstrad* magazines, ignoring the brilliant *Amstrad* AA on the bottom shelf. Only now - AA II - have I found the one old magazine for me. What can I say? I have never read better game reviews, tips, hints, points and traps or little subtle bits with hand making around the page. Congratulations to Alex Oough and Derrick Bradshaw for their great two-iss in AA II.

Could you tell me the boys for *Amstrad* II's car-line game *Hand-dogging* in the same issue? I can go only left.

I'd like a pencil. I'm 12 years old and own a 808. I'm into playing games and sport.

Ben Thompson
1 South Road, North Park
Bathford, Wiltshire, BA11 8BT

Welcome to the action on the bottom shelf! Ben. One the 2 and 3 I hope that's the meaning of the 11 and 12 in the letter commands. If those don't work, you're mis-typed something. The letter is correct as printed.

Cover less otherwise

I totally disagree with Barn Marks *Reaction* 31. The *Amstrad* Action series are some of the best I've ever seen. They are original, funny and have a lot of imagination. Please don't make the covers into billboards for advertising games.

The new look is great. Tell the Mag to keep up the good work with the programming. Any chance of a 'beginners' assembly course?

Wally Dwyer
Warrington, Chs

How many other readers want such a course?

Double your joy

The *Amstrad* 484 has only one serious part, so if you want to play with two systems you need an interface. Some friends at school and you can purchase an *Amstrad* system which allows another system to be plugged into it. This is just what I am looking for. Could you please print details?

Richard Lombard
Chingford, London E6

How's talking about the *Amstrad* 514 network, available direct from *Amstrad* in *Amstrad*. It's one of our favourite networks. Alternatively go for one of the options mentioned in the Christmas AA.

Crystal ball

Please could you try and give release dates for new games?

David Johnson
Bathford

We would if we could rely on the dates we'd find! Sometimes we get advance copies, but bits of the time, when the release appears, the game is on the shelves. That's the most reliable system we can offer.

Disk wish

I have a 484 and wish to purchase a disk drive. Can you please tell me what disk drives are available and how much they are?

Also can you tell me which *Intercom* games work with the 484 with disk drive and how much they are?

Andrew McJannet
Cardiff, W Yorks

I've just read the *Amstrad* 522-I as you last drive coming 120 direct from *Amstrad* plc in *Amstrad*. Even, or at various high-order steps. This contains the *Amstrad* interface and software such as *CPC*. For a second drive you have your choice among several manufacturers.

Did I say read *Reaction* 31? Or 32, which said to see AA 31 *Intercom* games except the 'Intercom' *Intercom* Plus' range can work with all the *CPC*s.

Games drive man Betty

Am I the only person who finds games difficult to get into?

I started off with the *Amstrad* *Amstrad*. No complaints of any kind except that it has spoiled me for other games. I gave the a taste for computer games which before I'd been rather stuffy about, so I bought *The Octo*, *Tomatav* and *Amstrad* but I haven't been able to get anywhere with them.

The *Octo* looks impressive and obviously has the potential to be a really enjoyable game, but the instructions seem opaque in the extreme, almost as if the author doesn't want me to be able to get into it.

Perhaps this sort of attitude is deliberate. If so, it seems a bit bizarre. Or perhaps I'm missing something that seems obvious to a younger generation? Anyway perhaps you would point me in the direction of some more charitable and unpretentious games which might offer to interest my Grandma.

By the way, I have a PCW too. I buy AA for info about games.

Nike Barb
41 Broomfield Avenue
London E11 3QR

Copyright on type-ins

When I send you a letter and you pay me for it, are you buying the copyright from me? And if you are, what does this mean for my use of the program or further use of it by you? I say you wanted to use it on a computer, do I get royalties?

Thomas Duffin
South Berham, Somerset

Yes, we are buying the copyright from you, and that means you should not then submit the program to other publications (although of course you can use it yourself). If someone wanted to use as only first publication rights, we'd consider it - but the someone would probably find subsequent publishers less interested anyway. The idea of royalties does not apply in the magazine world, where fees are one-off with books or records or plays. Royalties consist of a small fee for each copy sold or each performance, and could double in the 30 years.

Hi-last

Please let this be the last letter on the subject of the hi-score pages. **Nicky Ward**
Bathford, Cheshire

Questions questions

What does CPM stand for? Where do the charts go? Why are some of the keys on the computer at the rear of AA (30 upside-down)? What is Masterman's address? Just? You totally suck at Douglas-style games like *Head over Heels*? I am.

Ron Martin

Crawley, W Sussex

Control Program for Microcomputers: Digital Research has likes to spell a CPM with a slash but we got fed up with it. We apply two more capital letters to spellWord.

Since we dropped the all-purpose term with its various use, not enough readers' chart sales came to make a reliable sample. We don't like serial-style charts because they don't reflect the games that people actually play and enjoy most.

Art Bell

He is often asked where Masterman keeps our. By it Post Street London, EC2M 4PL

He says Rick just because they use a 3D format doesn't mean they're the same game. Read our Rick's in pursuit with new games, characters, control methods, format, graphics, ...

Answers

I got fed up with games like *Primal Planet* not being available for my Spectrum, so I splashed out and bought an Amstrad 614.

I used to cast serious eyes over the masses of software for the Amstrad while looking through the pitifully small collection for the ZX. My problem now is getting through a mountain of software which of the few better-pick is willing to go for is 90% rubbish. I also purchased *Planet 5*, *Hyperbolic Drive* and *Masterman*. Now maybe I'm confused but I couldn't get to grips with any of them, especially *Drive* (new music, strange about the game).

Where's Amstrad's answer to *Calabrese*, *Arjuna*, *Chakra* or even good old *Shopper*?

MJ Hayward

Arundel, Nottingham

The few better-pick is mostly early Amstrad stuff, and even early by today's standards it is mostly rubbish.

There are some very. We would have you to feel excited, inspired, moved by? We want to be made or to agree with your "amused" remark.

Calabrese: by Clavin Kross. *Shopper* play Clavin Martin. *Hyperbolic Drive* started a Clavin cartoon, but seems to have abandoned it.

As for *Planet 5*, Steve Roberts, the general manager of Spectrum Software, is a far better-served about the Amstrad format version. The programmer was the along on the road and presented

to be ready for Amstrad last November, but who - which have to be prepared long in advance - sent ahead. Most of them involved last the most Amstrad in general who the Rick and Commodore versions were not on time. Then the programmer was down with some problems.

It's the first time we've had this problem. We don't consciously like to advertise before the product is ready. They're now hoping for launch at the end of the year, but I can't give a fixed date, I'm afraid. We asked that changes for any advance orders were not rushed.

Superior has a half-dozen other problems - wouldn't say what, except that they're totally new, not conversions - in the Amstrad position for later in the year. "We're working hard to do as much as we can with the Amstrad."

The AA 61 edit: The Amstrad's answer to all your questions is revealed every month in *Amstrad*. Test by the Masterman and Kross.



"I print this 4x6 double (BLACK) COPY FROM AMSTRAD!"

Our prog in your hands

I am writing to ask if you can send us as much information as possible on Amstrad computers and games. This is for my project in English at school. I would be very pleased if you could help me.

Richard Reynolds
Lymington, Luffall

Well Richard as do produce a magazine every month called *Amstrad Action*, packed with everything you need to know you ask. Good luck with your project!

Elite and Gauntlet poles

Should the disk version of *Elite* have all the ships shown on the ship identification chart? Mine has

only the standard tape version ships. Is this a fault?

In AA 18 you printed a pole for the disk version of *Gauntlet* I carefully typed it in and checked it thoroughly, but when it ran, the screen filled with patterns that a printed 'read fail' and the game would not run after that. Luckily I was able to get another copy from a friend. This must be either another issue or those with no Gauntlet to play.

JB Hicks

Ranston, Co Devon

Firebird did not implement all the ships on the disk version of *Elite* - the original tape version did not to be feasible.

As we wanted last issue on page 62, there even to be two versions of the Gauntlet disk and so may be in the time apart. Do get on the disk pole from AA 18 - it compares one of these versions. The disk pole printed in AA 18, however, is safe because it's reversible.

Zax again

What a great magazine. It's easily the best to reach our Amstrad shores, even if it costs just £3.35.

As if French bigness and the Amstrads on my barbs isn't enough, here are a few of the prices we have to put up with. November 1983 - £1.

CPM 6128 + colour case £10.00
D51 1 disk drive £7.00
DMP 1000 games £7.00
AMS 1st and 2nd £5.00
Silver mail, machine and back as a cheap and plentiful.

Russell Parkinson
Barn, North Lincoln

How do I hack?

I'm sure many of your devoted readers are mystified by the lack of the game. How do we find games? One thing that's certain is your popularity was 10 possible to better your status) were you in public on night-out (more, may be similar to *Shopper* CPM in issue 18 to 17). How about a, AA? Please open the door to this site today.

Mark Masterson
Salsbery, Wilt

Drinking of readers and the same! *Pole-finding* is more an art than a science. We first need good knowledge of their and a grounding in machine-code. You'll have to know the one and one of the machine. And of course you must know how the game works, so that when writing through the code you know what each section offers.

With protection systems, it's rather like asking how to solve puzzles. You have to get yourself into the mind of the programmer.

So it's a trick, Mark - something you can't be taught in night

Elderly Epsom

I wonder that I am due a few snapshots from you. I am an old age person with limited resources and time, and your magazine has helped me to waste time.

Even with my phone system that when you state a program as "Epsom-compatible" you include a definition of what you mean. I have an Epsom 1000 and surely any Epsom should be Epsom-compatible.

Your review of *Post Master* (AA 18) said it is Epsom-compatible. I don't blame you entirely for this, but it is when from Britain states is an advertisement, but as far as I am concerned it is not true. I bought *Post Master* on the strength of your review as I was particularly interested in the BQI facility, but this just does not work with my printer. I returned the disk to him and you neither with a maintenance program as it had the same on work either. The latest reveals that I require quadruple-density graphics, which the Epsom 1000 has not got.

In AA 18 there is again a type in for a disk entry claiming to be Epsom-compatible. This time foregrounded by previous letters I checked the control codes and found that mine I do not have, so in this instance I would request a bit of effort.

Dave Booth

Northampton, N Yorkshire

Four right the phrase "Epsom-compatible" is always around a lot so usually (Performance it's a possibility). If it means it that the order originally used by Epsom printers to do their own, our books have been adopted by other makers. Most of these start with the Epsom character. We received *Dragon's Lair* (AA 18) were printing in *Elite* and *Shopper's* news of it.

Trickle as that your 1000 is half-cent the DMP for compatibility standards. New features are

easy to learn. Learn machine code and it comes with time.

Rare numbers

There were none of AA up to and including issue 14. I have sent away to AA for issues 16 and 17. Is anyone willing to sell issues 15, 16 and 17 for £1 each?

Alvin Thompson
Baldern, York and West
Tel: 045-482 1117

You can still get issue 14 from us, on don't pay 10. The current out-of-print list is 1, 2, 3, 4, 11, 12, 13 and 14. Back issues are kept at the Old Barn.

Machine-code mystery

I very much like your new-book issue, but you could still improve it by starting a machine-code section for people wanting to learn how to write games.

TJ Harrison
Warrington, Cheshire

For the book *Master Machine-code* on your Amstrad CPC 604 & 604 by Jeff Taylor and Dave Rogers (Random House, ISBN 0 1900 0140 2, paperback £3.95) I've submitted to AA, you can have the book free.

The last host

I think your Toot has a hard time, so I would like to start up the Big Toot (hard for getting Toot is no longer). There is no membership fee, but all members must promise to give and to Toot.
Roger Murphy
Glasgow, Co. Dublin

I would like to see more of Toot because he is so cute.
Simon Shaw
Glasgow

Vote for Toot in the general election of 1989-90. We are fed up with all these boring politicians. Are we going to stand for this much longer? Will Vote the AA party vote for Toot. Machine-Make had computer games illegal. (no name)
Blackburn, Lancs

How angry I am that when anything goes wrong you blame that lovely little piggling all on legal. It makes me more angry that US Golf's World Cup Classic.
Steven Lunt
Wigan, Lancs

Bagman is great. Can you ask I Barlow what does he stand for? - features Toot in next month's Bagman, particularly being tipped apart limb from limb slowly by a giant 604-wiring cream crane (not essential).

And well done for being the only magazine, in print, that you for not going on about the election non-stop. I predict Cossin's next game will be *Glennan 92*.
Toby Bristol
Bristol

Virgin did release a game, *Glennan*, at £10. You'll be happy to hear we won't bother reviewing it, but watch out for Toot, Minister.

It's *Glennan* - pronounced 'one-ten' - and I'll be egg helping him write his games this month.

The last non-letter

Dear Amstrad People,

Oh good I've forgotten what I was going to write. Oh well, bye bye.

Burtin Miles
Bendwater, Isle of Wight

Helpline

Where eager Amstrad experts volunteer assistance to fellow readers having problems

If you too feel helpless, just send us your name, address, phone number (day or if you don't want it to be printed) and subject on which you want to help. Please write on a postcard or the back of a stick-down envelope to simplify administration here in the office. Send to: **Helpline, Amstrad Action, 4 Queens Street, Bath, BA1 1JQ.**

If you are asking for help, make direct contact with the appropriate Helpline - don't post your weekly-patient (but harassed) editor. By post, you must include a self-addressed stamped envelope for the reply, otherwise you won't get one. And if you telephone, stick to totally acceptable hours!

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Ferry House, 10 Wilton Ave, Bristol, Somerset, Bath, BA2 9JH

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AMSCENE

Monthly update on what's new on the CPC scene

Multifacing the problem

A number of readers have complained about performance of the Multiface II: certain users found it didn't always work correctly and on occasions crashed the computer. The Multiface is a hardware tape-to-disk utility costing £40.00 from Romantic Robot. A phone call to its director Alexander Goldschmidt brought us the following comment:

"The Multiface, being a fairly complex utility, is liable to undergo changes every now and then..." After pressing the Multiface's red button, bit 40 on the keypad and a number will appear at the bottom right of the screen. This indicates the version you own. Version 10 is the latest revision. "The latest version is not a major upgrade - the success rate has been perfected and operation speeded up." However, if you purchased the Multiface before this year get in contact with Romantic. The early software on tape had a few bugs. These have been cleared up and great improvements made.

Overheating occurs on a small percentage of Amstrad 6120

machines, as Alex explained: "Since March, the Multiface is manufactured in such a way that it can be internally switched to suit CPC 6120 machines. Only a minority of 6120s - those with an imperfect ULA - show a tendency to crash. The usual effect is 'stuttering' on the screen, which grows into small vertical lines."

If you know what you're doing you can open up the Multiface. You'll notice two groups of three pins. Both are situated below the red switch - one set is vertical, the other lying down in horizontal. They are covered by black caps. Remove the caps and with them link the top and centre pins and centre and left pins together.

Worried about invalidating your guarantee? Or afraid of damaging your Multiface? Send it to Romantic Robot, 18 Rayfield Close, London, NW9 0LR. Romantic offers an upgrading service at £4.95 plus postage (UK £1, Europe £2, rest of the world £3). If you have other queries contact Mr Goldschmidt on 01-800 8070: he'll try and sort you out.

Seas of reason

Ocean will turn *Wahall* on the shelves shortly. The game, involving nine players and a home base, puts you in control of a island. Your task in this 32 cassette game, is to collect coloured creatures and mix them together at home base.



Price cut

Remember *Killer King*? We reviewed it back in April (see 10). Have you seen it in the shops? Probably not. Amstrad got as far as mastering the game, but never got round to distributing it. Asunda Barry at Amstrad says the company was in trouble at that time due to reorganising.

Killer King, under the Bunker sticker, is going to be re-released at £1 (plus the obligatory penny). To keep a company, two other games will be placed in the same price bracket: *Drummers* a 3D racing game in space and *Murderer* (Mark's Death Ride, which involves the Royal North-West frontier spy getting his man. The games are available only on cassette.



Designer characters

Goldmark Systems is releasing a fast designer - another photo-oriented package to join its buffer bit for the BMP 3000 and 3000 (see AS 11). The new program, on tape at £8 or on disk at £12, lets you define the character set or individual characters sent to the printer.

The package makes use of an 8-bit printer port if you own one, but works equally well without. Once characters have been defined you can load or save them when required. You can even make use of the defined characters from within *Printer* or *Fontwork*.

Your printer must be capable of downloading characters and otherwise understand Epson codes. Amstrad's BMP 3000 or 3000 and Epson's LS-8 are three of the many printers that fit the bill. If you are in any doubt contact Ben Barnes of Goldmark on (0811) 11529. The BMP printer buffer and character downloader software can be bought together for £10.95 on cassette, £18.95 disk.

Gold noises

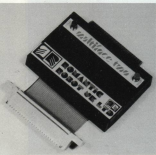
You've seen it on TV, now you'll have the chance of playing it on the computer. The famous Road Runner cartoon will soon appear on your CPC. Programming is under way and from the earliest shows by Richard Todd of BS Gold, the game promises much.

Road Runner follows the path of the cartoon: Runner must catch Wile E. Coyote. Games include cheese and digging coyote traps. What promises to produce a smile will cost £10 on tape and £12 on disk (keep-beep).

Other famous Gold releases include *Killer* (the Dead Survivor and Temple of Doom).

Killer (the Dead) is a graphical adventure-type game. You, in the guise of Hercules Mulrow, must solve the murders that took place at the Gargyle Hotel.

As for the other two games, we're in the dark. Presumably *Temple of Doom* will closely follow the film.



They've done it again

CRI, has managed to get its 'over-15' certificate stuck to its version of *Frankenstein* - like its *Charlie* some months ago. Perhaps it was the printing that shocked the board of censors: £10 on cassette and £15 on disk.

No plans have been made to pass *Mega* (shown under the censors' eyes). However, this may change as the game is supposed to feature robust martial-arts sequences, evil rats and mutants. You can expect to pay £5 on cassette and £10 on disk.



Lots of labels

Arkanoid, which seems to introduce software labels at the same rate as *Arkanoid*, is launching another label - Via Design. Paul Smith, programmer of *Slide* of *Frankenstein*, will head a team of programmers for 8-bit machines. Their first job is *Phantasm* of London. Amstrad, Spectrum and Commodore version are to appear later in the year.

Matt of the mask

Cosplay's latest is *MAGE*. The game will feature cutouts from Matt Teakles and cost you £10 on cassette, £15 on disk.

The storyline tells of a vicious battle between *MAGE* agents and the VENOM network. The planet has scorched and millions *MAGE* agents were captured by VENOM and scattered among Earth's ruins. Naturally Matt is one of the mutants and must retrieve all the good guys.

MAGE is due for release in early August.

See you there

What looks to be the largest ever Amstrad computer show, with "official" websites all over it, is just weeks away. All exhibitor packs have been booked. And reports say the Alexandra Palace in North London will be packed with computers new to the Amstrad scene. Mentalist at Hammer-

smith, the past venue, has been reassigned.

And £15 is the fee - £1 if you're quick and order advance tickets on 061-888 9171. Friday 10 to Sunday 12 July are the days. Times are 10am to 5pm - except Sunday, when stalls will be evacuated at 4pm. See you there.

Three ships went sailing by

Remember last time we noted about a French product from Infogrames. Remember on the *World* the label it was stuck it was the Master Game sticker. Back in France, no programmes are waiting hard for a sequel - see *Phantasm* de Morel.

Judging from a preview, gasp, it's better than ever, would

remember at the high standard and there is much more interaction. There is less now this time there was baffled at as it was in abstract French but more first-person clicking is contained with.

The screen does not print as yet, but watch out for the exciting product.



Infogrames promises two other releases. We have screenshots, but no other information. One is a water-skiing game; the other we're not sure about. Again.



Tune into teletext

Microtext made it possible to receive teletext - BBC's *Crash* and ITV's *Crash*, for example - on the Amstrad CPC computer. The original setup was not entirely satisfactory, needing both a video recorder and an adaptor.

A new version of Microtext's teletext adaptor is ready. You no longer need a video; a tuner is bundled with the adaptor, just plug it into the CPC's expansion port. According to Microtext, there is no need for fine tuning; the tuner does it automatically. The system also allows pages to be saved or printed.

The price is £115.00. Owners of the other adaptor can upgrade for £49.00 direct from Microtext, 7 Bedford Grove, Romford, Essex, phone (0706) 85 8654.



LEADER BOARD

And the book, titled "World-Class Customer Club," has been especially designed to help you create a "World-Class Customer Club" challenge — only three of the best, but consistent in the world will come near to matching "The Clubber."



EUROPEAN COMPUTER
GOLF CHAMPION 1987

the 1970s, the Chinese government's policy of "opening up" to the outside world was implemented. In 1978, the Chinese government announced that it would reform its economic system and attract foreign investment. This led to a period of rapid economic growth and modernization. The Chinese government also implemented a series of reforms in the education system, which led to a significant increase in the number of people attending university. This, in turn, led to a more educated workforce and a more developed economy. The Chinese government's policy of "opening up" was a key factor in the country's economic success in the 1980s and 1990s.



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[illegible]

SELECTION £12.99

SPECTRUM + \$12.99/mo.

46659



10.25.2014 11:25 AM

TYPE-INS

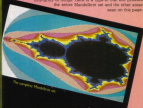
All set for Mandelbrot: a type-in on a fascinating frontier of maths, guided by RgM

In the age of the supercomputer whole new areas of problem-solving have been invented because they're possible. Complex equations involving hundreds of thousands of calculations have become manageable. What would have taken hundreds of man-years to compile can take seconds on a powerful computer. (Recent mathematicians' theories have been explored in depth as a result of the computer. The Mandelbrot set - which stems from fractals - is both obscure and spectacular. Much has been made of recent Mandelbrot and the set he discovered in 1975. Why? Look at the colourful eye-catching designs of ever-increasing complexity. No use whatsoever - just breathtaking.

The Mandelbrot set is pictured as an area in two dimensions. It's a collection of points defined by a simple repeated function. You can see the complete Mandelbrot set in the picture - the black region. The coloured bands represent the behaviour of points as they get close to the set.

In the complexity of the shape that makes the Mandelbrot set so fascinating, the more you enlarge and examine minute areas of the set, the more complex it gets. Although the area is finite - lies within the circle defined by $x^2 + y^2 = 4$ (which I'm not going to prove, you can get further details from Mandelbrot's book *The Fractal Geometry of Nature*) - the edge is infinitely complex and of infinite length. Mathematicians have a word for this fractal. A few streets square use fractal graphics to build, say, a real-looking mountain from only an equation. *Edulis* and *Exonics* fill out here.

Enough of the background information. Let's get down to the nitty-gritty of things. Here is a type-in that will produce the entire Mandelbrot set and the other areas seen on this page.



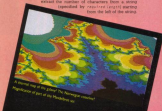
Mandelbrot Generator

Alan Clark, the man from Lanchester in South Yorkshire, is responsible for the latest capability of producing the spectacular Mandelbrot set. (And thanks to all the other readers who submitted versions as a result of Owen Cunningham's letter in Reaction 31.) It has two ways of operation: automatic mode draws the complete Mandelbrot set and six other interesting locations from the set; manual mode lets you select and view an area of the set. In either case the final design is saved to disk or cassette. It is best to run the program and leave Arnold to do his bit for a day as each picture takes between three and eight hours to produce.

1. Mandelbrot generator
2. by Alan Clark
3. Amstrad Action August 87
4. Mail to: 100047 04700, 029 0312551

```
10 INPUT "Autosave to manual operation? (yes/no)";ans
10 IF LEFT$(ANSWER,4)="" THEN GOTO 110 ELSE GOTO 120
110 END
120 GOTO 130
```

Alan has been rather clever in the way he has used `LEFT$(ANSWER,4)` in this line. `LEFT$(string,expression)`, repeated `length` is the standard format for the command. Its function is to extract the number of characters from a string (specified by `expression length`) starting from the left of the string.



`LEFT$(ANS)` forces a string to lower case - `LEFT$(ANS)` does the opposite. It is now easy to see what line 30 does to your input - which is held in `ans` the command `INPUT STRING$(ans); "1" + ans` will force `ans` to lowercase and convert `ans` in the leftmost character only. If the expression fails true, that is, finds that your input consists of an `a`, you'll be whisked off to line 120, otherwise you're destined to line 110.

Dicing with data

Since line 100, which reads `PRINT ans`, the message is held in `ans`. The exclamation mark prefixed to `ans` prevents the `PRINT` message appearing on screen (which would ruin the hour's computer time).

```
10 PRINT "1" "0" and "0" manual input
40 INPUT "Enter 1... Draw, exit error?"; i
50 INPUT "Enter 2... Dimensional exit error?"; n
60 INPUT "Enter 3... Exit?"; length; i
40 INPUT "Enter filename to save picture under?"; f
100 PRINT ans
110 GOTO 120 (lines 120-130: 040: 040: 1: 040: 1: 040: 1)
```

Once the program has accepted your input it will `GOTO 100` which does the calculating. `PRINT ans` shows up the picture and saves it and finally it returns where it came.

```
110 ' see load in your own data for "1" "0" and "0"
110 ' for now this routine is given five good examples
110 ' from the Mandelbrot set etc
110 FOR i=1 TO 5: FOR n=1 TO 10: FOR length=1 TO 10
110 ' see dimension for each set etc
110 DATA 1,2,3,4,5,6,7,8,9,10
110 ' see interesting locations from set etc
110 DATA 0.5, 0.5, 0.5, 0.5, 0.5
110 DATA 0.5, 0.5, 0.5, 0.5, 0.5
110 DATA 0.5, 0.5, 0.5, 0.5, 0.5
```

World's best code in a column

THE FOX IS BACK!

S.T.A.R.F.O.X

1. **NAME** _____
 2. **ADDRESS** _____
 3. **CITY** _____
 4. **STATE** _____
 5. **ZIP** _____
 6. **PHONE** _____
 7. **DATE** _____
 8. **SIGNATURE** _____
 9. **PRINT NAME** _____
 10. **PRINT ADDRESS** _____
 11. **PRINT CITY** _____
 12. **PRINT STATE** _____
 13. **PRINT ZIP** _____
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 25. **PRINT NAME** _____
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 32. **PRINT SIGNATURE** _____
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 104. **PRINT SIGNATURE** _____
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 106. **PRINT ADDRESS** _____
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 108. **PRINT STATE** _____
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 132. **PRINT STATE** _____
 133. **PRINT ZIP** _____
 134. **PRINT PHONE** _____
 135. **PRINT DATE** _____
 136. **PRINT SIGNATURE** _____
 137. **PRINT NAME** _____
 138. **PRINT ADDRESS** _____
 139. **PRINT CITY** _____
 140. **PRINT STATE** _____
 141. **PRINT ZIP** _____
 142. **PRINT PHONE** _____
 143. **PRINT DATE** _____
 144. **PRINT SIGNATURE** _____
 145. **PRINT NAME** _____
 146. **PRINT ADDRESS** _____
 147. **PRINT CITY** _____
 148. **PRINT STATE** _____
 149. **PRINT ZIP** _____
 150. **PRINT PHONE** _____
 151. **PRINT DATE** _____
 152. **PRINT SIGNATURE** _____
 153. **PRINT NAME** _____
 154. **PRINT ADDRESS** _____
 155. **PRINT CITY** _____
 156. **PRINT STATE** _____
 157. **PRINT ZIP** _____
 158. **PRINT PHONE** _____
 159. **PRINT DATE** _____
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 172. **PRINT STATE** _____
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 184. **PRINT SIGNATURE** _____
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 196. **PRINT STATE** _____
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 199. **PRINT DATE** _____
 200. **PRINT SIGNATURE** _____
 201. **PRINT NAME** _____
 202. **PRINT ADDRESS** _____
 203. **PRINT CITY** _____
 204. **PRINT STATE** _____
 205. **PRINT ZIP** _____
 206. **PRINT PHONE** _____
 207. **PRINT DATE** _____
 208. **PRINT SIGNATURE** _____
 209. **PRINT NAME** _____
 210. **PRINT ADDRESS** _____
 211. **PRINT CITY** _____
 212. **PRINT STATE** _____
 213. **PRINT ZIP** _____
 214. **PRINT PHONE** _____
 215. **PRINT DATE** _____
 216. **PRINT SIGNATURE** _____
 217. **PRINT NAME** _____
 218. **PRINT ADDRESS** _____
 219. **PRINT CITY** _____
 220. **PRINT STATE** _____



```

220 data = 0.727, 0.15, 0.021
230 data = 0.729, 0.157, 0.006
240 P01 price=1 10 4
250 a07717mandrill=01000170010001,1,10
260 p00000001:0000000001:0000000001
270 version 000:0000000000:0000000000

```

If you picked automatic then you'll have landed here. Line 10 reads in the data starting at 170 which holds the coordinates for the entire Manhattan set and few other locations in and around the set. If you wish you can replace the existing data with some of your own.

The data is placed into arrays. Array `xx` will hold the six different values, `xx` the six values and so on.

Line 150 remains an interesting example of string handling, of *double indexing*. Moreover, there is a plus sign following the closing parenthesis, indicating more to follow, which is immediately obvious. The plus is followed by *PI20* and a summation of squared characters. The function *PI20* has the format *PI20 (string var1 to var10, var11 to var10, var11 to var10)*. It behaves in a similar way to *PI201*. The string variables in this case are *PI201* and *PI202*. The variable *PI20* comes from one to six (defined in the for-loop block, line 140). *PI20* will convert a numeric expression into string form. So the new result is that it will contain *PI201* *PI202*, with the final digit increasing each time one

[illegible]

The living works out the points for the Mandelbrot set within an area 128 by 128. Each point is worked out individually - this amounts to an incredible 16,384 points to calculate. Given that much calculation with all its stages takes approximately one second, it's easy to understand why Arnold needs five hours to draw a single image.

Threatened **the** **the** **the**

The data for the Mandelbrot set is stored from memory location \$5000 (in decimal, %R5000). If a point is within the set it will have a value 000. The colour for each point is in the set, the higher its value. Points of the same value will have identical colours assigned to them, rather like contours on a map. In theory there could be 256 colours in the final display, but in practice too many colours would produce a confusing display. Not only that, the Amstrad can display a maximum of only 16 colours. So we compromise: ranges of numbers will have certain colours assigned to them.

```

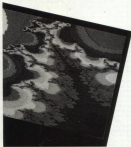
1000 ' *** Matrix A, dimension ***
1001 ' *** Definition ***
1002 dimension=10
1003 for i=0 to 100
1004   for j=0 to 100
1005     a(i,j)=0
1006   next j
1007 next i
1008 ' *** Fill a and b with ones ***
1009 sub=100000
1010 for i=0 to 100-100
1011   for j=0 to 100-100
1012     a(i,j)=1
1013     b(i,j)=1
1014   next j
1015 next i
1016 ' *** Define values to reduce ***
1017 for i=0 to 100-100-100-100-100-100
1018   for j=0 to 100-100-100
1019     for k=0 to 100-100
1020       for l=0 to 100-100
1021         for m=0 to 100-100
1022           for n=0 to 100-100
1023             if i+j+k+l+m+n<100-100 then a(i,j,k,l,m,n)=1
1024             if i+j+k+l+m+n<100-100 then b(i,j,k,l,m,n)=1
1025           next n
1026         next m
1027       next l
1028     next k
1029   next j
1030 next i
1031 ' *** Time test ***
1032 time=0: start=timer
1033 for i=0 to 100-100-100-100-100-100
1034   for j=0 to 100-100-100
1035     for k=0 to 100-100
1036       for l=0 to 100-100
1037         for m=0 to 100-100
1038           for n=0 to 100-100
1039             if i+j+k+l+m+n<100-100 then a(i,j,k,l,m,n)=1
1040             if i+j+k+l+m+n<100-100 then b(i,j,k,l,m,n)=1
1041           next n
1042         next m
1043       next l
1044     next k
1045   next j
1046 next i
1047 ' *** Time test ***
1048 time=0: start=timer
1049 for i=0 to 100-100-100-100-100-100
1050   for j=0 to 100-100-100
1051     for k=0 to 100-100
1052       for l=0 to 100-100
1053         for m=0 to 100-100
1054           for n=0 to 100-100
1055             if i+j+k+l+m+n<100-100 then a(i,j,k,l,m,n)=1
1056             if i+j+k+l+m+n<100-100 then b(i,j,k,l,m,n)=1
1057           next n
1058         next m
1059       next l
1060     next k
1061   next j
1062 next i
1063 ' ***

```

Now, while waiting for your screen to fill, has anyone written a short, fast machine-code version? Please send it in.

Assigning variables

The next section of the program is responsible for working out and storing the different points of the Mandelbrot set. You should have no trouble following this part. What you may not have encountered is the form `var:real`. The percent sign tagged onto a basic variable's name indicates a special type - an integer variable. An integer is a whole number; it does not allow a fractional part. There is a good reason for using this form of variable: it takes up less space in memory and consequently increases execution speed.

[illegible]

Building a business

Line H had a type-in called Rally Unintentionally arrow appeared in the final line. Luckily F. Kinsman (the author) spotted the mistake. Line 100 contains a bug which makes the game unplayable. Also it is read 100 0000000. The up-asterisk character is produced by pressing Control and E simultaneously and not by any random up-arrow. Another happens which most programmers affect the samplers appears in line 100. The last 0 in the last string read 000000.

Number game

The computer will ask you for a factor of a number between 1 and 20—mind you, don't tell the computer how to do it. Once you have a number, the computer will instruct you to perform several operations on it: addition and subtraction, for instance. Finally, the computer will display the number of your choice. Magic? No, but if you can teach us how it does it, it's a real feat. **Guested Hermann of Lovers.**

[illegible]

Degrees conversion

J.E. Turner of Madras, India, has won a program that converts between Fahrenheit and Centigrade temperatures. This useful routine can easily be incorporated into your own programs.

[illegible]

Character-by-character print

Here's a handy routine from **■ Mail** if you're going to put any names on your communications, just remember that Mail's job is to be on the scene. Here are good questions to

[illegible]

```

4  * for Robert Lopez
5  * Accepted Article Support 02
6  **=====**
7  00 01 10000000 0000 000000000000 100 10000 1000
8  00 000000 10000
9  00 000000000000 10000000
10 0000 0000 0000 10000000
11 0000 0000 0000 10000000
12 0000 0000 0000 10000000
13 0000 0000 0000 10000000
14 0000 0000 0000 10000000
15 0000 0000 0000 10000000
16 0000 0000 0000 10000000
17 0000 0000 0000 10000000
18 0000 0000 0000 10000000
19 0000 0000 0000 10000000
20 0000 0000 0000 10000000
21 0000 0000 0000 10000000
22 0000 0000 0000 10000000
23 0000 0000 0000 10000000
24 0000 0000 0000 10000000
25 0000 0000 0000 10000000
26 0000 0000 0000 10000000
27 0000 0000 0000 10000000
28 0000 0000 0000 10000000
29 0000 0000 0000 10000000
30 0000 0000 0000 10000000
31 0000 0000 0000 10000000
32 0000 0000 0000 10000000
33 0000 0000 0000 10000000
34 0000 0000 0000 10000000
35 0000 0000 0000 10000000
36 0000 0000 0000 10000000
37 0000 0000 0000 10000000
38 0000 0000 0000 10000000
39 0000 0000 0000 10000000
40 0000 0000 0000 10000000
41 0000 0000 0000 10000000
42 0000 0000 0000 10000000
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90 0000 0000 0000 10000000
91 0000 0000 0000 10000000
92 0000 0000 0000 10000000
93 0000 0000 0000 10000000
94 0000 0000 0000 10000000
95 0000 0000 0000 10000000
96 0000 0000 0000 10000000
97 0000 0000 0000 10000000
98 0000 0000 0000 10000000
99 0000 0000 0000 10000000
100 0000 0000 0000 10000000

```

Decompress

pictures

If you have played with Paintbird's Advanced DCP Art Studio, you'll know that the pictures can be compressed before saving. Unfortunately there is no way of decompressing these pictures from basic DOS – a pity as they take up less than half the ram-space of conventional

Smart Faculty of Weymouth, Surrey, has come up with the answer: a program to expand the compressed screens. There are two programs. The first, *Writer*, writes and saves the code to do the expanding. Run the second listing which loads the code as high in memory as possible. It also moves the Call address in a variable named *Call*. All you have to do is load the compressed picture at 44000 and run it again.

[illegible]

```
1 * Picture register
2 * using code provided with device
3 * upon run, the variable address will hold the address to
  which is passed a compressed picture loaded on 10000
```

Mixing hash and pound

T Lee of St Helens, Merseyside, has submitted a listing that solves the problem of printing pound (£) and pence (p). The two characters have to share ASCII code 08. If you need a listing to the printer remaining both, either the pence will come out as pounds or vice-versa, depending what currency you're set for.

The listing uses standard Pascal codes and works with printers having a choice of US and UK character sets. Make sure you have the appropriate set in the US background set. The routine checks what is set in the printer. If a font, it's simply printing that. The program will switch to the UK character set, print the hash and return to the US set.

You can use this feature to either Forward (pull from Postnet, but its National Number already shows each of the problems) ... and of course, from Bank.

[illegible]

PROBLEM ATTIC



(problem?) before it can be transmitted as a sound. And at the other end the signal must be repeated again from the carrier (phonetically).

Besides communicating direct with a friend's computer, you can use a modem to link into huge public databases such as British Telecom's Mosaic (part of Presto) or its more sophisticated electronic-mail network Telecom Child. You can also dial into dozens of free "bulletin boards" operated by enthusiasts.

Subscribe to Presto for a year and they give you a modem, albeit a one-speed job. Conversely, various modem manufacturers throw in an e-mail subscription if you buy their gear. We reviewed the Lunar modem from Peter Morris Technology in AA 21, the Nightingale (also from Peter, but sold under an Amstrad badge as well) was mentioned in AA 19 and 8.

Don't forget that you also need a serial (RS232) interface between the computer and the modem, and software such as Comterm to control it. Some modem packages include all this.

Setting up Setup

I think the Setup file under CPM 3.2 is one of the most useful, for probably one of the most understated, bits of documentation. I would like to know how to adjust border, ink, mode and so on when changing the string sign-on option.

Harvey Davis

Goldham, Berks. Microsoft 012 994 511

Control characters are responsible for cursor positioning, mode, ink and so on when using Setup. The way you access control characters for the string sign-on option is via immediately obvious. Look at the back of the User Instructions; there is a section telling what functions certain control characters do.

To enter a control character under Setup you must first type spacebar (1) - this shows a key with the pound sign (£). Then enter the code for the control character. On control code 8 is represented under Setup as 15, control code 1 happens to be 14, control code 2 as 16, and so on.

Here are some of the more useful control codes and how they are represented under Setup.

control code	hex	hex	action
0	14	0	no
1	15	1	set screen mode
2	16	2	ring bell
3	17	3	background
4	18	4	move cursor right
5	19	5	move cursor down
6	1A	6	move cursor up
7	1B	7	clear screen
8	1C	8	carriage return
9	1D	9	set paper ink
10	1E	10	set pen ink
11	1F	11	swap paper and pen
12	20	12	define character
13	21	13	define alias
14	22	14	set ink colours
15	23	15	set border colours
16	24	16	position cursor

If you want a Mode 1 display, with border and paper colours set to black and ink colour set to white when you start CPM, you would need to enter the string sign-on as read 1500/1112/150/01.

Here is a reminder of what the four first characters do. The up-arrow tells the system a control character is to follow; the

backslash translates to control character 8, meaning set the ink. These parameters must follow this control character. The first (in this case, zero) indicates the pen that is to be chosen; the next two characters tell the system which colours are to be used - 1 stands for colour 1 (red) & would be colour 1, 5 colour 5 and so on. Experiment. & don't use complicated words you get the gist of things.

Serial printer and Mini Office

My computer setup consists of a 512 with HD1 disk drive and a serial 5000 printer. To use the printer I need to use a small patch file. I have no trouble using Amstrad and this printer. Problems occur when using Mini Office (I'm stuck) and the printer. Mini Office if you don't load with the patch in memory. Any clues?

A Graham

Colindale, Nottingham

You didn't state how long ago you purchased Mini Office 2. The first version had several bugs. The version I tried has options allowing you to select a serial printer. I suggest you contact Database Software and demand an upgrade.

No place for Maxam

After saving some time for the cartridge version of Maxam, I find Amstrad has discontinued this particular setup. It looks as though TI have to buy the ram version and a ram board instead. I don't expect to purchase any other PCs, so buying a ram board seems rather excessive. Any clues?

Jim L Johnson

Hyndley, Lancs

Infocore Design, a company based in Northamptonshire, sells a card you can use for CPM or unmodified for 112.00. You can contact them on (0535) 85 0511. This is the cheapest ram board I know of. Add the price of Maxam on ram and the ram card - you'll find the price is similar to Maxam on cartridge.

Your other alternative is to buy Maxam on cassette or disk - the problem with this setup is you don't have the whole CPM memory at your disposal.

Keep the drive whirring

Please could you tell me if there is a routine that will keep the disk drive motor spinning for a set or indefinite time?

SP King

Folham, Middlesex

What you need is bit 1/1011, 1. This will cause the drive to enter non-stop. An bit 1/0111, 0 will stop the drive spinning.

Choose to drive though, why would want to do it. After running in drive you game if sometimes that programmers take note too personally. Who are all these assembled both C, R, P, D and A anyway. SP?

What was that?

Having acquired an Amstrad 6100 after two years of using a Spectrum, I am regretting the loss of many decent Speccy programs. Several weeks after buying the 6100 a package arrived from Infocore with, among other literature, a catalogue of programs. Now, was I dreaming or was there a utility advertised that transferred Spectrum programs to run on an Amstrad?

I have been trying without success to find Infocore's address. Can you help?

Ken Tyburn

Brighton, Sussex

Has anyone else heard of this program? I have heard rumours about it, but have never managed to trace its origin. Can anyone help? Such a utility is highly unlikely to be from Infocore, which is an American company - even the Spectra there (Infocore games are distributed in the UK by Datacube.)

Master Blaster

Siren, true to name, lures our noise-loving Richard Mortens

Sound Blaster

Siem Software, £29.95

Add two quality car speakers, a length of wire and a cigarette-packer-size 500s tape-deck, and what do you get? You have the latest gadget from Siem Software, the Sound Blaster. In the past Siem has put all its energy into utility software - this hardware addition comes as a surprise.

The Sound Blaster, of the same genre as Mastertronic from Wizard Leisure, is a system that gives your computer two stereo outputs. Two handy three-way speakers (containing a 3-inch woofer, a 2-inch midrange and a tweeter) capable of 20 watts each are plugged into a top amplifier. From the amplifier come three leads: one goes into the CPC's stereo port, the other into its socket marked for DC, and the third connects to the monitor's power cable.

Once everything's plugged in load your nearest game, sit back and listen. What? You can't hear anything? Well, turn up the volume controls. There are two controls so you can correctly balance the sound.

The sound quality is superb. It adds much to games, making them atmospheric and all the more enjoyable. You won't be able to blow the roof off the shop, nor deliver only 3 watts. This is loud enough, mind, especially in the confinement of your room.

A pair of stereo headphones is supplied - for a silent partner. Siem's introductory offer. Plug the phones into the plug for personal listening or to avoid annoying the neighbours. A nice touch is the pair of red LEDs that glow when the Blaster is plugged into your computer.

The Sound Blaster is a marvelous addition to your computer: it's not irreplaceable compared to the competition, does a better job, looks impressive and endows your machine with a great sound.



Siem Software 100, 100, 100
1 Centre Road, Hammersley, St. Paul

GOOD NEWS

- The two quality speakers are capable of lots of lovely noise.
- Cheaper per watt than the rest.
- Headphones included free (at present).

BAD NEWS

- Amplifier can put out only two watts per channel.

New in the disk tricks

We play with a fresh suite of disk utilities

Supadisc

Standard, £25.00 disk only

A company new to the CPC market, Standard has released its first product, Supadisc. First impressions are favourable, for it does more in the market - already limited by *Compact Discs Plus*, *Master Disc*, *Round Disc Plus* etc. - for another disk utility package?

Supadisc offers several useful utilities:

Directory Editor lets you edit the catalogue track of any disk. **Master Editor** will alter the contents of disk systems, including those with non-standard formats.

Quick Formatter and **Normal** disks to CPC, drive or BM format. **Large Formatter** formats disks in a standard way, but gives 16 extra storage on each disk.

Archiver is for all the disk contents to cassette.

Disk Backup lets you copy disks including those formatted by Large Formatter.

Partition Remover will enable you to load Basic files mixed with the .P options.

File Information gives an extended catalogue of either type of disk files.

Track Disk speeds up drive operation.

View FDS gives a text display dump of any formatted file.

The presentation of Supadisc is pleasing. When you choose from the menu, Supadisc offers to display instructions - or enter

speed or pointer... before loading your option. You can even skip the complete operating instructions to print in one fell swoop.

Have you used other programs that give an inconsistent capacity format? If you have you'll understand the problem of copying files to and from standard formats. Supadisc overcomes this by using 1 format the disk in the standard way, but gives an extra 126 of storage by formatting 32 tracks instead of 30. This allows you to do a couple of games at the beginning of a disk session. It's Standard's little bit method five announced.

Although many CPC users will already have disk utilities, Supadisc's features are done exceedingly well - and more to the point, they work correctly. If you haven't got a package of the type, this is probably your best bet.

Standard
100, 100, 100
1 Centre Road, Hammersley, St. Paul

GOOD NEWS

- Financier than most utility software.
- Instructions can be sent to printer.
- Over way of increasing disk capacity.

BAD NEWS

- Not possible to get back to main menu after using many options.
- Similar products already on the market.

THE NEW AMX MK. III MOUSE. TRAP ONE SOON.



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AMX MOUSE MK. III PLUS STOP PRESS, 3" DISC **£79.99**

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EXTERNAL EXTRA! 3.5" DISC £24.99

388K format clip-art and over 25 extra fonts.

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BONUS WIN 386 VIDEO (ONLY) £99.99



There is also a growing list of AMX support software including: AMX 3D Disc 3" Disc **£24.99** with which you can transform vector drawings on screen graphics. Printers and joysticks are fully supported. AMX Initials 3" Disc **£19.99** Initials software for the original program supplied with AMX Mouse. A Mouse and time base only can be purchased for **£24.99** direct from AMX using the order form enclosed in MAC, Stop Press, and AMX 3D Disc. These superb products are available from all good computer dealers or direct by cheque, Access or Visa. All prices include VAT and postage.



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HOT

TIPS

Exterminating Pagemaker bugs,
reviving dead ribbons and worn keys.
These and more tricks revealed.

Beware Laser Genius

When using an assembler, people often write out π , rather than 3.14159. Mathias is incorrect. Problems occur, however, if you use Laser Genius. It incorrectly assembles π to π , as:

```
100 A
101 SP, A1
```

This would, of course, prove disastrous if the code was executed. I have discovered this bug in Genius version 1.04.

Ray Jones

Oxford Citylary, Pinnerborough

Thrust scroll

Have you ever wondered how Finland makes the screens in *Warrior* and *Star Trek* scroll upwards? Well, here you have it in the form of a short listing:

```
10 OUT 8000,1:FOR I=1 TO 10
20 FOR J=1 TO 50:PRINT I
30 OUT 8000,0:END IF
```

Patrick Connolly

Claptonhead, County Leix

Mixing Input and Inkey

INKEY is the more usual method of detecting a pressed key, but it is slow. INKEY is faster and using (INKEY) 0-128... means that the shift and control keys can be disregarded. The problem with this method is the keys pressed are entered into the keyboard buffer - if you use a command such as INKEY following INKEY the character corresponding to the key you pressed will appear on screen. The solution is to flush the keyboard buffer and after the INKEY command. There seems to be a number of run routines which flush the keyboard buffer. I use CALL 88888.

```
"CALL 88888 IF INKEY=0:GOTO 1 THEN CALL 88888 GOTO 10
100 88888:
20 PRINT "YOU PRESSSED RETURN"
```

The example waits until you hit the spacebar. Then it prints a message. The number 41 following the INKEY command refers to the spacebar; you will find a list of key numbers printed on the 8086 case or at the back of the user manual.

Tony Green

Dunwich, Wiltshire

And there's *END* input to your bank for this hot tip. Stop.

18 AMSTRAD ACTION Making the most

Cures for Pagemaker

Here is a short routine which corrects two of the more annoying bugs in *AMSP Pagemaker*. First, it increases the printer timeout so that slow printers such as the DMP 8000 can be used. Second, it removes the bug in the circle routine which leaves a dotted line on the screen when a graphic window is defined.

To use the routine, run it with a copy of the master disk in the drive. The program will amend Pagemaker. The version I own is CD 4.90 B - it is inadvisable to use this routine on any other version. Lines 20 to 100 inclusive are for the printer routine. Lines 140 to 170 deal with the circle routine.

```
10 REMARK 01111
20 FOR I=1 TO 10:PRINT I
30 LOST"pagmaker.m2",01111
40 a0"pagmaker.m2":101,011
50 FOR 0101,011
60 0101"pagmaker.m2":0,0101,0101
70 LOST"pagmaker.m2",01111
80 a0"pagmaker.m2":101,011
90 FOR 0101,011
100 0101"pagmaker.m2":0,0101,0101
110 LOST"pagmaker.m2",01111
120 a0"pagmaker.m2":101,0101,0101
130 FOR 0101,0101,011
140 0101"pagmaker.m2":0,0101,0101
150 LOST"pagmaker.m2",0101
160 a0"pagmaker.m2":101,0101,0101
170 FOR 0101,0101,0101:0101,0101,0101
180 0101"pagmaker.m2":0101,0101,0101
190 OUT 0101"pagmaker.m2":0101
```

Tony Boyle

St Anne's, Leam

Adding life to printer ribbons

Here's a fix on tripping the life of printer ribbons - in particular those belonging to Olivetti and Monogram Tally printers.

When the central inked portion of the ribbon is exhausted at the front end of the cartridge (or front - in doing so exposing the unused part of the ribbon to the print-head. This will add a life to the ribbon.

Once this has been used up, open up the cartridge, remove the ribbon and refilled it upside down - the third life.

This technique may work with other ribbon cartridges. Experiment. It works a treat and saves money.

Price My

Banbridge, Essex

Fuze

How about this one-liner for some very odd on-screen effects?

```
10 OUT 8000,1:11111111+01111111 00000,1:11111111+1111 10000 10
```

David Symman

Bartholomew, 5 Torkelton

Stop letters vanishing

Fading letters on Roger Payne's 6228 cassette (Reaction 21) can be halted. Dash to your local hobby shop and buy a modeller's small paintbrush and a jar of clear acrylic varnish. Brush small dabs on top of each key. Leave for about six hours and dry. You now have a keyboard that won't lose its letters.

A. Proctor

East Street, Walsworth

■ To mark the keys with rub-on or dry-transfer letters, WEI'shot's quick marker screen matches the present style and size very well. The life of these and other keys can be extended with a thin film of varnish. If used in good, or even clear nail-varnish will do the job. Be careful not to put too much on at once; a better result can be obtained by building up layers gradually, allowing plenty of time in dry between layers.

Alan Dingle

Clacton-on-Sea, Essex

Shaky sound

The small routine is useful for sprucing up your own program.

Simply type it in and remember to your liking. When run it will give an explosion-like sound and the screen will jitter realistically.

```
10 DIM T(1),T1,T2
20 FOR A=0 TO 10000 STEP 10000
30 PRINT T1,T2,T3,T4,T5
40 T1=T2:T2=T3:T3=T4:T4=T5:T5=0
50 NEXT A
```

W. Wenden
Parsippany, N.J.

Upside-down

If you want to play a joke on somebody try the listing below. Type it in and run. It turns the characters up and upside-down. You can get back to normal by entering `UPSIDE.DITTO`.

```
10 OPEN "UPSIDE.DITTO" FOR OUTPUT
20 FOR A=0 TO 255
30 LOCATE 1,1:PRINT CHR$(A)
40 PRINT " ",CHR$(160+CHR$(A)),CHR$(160+CHR$(A)),CHR$(160+CHR$(A)),
    CHR$(160+CHR$(A)),CHR$(160+CHR$(A)),CHR$(160+CHR$(A)),
    CHR$(160+CHR$(A))
50 NEXT A
```

Paul Brown
Newbury, Bucks

Bankmanager update

I was looking through issue 17 and to Hot Tip discovered a small article by Dr. Rastvorn on the Bankmanager. I agree with his last point: the correct syntax of one of the commands is `(BANK)BANK, T1, T2, T3` rather than `(BANK)BANK, T1, T2, T3`.

After messing around with bankmanager 800a I discovered that somewhere before the above command is executed, you must

define `T1` to be 1600 or 34 or whatever you fancy. Once assigned the `(BANK)BANK` command will function correctly. The reason is that instead of passing the value of `T1` to the routine, it passes the address in memory of the value of `T1`. In this way `T1` can be altered by the routine.

In point 3, Mr. Andrews talks about saving numbers in strings using the `STR$` command. He not longer that this will just either a blank or a minus sign at the beginning of the resulting string - thus making it bigger than the allowed size given in the `(BANK)BANK` command.

Philip Connor
Lusington, Warwickshire

Format detecting

If you wish to determine the format of a disk run this program.

```
10 OPEN"1111" FOR INPUT
20 GET #1:PRINT
30 IF #1=1 THEN PRINT "1111"
40 IF #1=2 THEN PRINT "2222"
50 IF #1=3 THEN PRINT "3333"
60 PRINT "Format"
```

T. Middelkamp
Holland

Dotty characters

Continuing with the crazy character lists, here's a program that gives you a dotty character set. `SYMBOL AFTER 160` switches off the effect.

```
10 OPEN"SYMBOL" FOR INPUT
20 GET #1:PRINT "SYMBOL"
30 IF #1=1 THEN PRINT "1111"
40 NEXT A
```

Michael Unsworth
Stanley, Co. Durham



HACKERS ONLY

The section that brings the CPC's darkest secrets to light. If you don't understand what's written here, bad luck. You'll get no explanation, for this is where the hackers hang out.

Floating point

Floating-point arithmetic is one of the hardest things to program using machine-code. So why not save yourself a lot of hassle and use Basic's built-in maths functions?

All maths routines are held in the lower rom. They are regularly called by the Basic rom from vectors held above the firmware routines. These vectors start at `$A000` on the 484 machine and at `$A000` on the 484 and 6128.

Basic stores real variables in five bytes in a coded form. Start by converting the value to binary.

- Add together the number of significant bits before the decimal point, add 480 to give byte 5.
- The fourth byte comes from ignoring the last most bit and converting the seven remaining bits into decimal. If the number is negative, 500 is added to it.
- Bytes 3, 4 and 1 are obtained by taking the remaining bits in groups of eight and converting them into decimals.

As an example, say you had the number 104. Expressing 104 in binary gives `00110110`. The number of binary digits is 13, so byte 5 = `13 + 480 = 493`.

Ignoring the last bit, but getting the value for the next seven, we have byte 4 = `0011011` = 454. Our original number is not negative, so byte 3 remains as 515.

The following eight bits give us the next coded byte: byte 2 = `00110110` = 450.

As there are no further bits, bytes 1 and 0 are zero. We now have all five bytes.

00 00 45 45 493

Go forth and add

Suppose we wished to add 1234 to 1234. Using the Basic vector at `$A000`:

```
1000 $A000
1010 1234:1234
1020 1234:1234
1030
```

First number
10 \$A00:1234,1234

Second number
10 \$A04:1234,1234

ie, points to the five bytes representing the first real number in coded format, ie points to the second value in coded format. After the call it will point to the result - held in three bytes, which you must decode.

The example above is not the best possible. There are simpler methods of adding two identical numbers. Still, it shows you how to use the Basic vector.

These are the vector locations for adding, subtracting, multiplying and dividing in the order:

On the 484: `$A000, $000, $000, $004`
On the 6128: `$A070, $007, $000, $004`
Remember a 4 points to one number, so in the other. After the call it points to the result.

Join the fourth dimension

Richard Monteiro recounts minutes from his encounters with a real clock

Real-Time Clock

DECtrek, £24.95 - 484 and 5128 only

Not long ago DECtrek produced innovative plug-ins at an extraordinary rate. Not much time has come from the Mustang firm in recent months. November '85 saw the release of its last Amstrad hardware gadget - which turns your monitor into a television. Now, more than six months later, DEC1 is taking once more a real-time clock to the office.

A real-time clock is something that keeps an accurate account of the time - 'the time sponsored by Accurat' is a good example. The word 'real' means time in the outside world as opposed to internal computer clocks, which can be upset by factors such as loading a program or even by a program running in memory (not to mention by shutting the machine off).

All DEC's products are enclosed in a case - matching to a tick - your Amstrad's bodywork. DEC1 always makes two models of each add-on: the 484 and 5128 are different heights and have expansion slots in different positions. The 484 loses out neither model is satisfactory. An obvious solution is a length of ribbon cable between 484 and plug-in.

So open the packaging and you will discover the real-time clock (RTC), software on cassette and a thin manual.

Read the manual carefully before jumping into the clockwork. It's heavy reading and not ideal for beginners or those without a sign bias towards the technical side of computing. Examples are few and far between. Much is left to your experimenting. The text deals with installation (tells you to switch off the computer before inserting the RTC, thank you), extra commands supplied by the software and an eight-way input-output port. Unfortunately there is only the briefest of operating instructions.

The RTC has battery back-up and retains the time in a few bytes of its own ram even when the computer is switched off for several months. While the computer is in operation a nickel-cadmium battery charges up.

For those in the pencil and paper trade there are a few spare bytes of clock ram. And, if you've got other wires in the real-world, there is an eight-way input-output port - controlled by a DEC-1PC (peripheral input/output) chip. Just don't expect any suggestions in the manual for using it.

The easiest way to get the RTC talking is to use the supplied software. This consists of several test commands to set the time and alarm, read the time or alarm-time and display the time. There are a couple of others that deal with the reading and writing to the extra clock-ram.

Because of the lack of instructions, you may find using the additional commands rather a chore. Fortunately, you'll be pleased with the results. Particularly nice is the RTC's ability to maintain and update the year, month and date - it handles leapyears, weekdays and all. The alarm function is also a treat: it can be set from once a day to once a second. By using one of the extra test commands you can display the time - in hours, minutes and seconds - at any position on the screen constantly.

Over to CPM

There is a bonus for CPM. Plus there, CLOCKCOM is also supplied on the cassette. This CPM utility - when transferred to disk - allows you to modify the time or date held in the RTC or CPM's internal clock locations. With this you can date-stamp files. CPM's internal clock is software-controlled, which means it will tell slightly behind true time. This is not a great restriction as date-stamping doesn't log the seconds anyway. Of course this doesn't affect the timekeeping of the RTC.

Apart from the manual - which lacks information in several departments - I have no serious quips. Having a clock plugged into your computer is handy on occasions, but not exactly essential (though one thing we at AA would like is a way of date-stamping Printer files without going into CPM). If you are competent in programming or electronics then I'm sure the 50-odd bytes and eight-way port will get your grey-matter moving.

AA

Using the port

You get an eight-way input-output port with the real-time clock. But what use is it? Don't look at the instruction manual. It gives no clues.

Many things can be plugged into the port: meters, extra joystick or keypad, measuring or sensing devices such as a barometer, thermometer or pressure pad, and controllers for model railways or robots or even the washing machine. All these add-ons require line-wiring. You'll need to be a dab hand with a soldering iron and even better at picking a byte or two round the computer's memory.

A couple of low-priced books published by Bernard Babson may help you on your way. *Easy Add-on Projects for Amstrad CPC 464, 484, 5128 and 585 Computers* (ISBN 0-85804-148-3) and *Electronic Circuits for the Computer Control of Robots* (ISBN 0-85804-153-4), both cost £3.95.

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Inside the Real-Time Clock

C O D E S

- Comes in the usual smart DEC1 box.
- Ready to have time appear on screen.
- Flexible alarm function.
- Maintains current time even if switched off for months.
- IO port lets you control the real world.

B A D N E W S

- Documentation is hard going.
- Software not as complete as it could be.
- Why no real-world examples of using IO port?





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WORDS WORK

How to get the most from your word-processor and printer.

A new regular feature.

Here you are. A section of the magazine devoted to the word-processor user. Every month we'll look at certain aspects of word-processing: speeding things up, making a neater job, tips, tricks and answering your queries. To remain sane we have decided to limit the number of word-processors covered: the more popular such as *Protext*, *Tasword* and *Wordstar* will be looked at. We kick off this month with a look at setting up.

It is important to have your word-processor tuned to your taste. This makes life easy and production a lot faster. Things such as colour choice and key combinations may seem trivial, but if you constantly use a word-processor these trivial irritations become unbearable.

Tuning Tasword

Various versions of *Tasword* exist: *Tasword 400*, *Tasword 5* and *Tasword 6100*. They all have a Basic loader which makes it easy to set them up.

Load the Basic *Tasword* loader and type `L111`. You should see Basic commands such as `W1`, `W4110` and `100`. If you wish to customise *Tasword* it is best to remove all these commands.

Tasword works in Mode 3, which means only two colours are allowed on the screen: one background colour (`W1000`) and one foreground (`W10`). If you want the text in black, and the border and paper in white, you would need to add a new line to the loader, like this: `10 (W10,24) (W1010,24) (W1,1)`.

If you're not sure how the link and border commands work, a quick scan through the User Instructions won't go amiss. However, here are a few pointers: the number following `W1010` refers to the colour; the first number after `100` refers to the colour (in this case there are only two, the background and foreground). The second number indicates the colour. The CPC manual has a list of numbers and the colours they represent.

Using KEY

While word-processing, it is handy to have often-used phrases or sequences of control codes available at the touch of a single key. This effect can be implemented using Basic's `KEY` command. For example, try entering this line:

```
10 (W10,2) (W1010,2) : (W1011,1) = "Future Publishing Ltd." : (W1012,1) = "0001101" : "Go home direct" : (W1013,1) = "W100" : (W1014,1) = "W1011" : (W1015,1)
```

This causes our full address to appear just by pressing `W1`. The `W1011(1)` is of course the Basic code for end-of-line.

Naturally, you can place whatever you like in the function keys. Remember you have 32 of them. Shift and Control states also count. Take care that the content of an individual key doesn't exceed 128 characters - otherwise you'll get an error message.

Once you have added all the bits and pieces to the *Tasword* loader, save it. Whenever you load *Tasword*, it will be set to your requirements.

It is possible to alter everything described earlier from within *Tasword*, but unfortunately it's only temporary. There is no option for saving the alterations every time you load *Tasword* you will have to configure it to your liking - what a pain. You must go into Basic to do it permanently.

Playing with Protext

Amstrad's Protext is similar to *Tasword* in that it has a small Basic loader before the main program. Again you can create a personalised loader if you wish - in fact, *Amstrad* encourages this.

At 640 we work on green screens a black background (that is, `(W10,0)`) and white text (`(W10,1,24)`) is the easiest to work with. Before the final document is put through to the printer, it needs codes (just as the dot-matrix printer needs control codes for inkjet and bold). *Protext* printer codes are usually more ready: the programmable function keys come in handy. For example, to produce spaced print we use the command `111`; `111` stands the letters upright again. In the *Protext* loader we define certain function keys to produce these and other effects.

The *Protext* manual lists special codes if you want to build various keystrokes onto a function key. Shift-`1`, for instance, takes the cursor to the next word, and in *Protext* this is `1000(111)`. By making good use of function keys you can save a good deal of time and effort.

It is very easy to make tiny alterations in the setup of *Protext* during operation: typing `W11` or a from its command mode returns you to Basic - not only that, but we'll find the loader program will there; but type `110`. From here you can alter colours, redefine keys or program function keys. Typing `11` returns you to *Protext* - neat.

Discovering Pyraword

Pyraword is contained in a different way from *Tasword* or *Protext*: everything is stored here within *Pyraword* and saved as a User Options file. This means you can have numerous setup files and can pick a particular one for a particular job.

Five function keys are available under *Pyraword*, and each can hold 10 characters. Pressing `W1` displays these contents; the small *Clear* key lets you alter them. As *Pyraword* needs two keystrokes to get to the top or bottom of a document, it makes sense to use a function key for this purpose.

From `W10` mode, Control-2 takes you to command mode. From here you can alter all sorts of things: pressing `1` or `2` will change the paper and pen colours respectively; `3` or `5` will load or save the User Options; colours, tab stops and keyboard memories. When *Pyraword* loads, it searches for a User Options file called *Wpyraword*. Use (not mentioned in the manual), if you save your alterations under this name then there is no need to load them manually.

Wordstar under 2.2

This section deals with creating an everyday *Wordstar* mode disk. It will instruct you how to auto-start *Wordstar*, select the colours and define keys, among other things. Before going any further, you will need a CP/M 3.3 system disk and a disk containing *Wordstar*.

Load up your system disk and type `1100` at the `C prompt`. Probably a message will appear: `(11111), command buffer...`. It tells you that `1100`. Before answering, insert your *Wordstar* disk into the drive. Then press `W1`. This allows you to enter a command that will automatically execute when you type `110` at the beginning of the day.

Your entry should look like this: `W110`. As you know, `W1` is the



Stuff the buff

Richard Monteiro finds you don't get in a huff with a printer buffer

MicroSim Inc.

1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 26

Have you ever sat in front of your monitor, twiddling your toes, waiting for control to return to the computer while the printer slowly chugs away? Go on, admit it. This problem always occurs when you print a long document or dump a screen. Frontier Software is the rescue! Frontier's MicroPrinter is a smart device (with a smart price—half that of most competitors) that lies between computer and printer, unjamming the traffic, so you can get on with more important tasks. Like watching your soap opera. —Rod Lit



A printer buffer stores data en route to the printer. The computer shoves data out at high speed to the buffer. The buffer

sends it to the printer when the printer is ready to accept further information.

The Marantz comes with 12 inches of ribbon cable, its plug fitting the printer's Centronics port. Your existing printer cable runs to the computer in the buffer. There's also a power supply to support the buffer's 84x ram. It's a ratty little transformer-recaller that can convert mains to DC at various voltages between 0 and 12. Not a feature you'd have been able to get as well as a U.S. checker.

When you plug everything in and switch on, the Striker performs a quick self-test. This verifies its own chips, micro-processors and circuitry. An extended self-test will even indicate which bank of ram is faulty or indicate a broken wire etc. -

There are two publications on the front of Matter. Pressing one will raise the last document to be printed again, very useful if you need multiple copies. The second button clears the list.

When the Shuttle is operating, a clock feature indicates how much buffer space is left. The faster the clock the less space available.

I am impressed by the Microwriter. It is a simple no-fills add-on that does a fine job. It has useful self-test, multiple copy and buffer-space features. In terms of the it access highly to ram can hold data for four entire screen dumps or over 40 pages of text—perhaps two hours' primary—letting you get on with other jobs. The buffer is a device all printer owners should consider.

■ Idle at run for your printer to fill up. ■ Works with any Centronics (parallel) printer. ■ Has nearly between computer and printer. ■ Ball and function indicators any mode. ■ Repeat button can produce repeat copies of a document.	■ External power supply, another wire to plug. ■ The price could be dropped slightly.
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Source: Bureau of Economic Analysis, U.S. Dept. of Commerce, GNP, 1959-1983, 1984-1985, 1986-1987, 1988-1989, 1990-1991, 1992-1993, 1994-1995, 1996-1997, 1998-1999, 2000-2001, 2002-2003, 2004-2005, 2006-2007, 2008-2009, 2010-2011, 2012-2013, 2014-2015, 2016-2017, 2018-2019, 2020-2021, 2022-2023, 2024-2025, 2026-2027, 2028-2029, 2030-2031, 2032-2033, 2034-2035, 2036-2037, 2038-2039, 2040-2041, 2042-2043, 2044-2045, 2046-2047, 2048-2049, 2050-2051, 2052-2053, 2054-2055, 2056-2057, 2058-2059, 2060-2061, 2062-2063, 2064-2065, 2066-2067, 2068-2069, 2070-2071, 2072-2073, 2074-2075, 2076-2077, 2078-2079, 2080-2081, 2082-2083, 2084-2085, 2086-2087, 2088-2089, 2090-2091, 2092-2093, 2094-2095, 2096-2097, 2098-2099, 2100-2101, 2102-2103, 2104-2105, 2106-2107, 2108-2109, 2110-2111, 2112-2113, 2114-2115, 2116-2117, 2118-2119, 2120-2121, 2122-2123, 2124-2125, 2126-2127, 2128-2129, 2130-2131, 2132-2133, 2134-2135, 2136-2137, 2138-2139, 2140-2141, 2142-2143, 2144-2145, 2146-2147, 2148-2149, 2150-2151, 2152-2153, 2154-2155, 2156-2157, 2158-2159, 2160-2161, 2162-2163, 2164-2165, 2166-2167, 2168-2169, 2170-2171, 2172-2173, 2174-2175, 2176-2177, 2178-2179, 2180-2181, 2182-2183, 2184-2185, 2186-2187, 2188-2189, 2190-2191, 2192-2193, 2194-2195, 2196-2197, 2198-2199, 2200-2201, 2202-2203, 2204-2205, 2206-2207, 2208-2209, 2210-2211, 2212-2213, 2214-2215, 2216-2217, 2218-2219, 2220-2221, 2222-2223, 2224-2225, 2226-2227, 2228-2229, 2230-2231, 2232-2233, 2234-2235, 2236-2237, 2238-2239, 2240-2241, 2242-2243, 2244-2245, 2246-2247, 2248-2249, 2250-2251, 2252-2253, 2254-2255, 2256-2257, 2258-2259, 2260-2261, 2262-2263, 2264-2265, 2266-2267, 2268-2269, 2270-2271, 2272-2273, 2274-2275, 2276-2277, 2278-2279, 2280-2281, 2282-2283, 2284-2285, 2286-2287, 2288-2289, 2290-2291, 2292-2293, 2294-2295, 2296-2297, 2298-2299, 2300-2301, 2302-2303, 2304-2305, 2306-2307, 2308-2309, 2310-2311, 2312-2313, 2314-2315, 2316-2317, 2318-2319, 2320-2321, 2322-2323, 2324-2325, 2326-2327, 2328-2329, 2330-2331, 2332-2333, 2334-2335, 2336-2337, 2338-2339, 2340-2341, 2342-2343, 2344-2345, 2346-2347, 2348-2349, 2350-2351, 2352-2353, 2354-2355, 2356-2357, 2358-2359, 2360-2361, 2362-2363, 2364-2365, 2366-2367, 2368-2369, 2370-2371, 2372-2373, 2374-2375, 2376-2377, 2378-2379, 2380-2381, 2382-2383, 2384-2385, 2386-2387, 2388-2389, 2390-2391, 2392-2393, 2394-2395, 2396-2397, 2398-2399, 2400-2401, 2402-2403, 2404-2405, 2406-2407, 2408-2409, 2410-2411, 2412-2413, 2414-2415, 2416-2417, 2418-2419, 2420-2421, 2422-2423, 2424-2425, 2426-2427, 2428-2429, 2430-2431, 2432-2433, 2434-2435, 2436-2437, 2438-2439, 2440-2441, 2442-2443, 2444-2445, 2446-2447, 2448-2449, 2450-2451, 2452-2453, 2454-2455, 2456-2457, 2458-2459, 2460-2461, 2462-2463, 2464-2465, 2466-2467, 2468-2469, 2470-2471, 2472-2473, 2474-2475, 2476-2477, 2478-2479, 2480-2481, 2482-2483, 2484-2485, 2486-2487, 2488-2489, 2490-2491, 2492-2493, 2494-2495, 2496-2497, 2498-2499, 2500-2501, 2502-2503, 2504-2505, 2506-2507, 2508-2509, 2510-2511, 2512-2513, 2514-2515, 2516-2517, 2518-2519, 2520-2521, 2522-2523, 2524-2525, 2526-2527, 2528-2529, 2530-2531, 2532-2533, 2534-2535, 2536-2537, 2538-2539, 2540-2541, 2542-2543, 2544-2545, 2546-2547, 2548-2549, 2550-2551, 2552-2553, 2554-2555, 2556-2557, 2558-2559, 2560-2561, 2562-2563, 2564-2565, 2566-2567, 2568-2569, 2570-2571, 2572-2573, 2574-2575, 2576-2577, 2578-2579, 2580-2581, 2582-2583, 2584-2585, 2586-2587, 2588-2589, 2590-2591, 2592-2593, 2594-2595, 2596-2597, 2598-2599, 2600-2601, 2602-2603, 2604-2605, 2606-2607, 2608-2609, 2610-2611, 2612-2613, 2614-2615, 2616-2617, 2618-2619, 2620-2621, 2622-2623, 2624-2625, 2626-2627, 2628-2629, 2630-2631, 2632-2633, 2634-2635, 2636-2637, 2638-2639, 2640-2641, 2642-2643, 2644-2645, 2646-2647, 2648-2649, 2650-2651, 2652-2653, 2654-2655, 2656-2657, 2658-2659, 2660-2661, 2662-2663, 2664-2665, 2666-2667, 2668-2669, 2670-2671, 2672-2673, 2674-2675, 2676-2677, 2678-2679, 2680-2681, 2682-2683, 2684-2685, 2686-2687, 2688-2689, 2690-2691, 2692-2693, 2694-2695, 2696-2697, 2698-2699, 2700-2701, 2702-2703, 2704-2705, 2706-2707, 2708-2709, 2710-2711, 2712-2713, 2714-2715, 2716-2717, 2718-2719, 2720-2721, 2722-

There seems to be a current abundance of utility packages aimed at the printer user. No hard thing either: the printer seems to be the first and most popular addition to anyone's computer. Green Star, with Quattro (see issue 11) to its credit, has introduced a product that will enable a number of popular word-processors to give essentially unshared (shared) text.

Protect. Tabbed and many other word-processors make a line of text finish flush against the right margin - that's what "justifying" means - by inserting extra character spaces between words. The trouble is that some spaces on the line will be twice as big as others.

Tapco intercepts data for the printer and inserts equal spaces between all words on the line. "Microspacing" is an often-forgotten phase for this padding-out technique. Redefined characters (for instance those formed by printing one character on top of another) and embedded printer control codes — which select italics or bold print, for example — are all correctly handled by Tapco. Microspaced text results in a much neater and more readable document — altogether more professional-looking.

Taggers can be configured to work with virtually any printer. It's a matter of running the software's printer driver (such as the Remstar DMP 3000 and ManuMaster MTH0) and designated printers (for example, the Quiet-Data DWP1150 or Brother HL-35). If your printer does not accept Epson codes, there's still hope: contact Epson. Then, you should be able to help you set up Taggers to suit your system. There are two exceptions to this rule: dot-matrix printers that can't produce bit-image graphics and text on the same line as disordered printers that can't lower their carriage pitch (used in increments of 1/6 inch).

Using an **RG** command supplied by **Tapepro**, (18), you can set the number of columns. By setting the printing width to greater than the total column width you can switch **Tapepro** off. This is handy as **Tapepro** increases printing time through extra movement of the print head. If you are using **HIG** (near-letter quality) print, use **Tapepro** only on the final version of the document. It saves print head and ribbon wear.

Overall it's a well-presented package with a simple customization program that lets you make the most of your word-processor and printer. *Tempo* is just the thing for producing professional-looking documents at a small price.

■ Microganged text gives students a professional touch. ■ If your printer can't produce professional text, let PagePro do it. ■ Can be used with many word processors and even more printers.	■ Your printer must be capable of mixing text and graphics on the same page. ■ Printing does demand a slightly...
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64K SILICON DISC



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- It cannot be used with CP/M+ as this is already used in the second bank.

£29.95 including VAT (404 and 6128)

- It is supplied with ROM software which transparently updates CPM's own software clock therefore also maintaining a very accurate CPM software clock. The module can be used for date stamping of CPM's discs, and any applications which require periodic Real Time Control.
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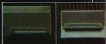
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ACTION TEST

MASTERGAME

Mag Max

Imagine

48



Mag-ic Max

Having stressed the importance of originality last month, for Mastergame this time around we choose a good old-fashioned shoot-'em-up. It brings to light another problem: how original is the convention of an arcade game?

If it mimics the arcade version exactly should it be considered unoriginal? I don't think so because you can't presume that people have seen a game in the arcades or on another computer. What matters is whether it's new to the CPCs or not and how well it compares to other CPC games.

Mag Max is a good example. Although it's been in the arcades and on other machines for some time, there still isn't much similar to it on the CPCs. It isn't very original but has all the elements a classic shoot-'em-up needs.

Barbarian can't claim to have much in the originality department either, but it's the best combat game yet. As well as great fight action it has humour and gruesome graphics. There are a couple of crackers from Mastertronic, notably the conclusion of the Magic Knight games, *Shredderbringer*. If you want your world turned upside-down then *Triaxos* can oblige with anti-gravity puzzling and *Thing Strikes Back* with topsy-turvy bouncing.



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BARBARIAN

Price: £19.99, £29.95, £44.95, £69.95 or £99

The advertising was great and it's yet another combat game, but surprisingly enough there's a lot of class about it. It's nearly two years since *Play of the Day* for the Amstrad CPC started off the combat stream of combat games and it's possible that this could revive the genre.

The gameplay is simple enough and hasn't changed since *Pat*. Two guys fight it out in 2D and one of them gets hit enough times. In this fight the combatants are armed with swords and you've got to bumble to release a fair process (parry). There are three forms of fight: one player against the computer in practice, one player against the computer for real, and two players.

There are two different backgrounds for the practice fighting and two for the real thing. You can only play with two players in the practice mode, where the rules are also different. The four backgrounds are all superbly drawn and detailed, adding a new atmospheric touch.

The fighters are all the same muscle-bound warriors but with varying flesh tones and different-coloured armour. They are attractively animated through 16 possible moves with many interesting frames. The moves are split into two upper movements without the first button pressed and attacking strikes with the bottom pressed.

The more delicate movement commands include forward and backward rolls, crouching, jumping and protecting the head and body with the sword. The attacks are more varied including a head-butt, each of which (against enemies) and overhead chop.

Whenever an attack connects the opponent's red flesh indicates the hit.

This will reduce the strength of the opponent - it starts off at six and is reduced to a half for every hit. When no strength is left the fighter will collapse and get dragged off screen by a little green monster looking like a cross between a roach and BT.

There is an even more spectacular way to dispatch opponents, which is not for the faint-hearted. If you successfully time a flying kick (tap it will) and the fight immediately your opponent's head flies into the air and his

torso flops to the ground spouting blood. This gruesome sight isn't easy to achieve except against the early computer opponents. It's really hilarious when it happens. The green monster will appear once again. As well as dragging away the body he inconspicuously loots the bones off screen.

There are seven computer opponents of increasing cunning and skill. The harder ones require a lot of moves rather than just relying on two or three. The two-player game can obviously be a lot more fun and unpredictable. Each bout has a time limit. If you leave a fighter unmoved he'll turn to you and drop his shoulders.

The graphics and animation are unsurpassed, the music excellent, the action difficult, and the sense of honour great. However, let's face it: it's a combat game pure and simple. The basic concept and rules haven't changed at all since the days of *Pat*, and I find it hard to get excited about the format. What the game has going for it is that it combines the graphics, animation, speed and gameplay of all the other combat games to make a very playable one. You'll be delighted at first, but with all the ratings-up in the world you can't dispute the basic gameplay. **BM**

What the game has going for it is that it combines the graphics, animation, speed and gameplay of all the other combat games to make a very playable one. You'll be delighted at first, but with all the ratings-up in the world you can't dispute the basic gameplay. **BM**

FINAL FIGHT TARGET SCORE
Defeat 3 computer fighters

The Verdict	
GRAPHICS	94%
☐ 4 detailed, atmospheric backdrops. ☐ Fantastically animated characters	
SONICS	81%
☐ Pleasant tone plays throughout the action.	
GRAB FACTOR	90%
☐ Delightful touches of humour. ☐ Instantly playable with two actions	
STAYING POWER	83%
☐ Computer is tough and two players is always fun. ☒ Still basically a combat game - a strong limiting factor.	
AA RATING	89%
☐ The best of the combat games.	

TRIAXOS

Price: £19.99, £29.95, £44.95, £69.95 or £99

Please imagine an 'Isos' area: the game takes place in a 4x4x4 cube where it's easy to get disoriented. There are 16 rooms in a 4x4x4 cube. For the game has a possible 16 locations, for each room has three faces which can be used. This constantly confusing state of affairs is at the heart of the game and will need plenty of thought and mapping.

The cube is a prison in which you have to locate a prisoner and get him out alive. The cube is also populated by deadly robot guards and other vicious defences to stop you.

Rooms are plain and empty, showing only relevant features. What you'll encounter most are doorways, and robots. There are two robots on each room face. There are five levels of robot types that take the corresponding number of hits from your gun to destroy. Robots of level 2 and higher will also poison you from adjacent rooms.

As well as your gun, which has limited ammunition, you can carry grenades and high explosives. The high explosives are particularly useful: you can use them to blow holes in the floor, which after a quick reorganisation becomes doors. Other objects include 4 jeeps, key and equipment, which will be needed to complete your escape.

You can move through doors and drop through holes in the floor - as long as you don't drop through two floors. That is, to

re-orient so that you're effectively walking on a wall, you need to find a hole-15. There are cracks in the middle of some rooms and transport you to the middle of one of the walls.

The Verdict	
GRAPHICS	48%
☐ Some nice action and explosions. ☒ Most rooms are plain.	
SONICS	44%
☐ Good title tune. ☒ Effects are limited.	
GRAB FACTOR	84%
☐ Love the 3D cube idea and its effects on orientation. ☒ A lot of successful and confusing at first.	
STAYING POWER	86%
☐ Requires lots of thought and planning. ☐ Plenty to explore, map and discover.	
AA RATING	84%
☐ An interesting new twist in a genre that will really look you.	



SECOND OPINION

I think this is one of the best-generated games this year. The graphics (colorful and detailed) are superb, animation is flicker-free and fast (nifty previous number games), sound is convincing and effects amazing. It's a thrill to play the game; the action is furious and wildness. (Only marbles against up the overall effect.)

When four background scenes, make heads that move when a player is in an EP looks like that drags across all the battlefield and a great noise when either your head or your opponent's head gets cut-off.

A wonderful game that deserves to be played. Right

GREEN SCREEN VIEW

Couldn't be clearer

You will not see yourself the right way up, but all the doors and holes will have moved.

This concept takes a lot of getting used to, but in practice it's okay as long as you remember which wall you're on and where you're headed. Mapping will be crucial to eventual success: you've got limited explosives with which to blow open holes. However, any map you can draw is also bound to be awkward, because it will need to be three-dimensional as well.

Rooms contain other structures that may come in handy. There's an energy refuser, an ammo replenisher and a cloning booth where you can create an extra life. However there are also nasty alien rooms where far-seeing creatures scan the floor and deplete your energy if you get trapped for them.

Although it's fairly simple in concept and not much to look at, the addition and challenge lie in the mental dexterity that has to be used to cope with the 3D rules and its properties. You can't just rush around hoping you'll come across something; you've got to work out where you're going and how. Combine this, tonnes of robot guards and a 30-minute deadline to rescue the prisoners, and you've got an excellent game.

97%

FIRST-DAY TARGET SCORE

97%



The rule prism showing your location

This shows the three sides of the room and the doorway revealed

Where lies beyond the door?

Robot guards floating away

Action, energy, grenades and explosive gauges



SECOND OPINION

Teams take 3D games one step further. Instead of just moving from one room to another, you can also move up and down onto different planes. Can be confusing, but with a hint to existing puzzles. Although the rooms are generally bare, the occasional robot or other object is detailed.

Right

GREEN SCREEN VIEW

Clear

MAG MAX

Images of Max and the alien invaders

Great games come in many forms. Although I've reviewed shoot-'em-ups in the past as novelties and pastimes, when they're done well they are worthy addictions. Classy shoot-'em-ups have more action than a roller coaster and the one guarantee you a serious case of Spacewar Flipped Bits.

All this will be music to the ears of anyone who's been waiting for the game. It has risen quite a while to convert. I can't attest to its authenticity in terms of the arcade version, but I can tell you it's a great game. The scenario, thankfully short, tells you the human race has met its ultimate end, leaving just a robot to battle the alien invaders.

The robot is in power: one of them is under your control; the others you have to find. You have to progress through scrolling levels of mayhem, both above and below ground, against an ever-increasing number of aliens.

The game is split into levels, each one having both above- and below-ground sections. You can cut between them any time, so that you can travel through whichever one you find easier to deal with. In both cases the screen scrolls from right to left, but the perspectives are different.



Up and you're given a 3D view

Center to take you underground

Above ground you have a 3D view with the ship skimming over the surface. In the screen this switches to a 2D view. In both instances the ship can move freely about the screen, but can't stop the steady scrolling that reveals the enemy forces.

As you travel your way across the screens you can find the bits of the robot which will

give him additional firepower and a new weapon. However, hanging on to them too long can be a problem. The first add-on module looks like a utility belt and provides the upper half of the body. When the legs are added it gives you a wider field of fire - but also a bigger target for the aliens. A lance can also be added to the body section to destroy

otherwise indestructible objects.

The surface aliens come in all sorts of shapes and behavior patterns. Some are static and blast away at you; others dodge around trying to trap you. Different types of each are revealed as you get further through the game. If you run into them or their bullets you will lose a portion of the robot. When there are no pieces to lose it will go down the screen.

Underground the aliens all fly and move in patterns. Like the surface ones they tend to come in waves. All the bullets are aimed at your current location when fired, so you have to be constantly on the move around screens to avoid their deadly accuracy. Four can

SECOND OPINION

This game is enjoyable, highly playable and guaranteed to give you a sore finger or two at the end of the day. It's good to see some after being put into a shoot-'em-up... Images deserves a pat on the back. Fast, colorful and addictive as all shoot-'em-ups should be. **Right**

GREEN SCREEN VIEW

There's no escaping them in green

firepower also needs to be accurately directed. You can only shoot straight out from the ship to the right of the screen.

At the end of the level you are supposed to run into a dragon that has to be shot by its tail. I didn't notice one - just more and more waves of aliens. The background graphics change between levels, and of course the alien get meaner and more plentiful.

What with constant moving, no auto-aim on the fire button, modes of the enemy and needing a high degree of accuracy, this is a pretty shoot-'em-up indeed. It's worthy the alien's reputation in the name. Fortunately every game in that you can learn the patterns and progress further. There are also regular

MASTER GAME

Here, all fly and shoot occurs on the surface.



The ship goes larger and more powerful as you kill the alien.

"reborn" spots where you will begin after losing a life.

The graphics are detailed, colorful and varied. Combined with a reasonably smooth, slow scroll, it makes an excellent game to look at. The gameplay is demanding but very addictive. The crucial aspect is that of variety: there are so many different alien and attack patterns, a 2D and 3D view, weapons and parts to collect, different levels to move on to.

This is the sort of game that rewards hard work. The longer you play it the better you'll get. You'll certainly come away with a much finer fire finger and a throbbing hand, a sure sign of a good shoot-em-up. It will take you to your gaming limit and still keep you hooked. **EW**

FIRST-BAY TARGET SCORE
90/100

The Verdict

GRAPHICS 83%

- Reasonably smooth, slow scrolling
- Lots of different, colourful alien options

SONICS 42%

- Title tune plays only once.
- Just tapping effects in the game.

GRAB FACTOR 90%

- Instantly tough and addictive.
- Can make progress as you learn the attack patterns.

STAYING POWER 89%

- Lots of variety in the alien and weapon designs (things interesting).
- Challenged to stretch your hand.

AA RATING 85%

- Shoot-em-up fans looking for a challenge will love this one.

a 2D view of the screen

Order to shoot you in the surface



These ships can be removed only with the laser

By this time you get a body part

STORMBRINGER

Reviewed by **DAVE** on **Apple II** and **IBM**

There's not much left to be said about the brilliant series of games starring Magic Knight. No few fans to fight in *Finders Keepers* for really achieved stardom in *Spellbound* and *Knight Three* with the introduction of the "Windmaster" system of window magic. The last in the series now more uses the same system to good effect.

Having climaxed around in the 16th century in *Knight Three*, Magic Knight has travelled back in his own time. However, on the way he's been split into two, leaving you as the good Magic Knight and the OS-White Knight, your dark side. Your task is to merge the two halves of MK to prevent the OS-White Knight, nicknamed Stormbringer, from wrecking havoc in the land.

SECOND OPINION

The final Magic Knight game is not a failure: the graphics are still tightly detailed though still lack color; the innovative window system remains, but the lack of much harder, characterful animation is missed. **Dave**

GREEN SCREEN VIEW

No problem

If you've already played the previous games in the series you'll be right at home with this one. It features the same interaction between characters, Windmaster and magic barriers. However, don't expect that to make it any easier because the puzzle David Jones has constructed are more devious than ever. (See David Jones interview in *AA 18 - 58*.)



If you're unfamiliar with Windmaster here's how it works. The Two button is used to call up a window menu from which all the other menus can be accessed. This menu contains five standard commands: pick up an object, drop an object, take object from character, give object and examine. It can also feature a number of additional commands depending on what objects you are carrying. These allow you to cast spells, read objects, command characters, wear things, smell, drink and other things.

Most of these main commands will produce submenus that contain either information or a further list of choices. For instance if you want to examine something you have to decide whether it's an object, character or yourself, which object is character, and finally see the information relating to your choice. All this information links up as a new window and is repeatedly presented.

There are other characters in the game who move around independently of you. You can give them objects or take them, depending on whether the character is co-operative. You're also got to look after their welfare and can request help from them if you think there's a task they can perform which you can't.



Watch out for Gremor the Fearwell, who's an extremely mean-looking monster and can end the game with one swipe. Another deadly problem is a cloud that floats around, produced by the Stormbringer; it will trap you with lightning if you stand around too long.

There are no significant improvements in this latest MK adventure, but then, quite frankly, I didn't need any. Even if the previous games will be deliberately happy with the same puzzles, characters and humor, while over-coming to the series will probably run out and bury the previous games as well.

The graphics and animation are done again, adequate and a decent in-game time is provided. As ever you don't just get a hint, though, you have to pick up and wear a personal steed in order to beat it - cute, huh? I'm still full of admiration for the series of arcade adventures and it's funny that they should end on this high note. **DAVE**

FIRST DAY TARGET SCORE
10%

The Verdict	
GRAPHICS	65%
☐ Some detailed backgrounds and characters. ☒ Generally poor use of colors.	
SONICS	70%
☐ Quite rare from personal stereo.	
GAME FACTOR	86%
☐ Still got a great sense of humor. ☐ Windmaster is as enjoyable as ever.	
STATING POWER	89%
☐ Just as tough as, if not tougher than, predecessors. ☐ The puzzles are superbly worked out.	

AA RATING **88%**
☐ Hard to believe that is a budget game - brilliant.



Gremor the Fearwell looks mean and ugly



THE FINAL MATRIX

Windows, 2.05 GB, 64-128 MB, periods at large

Here's the name of the new character from *Matrix*, and if *Genesis* follows past patterns you can expect to see him pop up in more games. *Harold* is a *Supercop* - a mechanized *ultraform* - who has to rescue other *Supercops* from the clutches of the *Onions*. This means he has to enter the *Matrix* and find the *homages* in each of the *Matrix* locations.

SECOND OPINION

Enter Harold *Genesis*'s new character - not as cute as those who have gone before, but guaranteed to help you out of sticky situations. *Matrix* is tough to play - there are so many dangers out there that it takes a strong will to continue playing.

By M

GREEN SCREEN VIEW

All visible

You can choose which location to land in, and learn *Harold* down to a T. Each location is a mass of rooms, corridors and walls that cover several screens. There's an AI and you can turn them from an unusual overhead angle. They're quite detailed, like most of the characters that inhabit them, but lack colour and realism.

Feeling each of the *homages* isn't easy. *Genesis* takes out its own *toys*. *Harold*, armed with one of four devices, three types of weapons and a *chumpkin*. The *chumpkin* allows you to fly over things but has limited fuel and can't be used for the *homage* for a return journey. The weapons, in increasing

order of strength, are a *lasseter*, *negotiator* and *negotiator*.

The weapons come with limited ammo but the *stronger* ones are useful for dealing with *Onion* guards. It will take a number of hits with any of the weapons to destroy a *guard* robot. Even a *negotiator* takes up half a clip.

The *chumpkin* has different effects. Some will shoot at you, weakening your strength others just try to push you around. Most of all are the *mines*, which are instantly fatal if you bump them. There are also *squares* on the floor which can trap energy or bounce you about.

Things aren't all bad. There are *reloading* squares. *TV* monitors that let you study a map of the location, *bounce* life to take you up steps and other handy construction blocks. This is where the puzzle element of the game comes in, particularly when you've found a *homage*.

Homages will follow you around, but *driving* them up steps and over other obstacles isn't easy. You've got to make it back to your start square to lift off back to your ship. All the *homages* have to be rescued within a time limit - tough.

It's a nice idea for a puzzle-action game, and it's quite well carried off. My reservation is that it's rather difficult to get into and not too rewarding of good efforts. However, it will present an excellent long-term challenge. **B+**

FIRST-CLASS TARGET SCORE

Rescue one *homage*

Beginner's Guide to the Matrix of things



The Verdict

GRAPHICS 68%

□ Detailed, 10 locations and characters.

■ Poor use of colour.

SONICS 45%

■ No music just a few effects.

GRAB FACTOR 65%

□ Good features like various floor pads.

■ Difficult to get into.

STAYING POWER 74%

□ Excellent mixture of action and puzzle.

□ Many locations and all traps.

AA RATING 68%

□ Could be an excellent core series.

ENTERPRISE

Windows 95, 4.05 GB, 128 MB, periods at large

Here we have two, topped-off ideas in one game. The title is obviously trying to steal the *Star Trek* franchise, while the game is an unashamed *Star Trek* derivative. Trying to match a game of *Star Trek* culture is brave. If you succeed you'll have a number one hit, but if you fail you'll get heavily criticised for producing a rip-off.

Some promised 12 billion planets to visit, which is all very well but *Star Trek* actually has all the same. You begin the game visiting one of them. You can enter the atmosphere in land. Alternatively you can accelerate off into space or hyperspace to another planet.

Before landing on a planet you need to get ready cargo to trade with. This seems to flow naturally about in space, and you collect it just by flying near. The only other thing you'll encounter is police ships. There's no laser or shoot-em-up element which will disappoint many *Star Trek* fans.

SECOND OPINION

There are millions of planets to explore. However, they all seem very similar. The graphics are good, the *Star Trek* references to *Star Trek* - and the *Star Trek* references are very better. But there's not enough originality to make it a winner. **B+**

GREEN SCREEN VIEW

Clear

When touching down on a planet you have to fly the ship into a landing strip, just like an ordinary flight simulator. On the ground the trading begins. An alien appears and starts negotiating away. You have to try to understand him and then transfer money-making deals to your cargo.

Services are available on the planets for repairing and refuelling the ship. For the most part the inhabitants are unhelpful and unattractive, sometimes making it worse what ever.

The Verdict

GRAPHICS 59%

□ Newly invented alien face.

□ Good spacing cargo in space.

SONICS 29%

■ Intensely annoying continuous beeping.

GRAB FACTOR 64%

□ Conversations will interest you.

■ Hard getting anything done at first.

STAYING POWER 34%

□ 12 billion planets to visit.

■ You'll have seen it all after two.

AA RATING 57%

■ Nice idea but rapidly becomes boring.



I quite liked the game but it's too rough around the edges to be particularly enjoyable. The conversations don't develop enough for them to be worth including. You need either a lot more complication or a more structured procedure to follow. I found it all got quickly repetitive and lacked anything to get your adrenaline going. **B+**

FIRST-CLASS TARGET SCORE

Find and trade cargo



CHRONOS

Atari, £19.95, 100% joystick

Shoot one-way across to the far side of the screen. This one's of the right-to-left shooting variety. It's composed of six progressively more difficult maps and an end-of-the-world-to-correct-into-parade animated space shot.

Your ship appears on the left of the screen for cut-by most of the way across to the right. However, you'll want as much warning as possible of incoming hazards, so most of your

time will be spent on the left. As you fly steadily through the zones you'll encounter many alien buildings, floating platforms and crevices, all of which are quite detailed but composed of just one colour.

Crashing into any of the landings is fatal, but most of a problem are the alien craft that fly on from the right of the screen. These start off with single spheres and bombs that fly straight and are easily dealt with by your forward firing laser. Amazingly, the alien, yourself, the laser fire and explosions are all exactly the same colour as the landscape - now, what a programming achievement!

As you progress through the zones the alien get gradually bigger and will start moving around screen more. This can cause you problems, particularly when trying to manoeuvre in a tight spot.

On the whole the game is rather easy, your only problem is getting a fixed fire finger. The last couple of zones get quite tough, but this doesn't lift the monotony of the task you're facing. I'm completely fed up with games that don't use the CPC's colour facilities: this one's plain relative. **SW**

FIRST-DAY TARGET SCORE
30,000

SECOND OPINION

The game looks as though it has been downloaded from a lower machine with little alteration: the graphics are uncoordinated albeit detailed; scrolling is jerky; music consists of blips and bongs. Not much fun even at £2. **SpM**

SCREEN SCREEN VIEW

All visible.

The Verdict

GRAPHICS 44%

- ☐ Detailed scenery and explosions.
- ☐ Where's the colour?

SONICS 14%

- ☐ Tapping notes only.

CRAB FACTOR 47%

- ☐ No shortage of things to shoot.
- ☐ Rather slow action.

STATING POWER 41%

- ☐ The long zones to get through.
- ☐ Too easy and lacks variety.

JA RATING 45%

- ☐ Not much imagination went into this one.

NEMESIS THE WARLOCK

Atari, £19.95, 100% joystick

In last Nemesis has released this game for the Amstrad. I've had a friend offering me for weeks about how good it is for his computer. So I loaded it with impatience and high hopes.

You play Nemesis the Warlock. You spend 10 levels on where to slightly animated cripplingly fast game before the end, and to reach the heart of Torquemada's empire. To do this, you must kill a certain number of your diabolical followers - known, obviously, as Terminators - at each screen. This will allow you to search around for the exit.

You have a sword, which you can use to wipe kinds in the Terminators, and a gun. You can use the gun only when you have found bullets for it. The bullets are hidden in small boxes, closed around the screen. In every box there are 12 bullets.

When you shoot a Terminator, its deflated body will fly into the air and may where it falls. This drops up the screen a bit too much, especially when it's firing it.

At the bottom of the screen is a display showing you how many bullets you have left, how many more Terminators are left for you to shoot before you can go to search of the exit, and a graphic representation of your boss as it gets beat dry by the evil influence of Torquemada. A picture of Torquemada's face gradually appears as he gets stronger.

I felt that the graphics for this game done. The animated walk of both Nemesis and the Terminators is jerky and uncoordinated. But I'm glad to say there are some nice touches in the animation department. When you shoot, the fire pull on the trigger makes Nemesis pull the gun from his shoulder. Every subsequent pull, until you move, shows the gun moving up from the recoil of the shot.

Sound is certainly nothing to write home

about and lacks any realism. We all it could have been, but still isn't a bad challenge. **CB**

FIRST-DAY TARGET SCORE
Reach the fourth screen.

SECOND OPINION

It all seemed very easy in our first shooting, platform and little else. You'll certainly have to play along for some time to complete it, but more variety and action would have been appreciated. It needed either more skill to enter your opponents or many different opponents themselves. **SW**

SCREEN SCREEN VIEW

Perfectly clear.

The Verdict

GRAPHICS 47%

- ☐ Funny characters.
- ☐ Quite expensive scenery.

SONICS 10%

- ☐ Bizarre threat clippers.

CRAB FACTOR 41%

- ☐ Easy to get into.
- ☐ Dead bodies clog up the screen too much.

STATING POWER 49%

- ☐ Added difficulties once in later levels.
- ☐ Tough task to complete.

JA RATING 46%

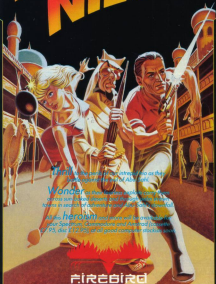
- ☐ Not a bad instance of the comic.



Nemesis stands amid the bodies of defeated Terminators.



MYSTERY OF THE NILE



Thrill as the party of an adventurer as they
battle against the evil of Abu Bakr!

Wonder as their journey unfolds complete
across sun baked deserts and through hidden
towers in search of adventure and Abu Bakr's downfall!

Admire heroism and more will be available for
your Spectrum, Commodore and Amstrad (software
£1.95, disc £12.95), or all good computer stockists near

firebird

BALL CRAZY

Atari 2600, 1.1M ram, joystick or key



Authors keep coming up with new ideas for bouncing games and The Firm has produced one that will once again try to persuade you that you're a pe-pe. It's a one-screen challenge but it's addictive and has plenty of depth.

At the bottom of the screen is a row of five colored blocks. A happy, smiling character, wearing a blue shirt and brown pants, appears on the blocks and bounces up and down as if there's absolutely nothing wrong with the

The Verdict

GRAPHICS 83%

- Excellent use of color and shading.
- Nicely drawn and animated sprites.

SONICS 38%

- Not many effects and no music.

GAME FACTOR 84%

- Simple, original concept to get the game with.
- Good range of bonus features.

STAYING POWER 81%

- Gets much tougher as more blocks arrive.
- Eventually leading to victory.

AA RATING 82%

- Great bounce game that should please everyone.

THING BOUNCES BACK

Atari 2600, 1.1M ram, joystick or key

In fact Thing Bounces back, forwards, straight up, down, off the walls, floor, ceiling and around the inside of your head, ending up with your controls doing a great impression of a tumble-



WORLD GAMES

US Gold, £14.95 vms, £14.95 hls, joystick or keys

I know, it's another one of those sporting games, but it is a fair variation on the overall theme. Training the maverick hasn't been recognized by the Olympic committee yet, has it?

Need I really explain the format? Oh, all right. You are an athlete, entered in the World Games. You must fly around the world, competing in eight strange events. The first is the weightlifting, in Praha. You choose your weight and start your lift. When you think the time is right, dip under the bar and push up. If you think you have it under control, jerk the bar up and try to straighten your arms and legs. When the judges are satisfied, they will light their lights. You have the option of competing in the match or the clean and jerk.

The Verdict

GRAPHICS 73%

- Very nice animation in places.
- Most characters have a lot of detail.

SONICS 54%

- Nice title tune.

GRAB FACTOR 67%

- Practice option is useful.
- 6000 life is tough without remote tape-control.

STAYING POWER 74%

- Eight different events to compete in.
- Tough high-score targets to beat.

AA RATING 70%

- Another Champion-type game.

Head off to Germany for the barrel-jumping. Choose from many barrels you want to attempt and start to slide toward them. Left and right pushes on the joystick will push the slider's left and right legs.

SECOND OPINION

Like *China* I long ago got fed up with sporting games, but still quite enjoyed this one. *Events like the weightlifting and diving need skill and timing. Jog-jogging is a nice idea for better implementation.* The others are average events which you can get better at with practice but they don't really get the adrenaline pumping. Perhaps it's time for another good old-fashioned joystick-wrecking simulation.

EW

GREEN SCREEN VIEW

Eight events are all alike.

Following these are cliff-diving off Asapolo's infamous La Ostrera, French slalom skiing, jog-jogging in Canada, ball-jogging in the quest of US of A, water-skiing in Sweden, and finally, snow-skiing in Japan.

What can I say? I got tired of this type of game after *Proct* and *Field* in the arcade. The variation in events with this one hardly engenders my enthusiasm. Still, there are enough nice touches to bring a smile to the otherwise blank look on my face. The weightlifting is the most realistic yet and is good fun to practice, using the "practice one event" option. The jog-jogging and the ball-jogging annoy me, but you usually get the odd couple that do in this sort of game.

CB

FIRST-DAY TARGET SCORE

Quality in all events.

Heavy training for a year of weightlifting.



STRIKE

Mastromonte, £12.95 vms, joystick or keys

Ten-pin bowling is not one of the first things that come to mind when I think of possible computer simulations. Unfortunately, I think Mastromonte fell into the "need for originality" trap with this one.

The Verdict

GRAPHICS 63%

- Good animated pickup of pins.
- Good scenery.

SONICS 33%

- Fardist.

GRAB FACTOR 49%

- Difficult to master.
- Pin pickup game immensely tedious.

STAYING POWER 53%

- US\$6 required to achieve any sort of completion.
- Bowling is limited in its variety.

AA RATING 44%

- Too boring for me.



As with "live" ten-pin bowling, the object of the game is to knock over ten pins with one.

You control the line of the ball by moving the bar on the screen left and right at the top of the alley. When you think he is in the right position, you press Up, and he will start his run up. Pressing Fire will make your balls hold the ball ready to drop in. When you release the Fire button, he will let go of the ball. If you release the ball too soon, your ballman will drop it. Releasing it too late will cause him to drop it on his foot. Service him right.

The instructions go into great detail about the rules of the game. I got lost when it started

talking about "rules" and stuff. I'm sure it will make sense to you if you are a bowling fan.

SECOND OPINION

I like ten-pin bowling but computer simulations of it leave me cold. I liked the graphics despite this thinking there's "blocky-balls" (The real problem is speed; you don't have to simulate the tedious process of setting up and while the pins are moved, do you? Take my advice and go play the real thing.)

EW

GREEN SCREEN VIEW

No pattern and slow.

thinking about "rules" and stuff. I'm sure it will make sense to you if you are a bowling fan.

Well, the graphics are blocky-balls, translated as "not very good." I think - But the sound is tolerable, but I think there is an attempt at a few there somewhere. The only nice touches are the lifting of the pins and the ball dropping on the foot. It's funny at first, but oh boy, do you grow to hate, curse and despise it.

CB

FIRST-DAY TARGET SCORE

Best computer

GALLETRON

Atari 2600, C-64, MSX, Apple II, Intellivision

Another attempt to help your porche money last. It's a simple game but a fun one. You control a "Tiecy" surface skimmer, which you must use to blow up communication satellites. These satellites are dotted around an area called "No man's land," represented by 30 dark screens.

The Verdict

GRAPHICS 82%
☐ Pretty and almost colorful explosion
☒ Characters are small and monochromatic

SONICS 42%
☒ Horrible title tune

GRAB FACTOR 66%
☐ Lots of objects to shoot or pick up
☒ Rotational ship control

STAYING POWER 69%
☐ A long and arduous mission to complete
☐ Three levels of play

AA RATING 82%

☐ Another fun game for Steve Grant's credit list

Your surface skimmer is equipped with the latest technology. You have a processor, proximity blaster — a laser gun. You also have a turbine magnetron pulser.

Movement is rotational. Each rotation amounts to a 45-degree turn left or right. You can move forwards or backwards. It is quite useful to be able to move backwards when confronted by an enemy missile coming towards you. Every now and then, you will



Small but deadly plane features

SECOND OPINION

This is a simple but effective game that at the time will challenge few people. You won't get a major game but it will provide plenty of enjoyment and reasonable difficulty. I preferred Steve Grant's game to Galletron, but this isn't bad either. **B+**

GREEN SCREEN VIEW

Dark colors — can prove arduous

come across a laser gate between two tall towers. Shooting one of these tall towers will blow up the laser gate, allowing you to get through it.

Dotted around are supplies, pick them up

by passing over them. They include fuel, laser cells, extra lives and a bonus. Once you have blown up a satellite, you will be transported to the next area. Destroying nine areas will take you to Galletron. Once here, you must destroy the central penthouse, which is in the form of two large Tiberians and a central communications dish. If you destroy all three, you have won the war.

The graphics are in a single color, with very little detail. The scenery is dark and dull. The gameplay is good, and easy to get into, even though the control of the surface skimmer is rotational. Sound effects are almost nonexistent. **C+**

FIRST-DAY TARGET SCORE

0.000

HOWARD THE DUCK

Atari 2600, C-64, MSX, Apple II, Intellivision

What an incredible waste of all based products the Howard the duck line may have turned out to be. This line was hardly saved, and the game? Well, read on my little creature.

Game what? You play the part of Howard, a hapless seagull. One out your dark shades and your King Teds. Not so that you look the part, but so you see little of the game! You get paraded over the island more but taken over by the mean speaker called the Duck Overlord. He berates your love notes — Beverly and Phil — to some dirty reason. Well, you have been challenged by him to come and rescue them from his volcanic island.

The first thing you must do when you land, is to feed the back-pack you dropped earlier. Don't worry, it's not difficult. It's just round the corner to the right. Your only enemy, is the Mean Storm. You must take this at a running jump. If you don't clear it, it will drag you back to where you jumped from.

The next difficulty, is the water, which you cross with the use of the solar-powered jet pack which you just happened to pack in your back-pack. Once across the first stretch of water, you will encounter something like Mean Maniacs. These will try to kick you off the island. Use your Quack-It to kick them off instead. Eventually, you will reach the rope bridge which you must cross while dodging the rotten rocks which are hurled towards you. Once across, you are automatically given

your Uplight fly. This enables you to fly to the top of the volcano. Once inside, you must avoid the many obstacles which the mean bird throws at you. When you have him in your sights, you must shoot and kill him. From that point on, it is not complex. You must shut down the volcano by flipping a lever.

Do pardon the small injection of humor in this review, but I had to do something to break it up. Not a good game. Graphics are adorably bad (TV — 3.0), play animation and poor backgrounds standard. Sound is a definite no-no. Playability cannot be expressed without cursing. **C-**

FIRST-DAY TARGET SCORE

Was the Volcano

SECOND OPINION

There were some nice ideas in the game but they didn't translate into decent gameplay. There isn't enough variety to keep you interested, especially looking around for my idea of fun. I haven't seen the film, and as far as Howard I'm rather glad. **B+**

GREEN SCREEN VIEW

No problems



The Verdict

GRAPHICS 14%
☒ Dull and repetitive background
☒ Stupid animation

SONICS 11%
☐ Creaky message

GRAB FACTOR 42%
☐ Tough task to complete
☒ Repetitive start process

STAYING POWER 27%
☒ Higher levels are too hard
☒ Too much task involved in landing off the island

AA RATING 11%

☒ Like the film, a waste of tape

COSMIC SHOCK-ABSORBER

Parsons, 26 R1 sec, 2.4 R1 sec, joystick or key

It's a bit of a novelty to find a shoot-'em-up where you not only have to blast away at lots of aliens but repair your equipment along the way as well. This gives you two distinct game sections: a 3D shoot-'em-up and a turn-based, two-clock-gate replaying games on a circuit board.

The 3D blasting puts you up against waves after waves of alien craft of different shapes and sizes. You start off with just circles flying at you, followed by the fighters (remember Star Wars?), flying birds (reminiscent of Starfighter) and spinning firing saucers. They don't vary much in their behaviour, just flying straight at you.

You can move your ship around to try to evade the aliens, but there aren't any sights, and being accurate with the joystick does't seem too easy. This means you just wander around screen, blasting away and letting aliens land randomly. All the time your laser energy and shield power will be falling under the pressure of the attack.

You have to develop a set number of ships on each wave to move onto the next. The number increases for each successive wave.

While all this blasting happens is going on you may notice an icon flashing to indicate a part of the ship has failed. You have to access a repair screen where there's a circuit diagram. You've got five seconds to study it and then one or more of the components is removed. You have to replace it with the right

replacement component within a time limit. If you fail, the game ends.

Apart from the repairing I found the whole thing rather boring, not helped by a bug which made terminal repairs quite frequent. The replaying screen is quite little skill, although the graphics have been nicely programmed. Looks to have suffered badly in conversion.

BFW

FIRST-DAY TARGET SCORE
1000

Is your system ready for this cosmic shock?



SECOND OPINION

An average game with some pleasant graphics and pleasing musical tunes. The task which involves a lot of shoot-sapping leads to get repetitive though.

BFW

GREEN SCREEN VIEW

No trouble in this department

The Verdict

GRAPHICS 63%

- ☐ Some good use of vectors.
- ☐ Well-designed screen and windows.

SONICS 62%

- ☐ Reasonable title musical support efforts.

GRAB FACTOR 60%

- ☐ Circuit-board puzzle adds variety.
- ☐ Little skill in blasting.

STAYING POWER 56%

- ☐ Loss and loss of aliens to plough through.
- ☐ Oh yes, does it get repetitive.

AA RATING 58%

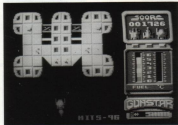
- ☒ Our reviewer had a bug which frequently crashed the game.

GUNSTAR

Finger, 2.07 sec, joystick or key

There always seems to be a market for a left-right shoot-'em-up, which is just as well because software houses keep producing them. They've been relegated to the status of the budget games and rightly so but will provide cheap enjoyment. This one from Forward is a first-stage battle against various types of alien ships.

The first attack wave is made up of asteroid alien fighters which fly down and across the screen doing an occasional turn. They shoot bullets as well. Avoid them colliding with them or the ships will lose one of your three lives. They avoid blasting ships like



Alien ship in sight above

The Verdict

GRAPHICS 57%

- ☐ Colorful ships and explosions.
- ☒ Difficult to see alien bullets.

SONICS 38%

- ☒ Dipping effects and explosions.

GRAB FACTOR 56%

- ☐ Ships are initially easy to spot.
- ☒ Return to stage one when you die.

STAYING POWER 48%

- ☒ Five stages doesn't provide enough variety.

AA RATING 54%

- ☒ No points for originality.

long enough on this stage, and it will clear, letting you progress to the next stage.

Here you have to avoid asteroids whizzing down the screen at different speeds. Dodging is better than taking good timing and some study of the asteroid patterns. You can't shoot them; a collision is fatal.

Stages three and four put you up a more group of jet carriers which shoot at various angles. You have to hit each one a number of times to destroy it, without getting hit yourself.

Stage five is a simple dodging manoeuvre with a watchdog to relief. You then go off and do the whole thing again. All this doesn't make for a very exciting game - but a top-standard shoot-'em-up. The graphics are colorful, but the gameplay is repetitive and somewhat frustrating.

BFW

FIRST-DAY TARGET SCORE
1000

SECOND OPINION

The graphics are colorful and sound effects are usable. Substantially slower in its attack by one major design flaw: say you reach stage 2 and the screen darks to stage 1. So frustrating. Still, at 27 when comparing!

BFW

GREEN SCREEN VIEW

Alien jet carriers' fronts are hard to spot

Football Manager

Lee Dallas of Dale, Cleethorpe, has an excellent cheat for this game of parsimonious ups - which has some of the worst graphics I've ever seen. This, is what, you download

Save the game data, or make your existing saved game data, and load it into a word-processor (we loaded it on Proton). It should possess you with a nice neat file which you can fiddle.

The first line of data contains the following information:

First number: number of team; team numbers are listed later in the data)

Second: how much money you've got.

Third: how much you owe.

Fourth: number of games played this season.

Fifth: number of seasons played so far.

Sixth: the division you're in.

Seventh: number of FA Cup matches played so far.

Eighth: skill level.

Ninth: team morale.

Tenth: manager's name.

The next 64 lines of data are the team names. You can change them quickly from here rather than in the game as a whole. The two numbers following the team name refer to their playing strip and change strip.

Next are the player details, made up of the following information which you can alter how you like.

First comes the player's name.

Second figure will be 0, 1, 2 or 3.

0 means the player isn't in your squad, 1 means in the squad but not selected, 2 means selected to play, 3 means scored.

Third figure: value of player.

Fourth figure: strength rating.

Fifth figure: skill rating.

The last set of data refers to the division, where top and where bottom. The middle two numbers refer to goals for and against.

KILLER RING

Another cheat from RgM. This time it's for the disk version of Assassin's shoot-em-up. Infinite lives and varying degrees of vulnerability are the bonuses of the day. Type in the listing and save it to a disk (it can be the Killer Ring disk). Before entering remove the options you don't require. For example if you don't want invulnerability to bombs, leave out line 200.

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2 * 00 0000
3 * 000000 0000
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```

ALIENS

FR Spooks from Walnut read a previous batch of tips for the Doctor's theme game and think he's returned to much simpler. (More Ripley quickly and

without firing a shot, to name 247, just before the Queen's chamber. Then repeat for one other character, then blow the door to the chamber and kill everything that

moves. Try to kill an alien as close as a wall of grunts. This allows you to clear the wall while keeping the dead alien in view, and no other aliens will see off your back-up.

You'll need to use both characters to clear all the aliens and grunts - just switch when one runs low on ammo. Once you've got the first company member (or switch around to one of the two characters at the start and you'll get the second manager - more getting the game.



Chronos

Infinite lives for *Masturbation!* budget shoot-em-up. The man to thank is *Daniel Debernard* of Iron Clayville, Kansas, the Method 1.

```
1 * 000000 0000
2 * 00 0000
3 * 000000 0000
4 * 000000
5 * 0000 00
6 * 00 000000 0000 00
7 * 0000 000000 0000
8 * 0000 0000 00
9 * 0000 0000 0000
10 * 0000 0000 0000 0000 0000
11 * 0000 0000 0000 0000 0000
12 * 0000 0000 0000 0000 0000
13 * 0000 0000 0000 0000 0000
14 * 0000 0000 0000 0000 0000
15 * 0000 0000 0000 0000 0000
16 * 0000 0000
17 * 000000 0000
18 * 0000 0000 0000 00
19 * 0000 0000 0000
20 * 0000 0000 0000
21 * 0000 0000 0000
22 * 0000 0000 0000
23 * 0000 0000 0000
24 * 0000 0000 0000
25 * 0000 0000 0000
26 * 0000 0000 0000
27 * 0000 0000 0000
28 * 0000 0000 0000
29 * 0000 0000 0000
30 * 0000 0000 0000
31 * 0000 0000 0000
32 * 0000 0000 0000
33 * 0000 0000 0000
34 * 0000 0000 0000
35 * 0000 0000 0000
36 * 0000 0000 0000
37 * 0000 0000 0000
38 * 0000 0000 0000
39 * 0000 0000 0000
40 * 0000 0000 0000
41 * 0000 0000 0000
42 * 0000 0000 0000
43 * 0000 0000 0000
44 * 0000 0000 0000
45 * 0000 0000 0000
46 * 0000 0000 0000
47 * 0000 0000 0000
48 * 0000 0000 0000
49 * 0000 0000 0000
50 * 0000 0000 0000
51 * 0000 0000 0000
52 * 0000 0000 0000
53 * 0000 0000 0000
54 * 0000 0000 0000
55 * 0000 0000 0000
56 * 0000 0000 0000
57 * 0000 0000 0000
58 * 0000 0000 0000
59 * 0000 0000 0000
60 * 0000 0000 0000
61 * 0000 0000 0000
62 * 0000 0000 0000
63 * 0000 0000 0000
64 * 0000 0000 0000
```

Demaris. Game of the film has been selected nomination for *Michael Paré*. Infinite lives are up for grabs. Enter the code using Method 1, but make sure if you use a disk or ROM version data from must be altered. See below:

```
1 * 0000 0000
2 * 00 0000
3 * 000000 0000
4 * 000000
5 * 0000 00
6 * 00 000000 0000 00
7 * 0000 000000 0000
8 * 0000 0000 00
9 * 0000 0000 0000
10 * 0000 0000 0000 0000 0000
11 * 0000 0000 0000 0000 0000
12 * 0000 0000 0000 0000 0000
13 * 0000 0000 0000 0000 0000
14 * 0000 0000 0000 0000 0000
15 * 0000 0000 0000 0000 0000
16 * 0000 0000
17 * 000000 0000
18 * 0000 0000 0000 00
19 * 0000 0000 0000
20 * 0000 0000 0000
21 * 0000 0000 0000
22 * 0000 0000 0000
23 * 0000 0000 0000
24 * 0000 0000 0000
25 * 0000 0000 0000
26 * 0000 0000 0000
27 * 0000 0000 0000
28 * 0000 0000 0000
29 * 0000 0000 0000
30 * 0000 0000 0000
31 * 0000 0000 0000
32 * 0000 0000 0000
33 * 0000 0000 0000
34 * 0000 0000 0000
35 * 0000 0000 0000
36 * 0000 0000 0000
37 * 0000 0000 0000
38 * 0000 0000 0000
39 * 0000 0000 0000
40 * 0000 0000 0000
41 * 0000 0000 0000
42 * 0000 0000 0000
43 * 0000 0000 0000
44 * 0000 0000 0000
45 * 0000 0000 0000
46 * 0000 0000 0000
47 * 0000 0000 0000
48 * 0000 0000 0000
49 * 0000 0000 0000
50 * 0000 0000 0000
51 * 0000 0000 0000
52 * 0000 0000 0000
53 * 0000 0000 0000
54 * 0000 0000 0000
55 * 0000 0000 0000
56 * 0000 0000 0000
57 * 0000 0000 0000
58 * 0000 0000 0000
59 * 0000 0000 0000
60 * 0000 0000 0000
61 * 0000 0000 0000
62 * 0000 0000 0000
63 * 0000 0000 0000
64 * 0000 0000 0000
```

ZUB

The changes certainly have been given a leading this month. Max Demaris's rate character is impossible that is, he won't fall from his perch when something lands into him thanks to *San Christopher* of Winnipeg, County Durham, Method 1 will do the trick.

```
1 * 0000 0000
2 * 00 0000
3 * 000000 0000
4 * 000000
5 * 0000 00
6 * 00 000000 0000 00
7 * 0000 000000 0000
8 * 0000 0000 00
9 * 0000 0000 0000
10 * 0000 0000 0000 0000 0000
11 * 0000 0000 0000 0000 0000
12 * 0000 0000 0000 0000 0000
13 * 0000 0000 0000 0000 0000
14 * 0000 0000 0000 0000 0000
15 * 0000 0000 0000 0000 0000
16 * 0000 0000
17 * 000000 0000
18 * 0000 0000 0000 00
19 * 0000 0000 0000
20 * 0000 0000 0000
21 * 0000 0000 0000
22 * 0000 0000 0000
23 * 0000 0000 0000
24 * 0000 0000 0000
25 * 0000 0000 0000
26 * 0000 0000 0000
27 * 0000 0000 0000
28 * 0000 0000 0000
29 * 0000 0000 0000
30 * 0000 0000 0000
31 * 0000 0000 0000
32 * 0000 0000 0000
33 * 0000 0000 0000
34 * 0000 0000 0000
35 * 0000 0000 0000
36 * 0000 0000 0000
37 * 0000 0000 0000
38 * 0000 0000 0000
39 * 0000 0000 0000
40 * 0000 0000 0000
41 * 0000 0000 0000
42 * 0000 0000 0000
43 * 0000 0000 0000
44 * 0000 0000 0000
45 * 0000 0000 0000
46 * 0000 0000 0000
47 * 0000 0000 0000
48 * 0000 0000 0000
49 * 0000 0000 0000
50 * 0000 0000 0000
51 * 0000 0000 0000
52 * 0000 0000 0000
53 * 0000 0000 0000
54 * 0000 0000 0000
55 * 0000 0000 0000
56 * 0000 0000 0000
57 * 0000 0000 0000
58 * 0000 0000 0000
59 * 0000 0000 0000
60 * 0000 0000 0000
61 * 0000 0000 0000
62 * 0000 0000 0000
63 * 0000 0000 0000
64 * 0000 0000 0000
```





Auf Wiedersehen, Mandy

Be careful when you type in this Method 1 page. Leave out all ROM addresses, or it won't work.

Mark Davis of Naples, Wisconsin, has been busy on Golem's game. You can choose to remove obstacles, turn infinite lives, have the air tickets in your possession or for a super mode.

Some of the data has 0000s following to indicate what action the data performs. If you don't want infinite lives then leave out line 000, for instance.

```

1 * Auf Wiedersehen, Mandy - save
2 * To Mandy's Party
3 * Destroy Action August 87
10 0000 to 0000
20 0000 to 00 0000 save for
30 0000 0000 0000
40 0000 0000
50 0000 0000
60 0000 0000 0000 0000
70 0000 0000 0000 0000
80 0000 0000 0000 0000
90 0000 0000 0000 0000
100 0000 0000 0000 0000
110 0000 0000 0000
120 0000 0000 0000 0000 0000
130 0000 0000 0000 0000 0000
140 0000 0000 0000 0000 0000
150 0000 0000 0000 0000 0000
160 0000 0000 0000 0000 0000
170 0000 0000 0000 0000 0000
180 0000 0000 0000 0000 0000
190 0000 0000 0000 0000 0000
200 0000 0000 0000 0000 0000
210 0000 0000 0000 0000 0000
220 0000 0000 0000 0000 0000
230 0000 0000 0000 0000 0000
240 0000 0000 0000 0000 0000
250 0000 0000 0000 0000 0000
260 0000 0000 0000 0000 0000
270 0000 0000 0000 0000 0000
280 0000 0000 0000 0000 0000
290 0000 0000 0000 0000 0000
300 0000 0000 0000 0000 0000
310 0000 0000 0000 0000 0000
320 0000 0000 0000 0000 0000
330 0000 0000 0000 0000 0000
340 0000 0000 0000 0000 0000
350 0000 0000 0000 0000 0000
360 0000 0000 0000 0000 0000
370 0000 0000 0000 0000 0000
380 0000 0000 0000 0000 0000
390 0000 0000 0000 0000 0000
400 0000 0000 0000 0000 0000
410 0000 0000 0000 0000 0000
420 0000 0000 0000 0000 0000
430 0000 0000 0000 0000 0000
440 0000 0000 0000 0000 0000
450 0000 0000 0000 0000 0000
460 0000 0000 0000 0000 0000
470 0000 0000 0000 0000 0000
480 0000 0000 0000 0000 0000
490 0000 0000 0000 0000 0000
500 0000 0000 0000 0000 0000
510 0000 0000 0000 0000 0000
520 0000 0000 0000 0000 0000
530 0000 0000 0000 0000 0000
540 0000 0000 0000 0000 0000
550 0000 0000 0000 0000 0000
560 0000 0000 0000 0000 0000
570 0000 0000 0000 0000 0000
580 0000 0000 0000 0000 0000
590 0000 0000 0000 0000 0000
600 0000 0000 0000 0000 0000
610 0000 0000 0000 0000 0000
620 0000 0000 0000 0000 0000
630 0000 0000 0000 0000 0000
640 0000 0000 0000 0000 0000
650 0000 0000 0000 0000 0000
660 0000 0000 0000 0000 0000
670 0000 0000 0000 0000 0000
680 0000 0000 0000 0000 0000
690 0000 0000 0000 0000 0000
700 0000 0000 0000 0000 0000
710 0000 0000 0000 0000 0000
720 0000 0000 0000 0000 0000
730 0000 0000 0000 0000 0000
740 0000 0000 0000 0000 0000
750 0000 0000 0000 0000 0000
760 0000 0000 0000 0000 0000
770 0000 0000 0000 0000 0000
780 0000 0000 0000 0000 0000
790 0000 0000 0000 0000 0000
800 0000 0000 0000 0000 0000
810 0000 0000 0000 0000 0000
820 0000 0000 0000 0000 0000
830 0000 0000 0000 0000 0000
840 0000 0000 0000 0000 0000
850 0000 0000 0000 0000 0000
860 0000 0000 0000 0000 0000
870 0000 0000 0000 0000 0000
880 0000 0000 0000 0000 0000
890 0000 0000 0000 0000 0000
900 0000 0000 0000 0000 0000
910 0000 0000 0000 0000 0000
920 0000 0000 0000 0000 0000
930 0000 0000 0000 0000 0000
940 0000 0000 0000 0000 0000
950 0000 0000 0000 0000 0000
960 0000 0000 0000 0000 0000
970 0000 0000 0000 0000 0000
980 0000 0000 0000 0000 0000
990 0000 0000 0000 0000 0000

```

10 0000 0000 0000 0000
20 0000 0000 0000 0000
30 0000 0000 0000 0000
40 0000 0000 0000 0000
50 0000 0000 0000 0000
60 0000 0000 0000 0000
70 0000 0000 0000 0000
80 0000 0000 0000 0000
90 0000 0000 0000 0000
100 0000 0000 0000 0000
110 0000 0000 0000 0000
120 0000 0000 0000 0000
130 0000 0000 0000 0000
140 0000 0000 0000 0000
150 0000 0000 0000 0000
160 0000 0000 0000 0000
170 0000 0000 0000 0000
180 0000 0000 0000 0000
190 0000 0000 0000 0000
200 0000 0000 0000 0000
210 0000 0000 0000 0000
220 0000 0000 0000 0000
230 0000 0000 0000 0000
240 0000 0000 0000 0000
250 0000 0000 0000 0000
260 0000 0000 0000 0000
270 0000 0000 0000 0000
280 0000 0000 0000 0000
290 0000 0000 0000 0000
300 0000 0000 0000 0000
310 0000 0000 0000 0000
320 0000 0000 0000 0000
330 0000 0000 0000 0000
340 0000 0000 0000 0000
350 0000 0000 0000 0000
360 0000 0000 0000 0000
370 0000 0000 0000 0000
380 0000 0000 0000 0000
390 0000 0000 0000 0000
400 0000 0000 0000 0000
410 0000 0000 0000 0000
420 0000 0000 0000 0000
430 0000 0000 0000 0000
440 0000 0000 0000 0000
450 0000 0000 0000 0000
460 0000 0000 0000 0000
470 0000 0000 0000 0000
480 0000 0000 0000 0000
490 0000 0000 0000 0000
500 0000 0000 0000 0000
510 0000 0000 0000 0000
520 0000 0000 0000 0000
530 0000 0000 0000 0000
540 0000 0000 0000 0000
550 0000 0000 0000 0000
560 0000 0000 0000 0000
570 0000 0000 0000 0000
580 0000 0000 0000 0000
590 0000 0000 0000 0000
600 0000 0000 0000 0000
610 0000 0000 0000 0000
620 0000 0000 0000 0000
630 0000 0000 0000 0000
640 0000 0000 0000 0000
650 0000 0000 0000 0000
660 0000 0000 0000 0000
670 0000 0000 0000 0000
680 0000 0000 0000 0000
690 0000 0000 0000 0000
700 0000 0000 0000 0000
710 0000 0000 0000 0000
720 0000 0000 0000 0000
730 0000 0000 0000 0000
740 0000 0000 0000 0000
750 0000 0000 0000 0000
760 0000 0000 0000 0000
770 0000 0000 0000 0000
780 0000 0000 0000 0000
790 0000 0000 0000 0000
800 0000 0000 0000 0000
810 0000 0000 0000 0000
820 0000 0000 0000 0000
830 0000 0000 0000 0000
840 0000 0000 0000 0000
850 0000 0000 0000 0000
860 0000 0000 0000 0000
870 0000 0000 0000 0000
880 0000 0000 0000 0000
890 0000 0000 0000 0000
900 0000 0000 0000 0000
910 0000 0000 0000 0000
920 0000 0000 0000 0000
930 0000 0000 0000 0000
940 0000 0000 0000 0000
950 0000 0000 0000 0000
960 0000 0000 0000 0000
970 0000 0000 0000 0000
980 0000 0000 0000 0000
990 0000 0000 0000 0000

If you own either a 604 or 608 machine, then type in the reader listing - making the alterations shown below:

```

1 * Wandering for 604 and 608
10 0000 0000 0000 0000
20 0000 0000 0000 0000
30 0000 0000 0000 0000
40 0000 0000 0000 0000
50 0000 0000 0000 0000
60 0000 0000 0000 0000
70 0000 0000 0000 0000
80 0000 0000 0000 0000
90 0000 0000 0000 0000
100 0000 0000 0000 0000
110 0000 0000 0000 0000
120 0000 0000 0000 0000
130 0000 0000 0000 0000
140 0000 0000 0000 0000
150 0000 0000 0000 0000
160 0000 0000 0000 0000
170 0000 0000 0000 0000
180 0000 0000 0000 0000
190 0000 0000 0000 0000
200 0000 0000 0000 0000
210 0000 0000 0000 0000
220 0000 0000 0000 0000
230 0000 0000 0000 0000
240 0000 0000 0000 0000
250 0000 0000 0000 0000
260 0000 0000 0000 0000
270 0000 0000 0000 0000
280 0000 0000 0000 0000
290 0000 0000 0000 0000
300 0000 0000 0000 0000
310 0000 0000 0000 0000
320 0000 0000 0000 0000
330 0000 0000 0000 0000
340 0000 0000 0000 0000
350 0000 0000 0000 0000
360 0000 0000 0000 0000
370 0000 0000 0000 0000
380 0000 0000 0000 0000
390 0000 0000 0000 0000
400 0000 0000 0000 0000
410 0000 0000 0000 0000
420 0000 0000 0000 0000
430 0000 0000 0000 0000
440 0000 0000 0000 0000
450 0000 0000 0000 0000
460 0000 0000 0000 0000
470 0000 0000 0000 0000
480 0000 0000 0000 0000
490 0000 0000 0000 0000
500 0000 0000 0000 0000
510 0000 0000 0000 0000
520 0000 0000 0000 0000
530 0000 0000 0000 0000
540 0000 0000 0000 0000
550 0000 0000 0000 0000
560 0000 0000 0000 0000
570 0000 0000 0000 0000
580 0000 0000 0000 0000
590 0000 0000 0000 0000
600 0000 0000 0000 0000
610 0000 0000 0000 0000
620 0000 0000 0000 0000
630 0000 0000 0000 0000
640 0000 0000 0000 0000
650 0000 0000 0000 0000
660 0000 0000 0000 0000
670 0000 0000 0000 0000
680 0000 0000 0000 0000
690 0000 0000 0000 0000
700 0000 0000 0000 0000
710 0000 0000 0000 0000
720 0000 0000 0000 0000
730 0000 0000 0000 0000
740 0000 0000 0000 0000
750 0000 0000 0000 0000
760 0000 0000 0000 0000
770 0000 0000 0000 0000
780 0000 0000 0000 0000
790 0000 0000 0000 0000
800 0000 0000 0000 0000
810 0000 0000 0000 0000
820 0000 0000 0000 0000
830 0000 0000 0000 0000
840 0000 0000 0000 0000
850 0000 0000 0000 0000
860 0000 0000 0000 0000
870 0000 0000 0000 0000
880 0000 0000 0000 0000
890 0000 0000 0000 0000
900 0000 0000 0000 0000
910 0000 0000 0000 0000
920 0000 0000 0000 0000
930 0000 0000 0000 0000
940 0000 0000 0000 0000
950 0000 0000 0000 0000
960 0000 0000 0000 0000
970 0000 0000 0000 0000
980 0000 0000 0000 0000
990 0000 0000 0000 0000

```

Craig Whitfield of Under 160, Wolverhampton, has pointed out that the command F00 000, 00 will give you infinite lives in the Moon game. Just type it in before running the game - tape only.

ITEMS

Neil McCauley and Randy Parker of Chatham, Kent, have jumped to heads and produced a page for Karamas' chessman, up.

Enter it using Method 1 for Double Line and Mantis line. You will also have a shield, which should help you remember on your journey.

```

1 * Karamas' chessman - save
2 * To Neil and Randy
3 * Destroy Action August 87
10 0000 to 0000
20 0000 to 00 0000 save for
30 0000 0000 0000
40 0000 0000
50 0000 0000
60 0000 0000 0000 0000
70 0000 0000 0000 0000
80 0000 0000 0000 0000
90 0000 0000 0000 0000
100 0000 0000 0000 0000
110 0000 0000 0000
120 0000 0000 0000 0000 0000
130 0000 0000 0000 0000 0000
140 0000 0000 0000 0000 0000
150 0000 0000 0000 0000 0000
160 0000 0000 0000 0000 0000
170 0000 0000 0000 0000 0000
180 0000 0000 0000 0000 0000
190 0000 0000 0000 0000 0000
200 0000 0000 0000 0000 0000
210 0000 0000 0000 0000 0000
220 0000 0000 0000 0000 0000
230 0000 0000 0000 0000 0000
240 0000 0000 0000 0000 0000
250 0000 0000 0000 0000 0000
260 0000 0000 0000 0000 0000
270 0000 0000 0000 0000 0000
280 0000 0000 0000 0000 0000
290 0000 0000 0000 0000 0000
300 0000 0000 0000 0000 0000
310 0000 0000 0000 0000 0000
320 0000 0000 0000 0000 0000
330 0000 0000 0000 0000 0000
340 0000 0000 0000 0000 0000
350 0000 0000 0000 0000 0000
360 0000 0000 0000 0000 0000
370 0000 0000 0000 0000 0000
380 0000 0000 0000 0000 0000
390 0000 0000 0000 0000 0000
400 0000 0000 0000 0000 0000
410 0000 0000 0000 0000 0000
420 0000 0000 0000 0000 0000
430 0000 0000 0000 0000 0000
440 0000 0000 0000 0000 0000
450 0000 0000 0000 0000 0000
460 0000 0000 0000 0000 0000
470 0000 0000 0000 0000 0000
480 0000 0000 0000 0000 0000
490 0000 0000 0000 0000 0000
500 0000 0000 0000 0000 0000
510 0000 0000 0000 0000 0000
520 0000 0000 0000 0000 0000
530 0000 0000 0000 0000 0000
540 0000 0000 0000 0000 0000
550 0000 0000 0000 0000 0000
560 0000 0000 0000 0000 0000
570 0000 0000 0000 0000 0000
580 0000 0000 0000 0000 0000
590 0000 0000 0000 0000 0000
600 0000 0000 0000 0000 0000
610 0000 0000 0000 0000 0000
620 0000 0000 0000 0000 0000
630 0000 0000 0000 0000 0000
640 0000 0000 0000 0000 0000
650 0000 0000 0000 0000 0000
660 0000 0000 0000 0000 0000
670 0000 0000 0000 0000 0000
680 0000 0000 0000 0000 0000
690 0000 0000 0000 0000 0000
700 0000 0000 0000 0000 0000
710 0000 0000 0000 0000 0000
720 0000 0000 0000 0000 0000
730 0000 0000 0000 0000 0000
740 0000 0000 0000 0000 0000
750 0000 0000 0000 0000 0000
760 0000 0000 0000 0000 0000
770 0000 0000 0000 0000 0000
780 0000 0000 0000 0000 0000
790 0000 0000 0000 0000 0000
800 0000 0000 0000 0000 0000
810 0000 0000 0000 0000 0000
820 0000 0000 0000 0000 0000
830 0000 0000 0000 0000 0000
840 0000 0000 0000 0000 0000
850 0000 0000 0000 0000 0000
860 0000 0000 0000 0000 0000
870 0000 0000 0000 0000 0000
880 0000 0000 0000 0000 0000
890 0000 0000 0000 0000 0000
900 0000 0000 0000 0000 0000
910 0000 0000 0000 0000 0000
920 0000 0000 0000 0000 0000
930 0000 0000 0000 0000 0000
940 0000 0000 0000 0000 0000
950 0000 0000 0000 0000 0000
960 0000 0000 0000 0000 0000
970 0000 0000 0000 0000 0000
980 0000 0000 0000 0000 0000
990 0000 0000 0000 0000 0000

```



ARMY MOVES



Here's a welcome page from Kevin McCauley in Bangor, Co. Down. It gives you various methods of cheating in both parts of Imagine's chess man, up. The Mantis 1 and that away to your heart's content.

The first listing is for Army Moves part one - you can use immediately from Imagination on money cash for both and infinite lives.

```

1 * Army Moves Part 1 - save
2 * To Kevin McCauley
3 * Destroy Action August 87
10 0000 to 0000
20 0000 to 00 0000 save for
30 0000 0000 0000
40 0000 0000
50 0000 0000
60 0000 0000 0000 0000
70 0000 0000 0000 0000
80 0000 0000 0000 0000
90 0000 0000 0000 0000
100 0000 0000 0000 0000
110 0000 0000 0000
120 0000 0000 0000 0000 0000
130 0000 0000 0000 0000 0000
140 0000 0000 0000 0000 0000
150 0000 0000 0000 0000 0000
160 0000 0000 0000 0000 0000
170 0000 0000 0000 0000 0000
180 0000 0000 0000 0000 0000
190 0000 0000 0000 0000 0000
200 0000 0000 0000 0000 0000
210 0000 0000 0000 0000 0000
220 0000 0000 0000 0000 0000
230 0000 0000 0000 0000 0000
240 0000 0000 0000 0000 0000
250 0000 0000 0000 0000 0000
260 0000 0000 0000 0000 0000
270 0000 0000 0000 0000 0000
280 0000 0000 0000 0000 0000
290 0000 0000 0000 0000
```



Into the Eagle's Nest

Class Phoenix of *Shogun* has a reputation for skill in that if you type **WALL** you

Scooby Doo

Mad Monk (2) took from the aryan adventures in North Dakota has sent in a weird bunch of poems for Elmer's cartoon-like game. Remove the poems you don't want. Disk only.

1 * Scooby Doo -- disk
2 * 20 The Mad Monk
3 * Answered Action August 87
10 00000000000000000000
20 00000000000000000000
30 00000000000000000000
40 00000000000000000000
50 00000000000000000000
60 00000000000000000000
70 00000000000000000000
80 00000000000000000000
90 00000000000000000000
100 00000000000000000000

Short Circuit

Peter Featherstone of Leeds has sent in a couple of poems for *Conan's* search-and-find game. The first poem is for just one of the game -- which unlocks doors and prevents certain security threats.

The second poem, for another two, gives No 5 immortality to everything but water and multiple. Both poems use Method 1.

1 * Short Circuit -- disk
2 * by Peter Featherstone
3 * Answered Action August 87
10 00000000000000000000
20 00000000000000000000
30 00000000000000000000
40 00000000000000000000
50 00000000000000000000
60 00000000000000000000
70 00000000000000000000
80 00000000000000000000
90 00000000000000000000
100 00000000000000000000

THE CURSE OF SHERWOOD

Definite lines and permanent use of the map are provided by the plan *Shades* for *Manamora's* game. Enter using Method 1.

1 * Curse of Sherwood -- disk
2 * by Stephen Fisher
3 * Answered Action August 87
10 00000000000000000000
20 00000000000000000000
30 00000000000000000000
40 00000000000000000000
50 00000000000000000000
60 00000000000000000000
70 00000000000000000000
80 00000000000000000000
90 00000000000000000000
100 00000000000000000000



HYPERPOOL



It's that Peter Featherstone (hyper) once more. This time he has delivered a proven *Hyperpool* formula for PTV's game. Use Method 1.

1 * Hyperpool -- disk
2 * by Peter Featherstone
3 * Answered Action August 87
10 00000000000000000000
20 00000000000000000000
30 00000000000000000000
40 00000000000000000000
50 00000000000000000000
60 00000000000000000000
70 00000000000000000000
80 00000000000000000000
90 00000000000000000000
100 00000000000000000000

AMAUROTE

Manamora's graphically superb *Maurote* game has been tackled by Peter Featherstone. Infinite lives and bombs have been supplied. You can fire a bomb even if there is one already on the screen -- the first one will disappear, mind. Method 1.

1 * Amaurote
2 * by Peter Featherstone
3 * Answered Action August 87
10 00000000000000000000
20 00000000000000000000
30 00000000000000000000
40 00000000000000000000
50 00000000000000000000
60 00000000000000000000
70 00000000000000000000
80 00000000000000000000
90 00000000000000000000
100 00000000000000000000

Grand Prix Simulator

Several people have contacted us with the cheat for the *Grand Prix Simulator* game. All you have to do type the word **WALL** followed by the letter of the track you want to start on. A to M. Then while looking down the lane for the track, press 1 or 2 to start the game.



Several people have also contacted us with a tip for the *Manamora's* search-and-find game. While you're out a high score tape (1000000) from the table and a new game will appear on the screen. This gives you a megabyte.

This month's winners

This month's winner of the big prize is Peter Featherstone. Runners-up are Neil McCawley, Nicholas Peris, Stephen Baker, Kevin McCauley and PML Remond.

One person not getting any congratulations is Colin Ward, who mailed two poems from *ACE*. Apologies to Justin Carvermore, whose hard work Colin copied. We now have a method of checking for Justin's poems so don't bother sending copies of them to us, we'll probably send them back accompanied by two guys with baseball bats.

NOW FOR COMPUTER

MASK

The Battle Commander II joins with the forces of MASK, actually commanded by the brilliant strategist that Tarkenton and control the rest of the offensive. MASK II is ready against the domination of the world's fastest and most powerful and powerful forces as the real world of MASK II and its computer. Here is your chance to dig down into your computer and test your skills in the next against reality.



The greatest master of the world has returned, he is at the helm. This time, MASK II is ready against the domination of the world's fastest and most powerful and powerful forces as the real world of MASK II and its computer. Here is your chance to dig down into your computer and test your skills in the next against reality.



WARNING: THE ASSOCIATED MASK II AND THE PROPERTIES OF MASK II ARE THE PROPERTY OF MASK II.



CBM64/128 or Amstrad - £9.99 TAP
£14.99 DSK
Spectrum 48/128K - £7.99 TAP

PILGRIM^{THE}

This month the Pilg goes double: Incentive launches a new label offering two games for £7.95. Is *Double Gold* worth the brass? Or should you save your p/ennies for *Dungeons, Assassins, Alchemists, X-Everything* - the first budget game to be rated as "not suitable for persons under the age of sixteen"? Have no fear, the Man with Red and Staff, being over 18, can tell you all... well, almost...

Black Fountain / Sharpe's Deeds Incentive Double Gold, £7.95 each

Pilg fans may remember a brief notice about Incentive's Gold Medalion series a while back. Intended as a showcase for the best of adventure created using Incentive's Graphic Adventure Creator utility, the first two releases (*Winter Wonderland* and *Apache Gold*) were very worthy and - let's face it - too expensive. £7.95 is really a bit much to pay for what is effectively a home-brew GAC game, however well it's been designed.

The Incentive people must have taken note, because now they're at it again, offering this time two games for the same price. Have they succeeded in offering us good value?

Well, the first point to make is that you're still paying almost four quid each for the two games. Bearing in mind that games like *Dungeons* are available for half this amount, that would still seem to be a bit on the steep side. But then little suggests like *Dungeons* don't appear all that often, so perhaps Incentive will find the readers coughing up the ready for *Double Gold*.

Both these games were created by one Linda Wright, whom Incentive describes as an "up-and-coming software author". There's no doubt that Linda has an eye for a good puzzle and she arranges the locations and problems of her games in such a way as to ensure that you really have to spend a lot of time trying and f/owing before you can achieve your objectives.

In *Black Fountain*, your objective is to secure a certain crystal and in the process rid the world of a couple of unscrupulous. As Sharpe, assistant of the count of Lamep, you must rally forth across the countryside of Planet Arith and put the lost into Alabablin, who is rumored to inhabit some hidden hole where the new builders look to the Black Fountain. In doing so you must also locate your three brothers, Charcoal, Palato, and Tigras.



Black Fountain

There's only one trouble with *Black Fountain*, and that is that I can't reach far in lazing interest. The Pilg sat down and found the going a mile too easy for his liking. On the other hand, the way the game is laid out does demand that you cover almost every location (and there are about 100 of these), so, however easy the puzzles, finishing the game is quite an arduous task.

From the programming point of view, the game holds together well and has all the usual good (and bad) points of GAC. The plots are tidy, colourful, but repetitive, the responses times occasionally a little slow, and the text well-written but necessarily rather brief. Few points include being able to talk to most of the characters (though few will say anything of interest) who have attractively exotic (and slightly Spanish-sounding) names.

Sharpe's Deeds is superficially quite different - you must hunt around a village in Scotland for magic treasures and a set of deeds to prove your inheritance of Uncle Ferdinand's valuable estate.



Sharpe's Deeds

Sharpe's Deeds isn't as easy to mark as *Black Fountain*, and the Pilg found himself becoming steadily more involved as the story unfolded. Playing it so soon after *Black Fountain*, however, alerted me to the many similarities of style - in particular the general rule that to get past any character, it is easiest to bribe or intimidate him from them, as you have to do in most cases it gives them something. After a while this becomes slightly annoying - you just check your inventory and try giving everything you've got until something clicks.

In *Black Pilg*, a couple of hijab little tone-downs, but nothing worth muzzing your local dealer for. I have some thoughts about the future role of GAC and other adventure utilities, but for these two will have to wait elsewhere on these illustrious pages.

Atmosphere 55% Interaction 50% Challenge 55%
AA rating 50%

Mountains of Ket / Top Secret Incentive Double Gold, £7.95 each

Mountains of Ket is, as most Crusaders will know, a very old game that first sprang into life on a Spectrum back in 1982, as *Survivalists*. It's the first part of a trilogy in which you must climb the infamous mountain and defeat the malignant Vite Warlord (middle of the Mad Mobs) and the malevolent Delphi (most beautiful woman in the world).



Plague (left)

Quite who anyone should want to defeat the most heinous woman in the world is beyond the Pig's comprehension, but I leave other minds more macho than mine to dream up their own exciting reasons.

It's not often that one sees an old game reprogrammed using a modern utility. For the sake of nostalgia I'd like to give the game a clean bill of health, but it leaves a lot to be desired.

First, the blurb on the cassette cover boasts "interactive characters". Well, I suppose a character with a message can be called interactive—but that's hardly a big deal, is it? Let's be honest about this: there is absolutely no way using a commercially available adventure creator that you can program a proper interactive character worthy of the name. The closest I've seen are Fergus McNeill's whimsical *Anger* characters, or Matt Martin's *Robin of Sherwood* (both *Quilled*), but these really isn't much real-time interaction in *England*.

Secondly, the game shows signs of haphazardness in programming. After buying a strong horse, your inventory shows that you are carrying "a strong horse". OK, so the Pig is in a state of rippling muscle, but even I don't make Arnold Schwarzenegger look like Ronnie Colman. The horse, methinks, should have been handled differently.



The Plague

Another example: You go into the shop, see a *vial* of poison and buy it. You're then told that there's no one here to buy it from, despite the shopkeeper standing right in front of you. The problem here is that the program isn't telling you that, ahem... it doesn't actually understand the word *vial*. It expects you to enter *buy poison*.

I can just imagine someone at Incentive demonstrating this program by typing in his large batch list of descriptors for the world, and when the prog replies as before, pointing out proudly that the program understands the basics of recombomb genetics.

All is not lost, however. There are some novel features here. The program handles money properly (in that you can actually count your coins and must budget properly for expenditures) and also has a combat routine. The latter involves the use of three variables, power, energy, and luck, that are assigned to the player at the beginning of the game in varying proportions.

When you stuff up a fellow traveller, or someone comes over all heavy on the mountain path, the program puts you into combat mode and you each take it in turns to swing at the other combatant. If you're hit, you have a chance to dodge (depends how lucky you are), and if each round you have a chance to escape. A word of warning—think twice before knocking off any of the villagers, as their companions turn a wee bit savage when they see what you've done.

The other game in this set is *Top Secret, Egh*. I'm afraid the Pig didn't like this game much. Let's get it straight, there's nothing actually wrong with it but I'm afraid that after a few years adventuring one gets heavily sick of penetrating yet another medieval installation in order to stop some deadly monster being used to pervert world history (or what's left of it).

Why do we have to go through this scenario all over again? Surely original ideas aren't that hard to come by? Even killer dolphins disguising themselves as duchesses and swallowing the Queen at a Buckingham Palace garden party would be preferable to the old ultra-whizzo-top-secret-military-base-deadly-mischievous-strick-overt number.

Anyway, for what it's worth, the game has shorter-than-average location descriptions (even for space-hungry GAC) and a few plots kills the player off for no better reason than he or she decides to go north. The old sudden-death trick, forcing you to venture or reload, is now immensely condemned by good adventure writers everywhere. OK, so if there's a cliff in the north, going north kills you, but at least say there's a cliff (or whatever) in the north. A location that serves no purpose except to kill the player on entry is poor design, says me.

Perhaps Incentive will get back to me and say that there's an object in the game that would have enabled me to get past that hazard. In that case I'll eat the dead rat I found in the sewer... but I stick to the instance my stomach's safe.

Playing these two games made me a little more understanding of Incentive's view that Linda Wright (see previous review) is an "up-and-coming software author". She certainly puts up a better game than the ones on offer here.

Atmosphere 95% Interaction 95% Challenge 95%
A.A. rating 95%

Dungeons, Amethysts, Alchemists, 'n' Everything'

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This game, rather like CERN's *Da Vinci*, has attempted to gain a market by slapping a "Not Suitable For Persons Under The Age of 18" message on the cassette cover. Does that mean it's dirty? Or does it mean that people under 18 would be intellectually incapable of understanding its complex, convoluted plot? Or does the game feature passages of such blood-curdling horror that younger minds would be blasted into a terror-induced psychosis, never again to leave their comfy padded cells?



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Well, to-be-hon, it actually doesn't mean any of these things, fellow Pilgrims. What we have here is none other than a very light-hearted attempt to parody the contemporary adventure scene. In part it's extremely amusing - other bits don't come off quite as well.

As Cayleigh, the Gay and Proud Warrior, you venture forth into the land to defeat the evil Yte-Are by locating a mystic antidote that has been stolen from the Alchemist's tower. Players of Colossal Cave will soon recognise the terrain at the beginning of the game, but there have been some disturbing changes.

You know this game is going to be different when the obligatory Dwarf guards by and "thieves a finger at you. As he saunters away, you receive an unusual view of his legs..." Hmmm...

A short while later, at the underground lake, you find yourself upon a Jandie Stone, like so... And if the descriptions aren't long enough for you, the authors soon cheer you up with a "beams, text, strong, big, thick, sturdy, impressive, tall, hard, iron-banded, smooth yet slightly splintered wooden door". Hm...

I may seem a little reserved about this game, but the fact is that I did laugh a lot while I played it. For the most part the program is completely harmless and there's nothing worse than Private Eye

or Leather Goddesses. It's been programmed by Plasma Torch (one of whose games has already been reviewed in an earlier issue by the Pig) and shows a refreshingly relaxed approach to satire and sex. There's a Powers Room, which is simply a pattern, "created by the Graphic Adventure Creator", a squawky voice ("woosh my precessor"), and even floating skeletons (which should have been skeletons, but I guess you must be too pedantic).

In fact, there's a good deal of thrusting throughout the game, as well as a good deal of doubletongue. The Pig really grinds his teeth when confronted by "the most least good least whatever you have ever used", or the "lumpy enormous game" which is "big and large to the observing eye". Ugh... When all adventure-game publishers start applying to their product the similar skills that other publishers apply to the winner, what? And it's about time. It is the Pig's opinion that Sage Wars Taken is in the direction.

Frankly, games just don't seem any cheaper than this - unless in content or in price. At it is, for £1.99 you just can't lose.

Atmosphere 40% Information 90% Challenge 90%
AA rating 90%

GET it ... or DROP it?

The Pilgrim addresses the thorny problem of buying adventure software - for both the experienced and inexperienced player

A few guidelines...

Choosing adventures is not an easy task. If you're new to the world of interactive text games, it can be well-nigh impossible. Furthermore, the quality and price of software in this category varies so widely that the cautious purchaser can put you off forever. On this page, I've done my best to offer readers a reliable and straightforward guide to adventure buying, together with some hints for beginners who may not know exactly what to expect.

One of the first places you're liable to look is in columns such as this one. As a general rule, remember that if all computer games, adventures tend to be the most difficult to review objectively. Naturally there are certain points that you look for - poor spelling, bugs, sloppy text, lack of originality - but in the final analysis the question of whether a game will appeal to readers can be answered only by the readers themselves.

Bear this in mind as you make your choice from the following list. I've chosen 15 titles that have received endorsement from readers as well as myself. Whichever one you choose, I hope you enjoy it...

For beginners...

If you're new to adventure games, you need to make your purchasing decisions even more carefully. The fact is that many people, accustomed to sitting beside video and disk animation, are distrustful of adventure software. Some or later, however, they decide to give it a try - and all too often they throw the game in the bin with disgust. That doesn't mean that adventures are rubbish - it simply means they've made the wrong choice.

The first thing you need to understand is that there are different types of game. First, there are the games that have small vocabularies. They will inevitably expect a large number of your inputs. If games like these are to succeed, they need clever, original, and inspired pointers to help and intrigue the player. And of course they need good on-screen presentation and an original scenario. You'll find a couple of titles in this tradition in the list here. Many of these games nowadays are programmed by people at home using an adventure writing utility like The Quill or Inconceivable Graphic Adventure Creator (IGAC).

You shouldn't expect much from these simple games - but at the same time you shouldn't expect to pay much for them either. At any rate, they should keep you busy for a few hours and they're certainly funwise, baffling, and confuse you as well.

Next, you get the slightly more ambitious game, with a larger vocabulary, quite a few locations, and generally some "bonds" to set

the program apart from its competitors. The books are usually either humorous, high-standard graphics or outrageous originality. There are adventures dealing with killer bunnies, vampires, bogeys and far-off planets.

From the programming point of view, these games tend to be no more sophisticated than those in the first category, but they do something on a grander scale - dozens of locations, or very long text descriptions, or stunning pictures. Some are programmed using Quill or IGAC but in these cases the authors have made a particular effort to maximise their abilities in their own image, perhaps by splitting the game into many parts, or creating unusual possibilities for inputs. You'll find examples of this sort of games here as well.

Finally, you get the real hard-core adventure software. These programs are almost without exception written by software houses that specialise in adventure programs and have devised their own writing systems. Such systems will let you create compound sentences ("Get the brown dog and drop it in the tank"), have large vocabularies of 1,000 words or more, feature lengthy and vividly written location descriptions, and will keep you busy for days, weeks, sometimes even months. The only drawback here is that sometimes they tend to be rather expensive, or require disk-based systems to work. You can check out more about these "state-of-the-art" games in the Big Three box elsewhere on this page...

The Big Three...

These are currently three big names on the adventure-software scene in the UK. Each company represents a completely different style of game.

First there's Level 9. This is a small family firm - brothers Peter, Mike and Nick Austin program in Widdowville, parents handle production and accounts in Weston-super-Mare - that has been writing adventure software now for over five years. Unlike the two companies before, it has so far remained committed to the cassette-based market in the UK. This imposed some necessary limitations on its style. Everything has to fit in text, so memory for pictures, data on intricate characters, and text are obviously limited.

Level 9's achievement, however, has been to challenge these limitations and come up with some truly excellent software. You shouldn't expect wonderful hypertext full-screen graphics or amazingly complex conversations with other characters, but these games have a unique charm and are distinctly cheaper than those of Inconceivable or Magpie's Worlds.

(The disk, which for a new Level 9 title is to be released through



ranked in the next month, a three-part adventure called *Knights Out*.)

Next, there's *Infocom*. This US-based company was brought out in 1986 by Activision, and originally American, but that doesn't seem to have brought any major changes in its output or quality of work. Its games are exclusively disk-based, very cleverly written, and have no graphics — you won't need pictures with any of this good. Infocom's adventure system is very forgiving when it comes to typing in your commands — mistakes are thoughtfully and often humorously dealt with, and in addition you'll find that some Infocom games feature excellent opportunities for interaction with other computer-controlled characters. These parts are, almost without exception, excellent. The only drawback is price, but if you can afford £10+ for a game you won't be disappointed.

Finally, there's a new company on the scene — *Magnatec Systems*. This small programming house in South London has recently released *The Raven* and — possibly by the time you read this — *Child of Heaven* for the Amstrad machines. *The Raven* is the latest machine of including graphics — some of the best you'll ever see. The Magnatec *Scrolls* games also tend to be slightly expensive in their sector — but always entertaining. Finally, they take a few leaves from Infocom's book by sticking to disk-only and including good facilities for interaction with other characters, but they won't cost you quite as much.

Ten games worth trying...

How they're rated...

The *Fig* has come up with two scales, ratings for these games. "Difficulty" gives you an indication of how hard you are likely to find making progress. "Challenge" tells you how far there is to go.

This means that a game with a difficulty of 100% and a challenge of zero would have one potentially impossible puzzle to solve which might frustrate you for weeks — but once you've solved it, there wouldn't be anything else to do.

On the other hand, a game with a difficulty rating of zero and a challenge of 100% would have an infinite number of puzzles to explore before you reached your objective, but no puzzles to solve at all.

This dual rating will help you to choose the game most suited to you. If you're the sort of person who likes crossword puzzles and logic (as well as logical problems, you'll prefer a game with a higher difficulty rating. On the other hand, if you're more interested in exploration, fantasy, and a feeling of "being there" you should choose for a higher challenge rating. In general, the higher the challenge rating the greater the game — whereas a difficulty rating over 50% should give notice cause for thought before purchase.

Finally, I've tried to avoid mentioning too many obscure choices — more people will have heard of *MicroMuck's* *Chaos in the Galaxy* from Infocom or *The Hobbit* from Melbourne House. Rare, however, are all games that the *Fig* readers are worth shelling out for...

Classics...

Heroes of Karn — Interceptor, £1.95 cassette

Difficulty 10% Challenge 10%

Explore Karn, find the heroes, get them to help you save the planet. The game has graphics, a small but effective vocabulary, and some challenging puzzles. Best of all, for what nowadays is a rather primitive program, it has an attractive scenario and whimsical atmosphere that has kept it on the shelves of many players. (Now excellent value for £1.)

Jewels of Darkness — Rainbow/Level 9, £14.95 case, £19.95 disk

Difficulty 10% Challenge 10%

This is a compilation of three early Level 9 games, reprogrammed to add graphics and larger vocabularies. It's particularly notable for including *Colossal Cave Adventure*, a faithful adaptation of the first-ever adventure. Despite the reprogramming, these games retain their classic flavor — searching for treasure and grappling with the Demon Lord in a magical underground empire. The puzzles are in some cases a bit stinky — but the game designs are excellent. One for magical realism addicts. Poor graphics, but a pic for every location. These games never had graphics when they were first released, so it's a bit of a pity if they need them.

If you enjoy magic and exploration but can't afford this collection, you can buy the games separately (*Colossal Adventure*, *Dungeon Adventure*, and *Adventure Quest*) from Level 9. You should also try *Real Magic* and the *Prize of Magic* — in the same vein but more recent releases with great emphasis on spells.

Puzzlers, teasers, and pretty pics...

Seahorse Delta — Futaba, £1.95

Difficulty 10% Challenge 10%

An Amstrad title game with neat, unobtrusive graphics, a small vocabulary and some enjoyable puzzles. Don't expect much, but it comes in at under ten quid and is a good example of a simple puzzle using CMC. There's also a "prequel" — *Seahorse* — for the same price and equally well worth trying out if you enjoy *Seahorse Delta*.

Seeferry — P. Williams, £2.50

112 Colchester Road, Cambridge, CB2 0BB

Difficulty 10% Challenge 10%

A neat, 100-only home brewed game where the animals lead you a hand. A good example of an attractive program produced by an amateur using a compiler, resulting in a simple adventure with very restricted vocabulary but lots of charm.

Robins of Sherbrook — CRL, £1.95

Difficulty 10% Challenge 10%

Programmed by humourists Delta 4, this game satirises two earlier releases — *Robin of Sherwood* and *Sherlock*. It's an excellent example of how to get the best out of *The Quill* and nothing whatsoever out of *Maid Marion*. Don't expect a massive vocabulary, but do expect to be entertained by both the wit and the puzzles — some of which are rather difficult. Some nice graphics too. Games in a similar vein include *The Juggler* and *Shard of the Kings*.

Warlord — Interceptor, £1.95

Difficulty 10% Challenge 10%

One of Interceptor's single-format games distinguished by some truly excellent artwork and a vivid atmosphere in Roman Britain, now a bargain £1. Not in a bit stinky, but these games will manage to end well in their time at over three times the price.

Back to the future...

Elmore Dreams — Rainbow/Level 9, £14.95 cassette, £19.95 disk

Difficulty 10% Challenge 10%

A trilogy of Level 9 programs dealing with mankind's future efforts to colonise the Planet Ecos. Author Peter Rains uses the scenario of spacehip, planet and future colonies to convey a message at our technological tendencies. *Starball*, the first game, is notoriously difficult and the final adventure, *When in Paradise*, has a coded transport system that only the best minds will crack without cheating. A picture for every location, but don't expect great art — the quality of the pics varies enormously, the worst are little more than circular shapes.

[illegible]

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Building computers, reach for your assemblies now. Here's your chance for fame and fortune. By programming a special effect you can get your name up in lights on the new game from Incentive called Driller. Your reward will be £300 of the computer equipment of your choice - a really juicy prize.

Driller is still under development and Incentive is keeping details under wraps. All we know is that it features a graphics programming technique called "FreeSpace". This promises solid 3D graphics that you can walk in and around, just like being there.

The graphics are taken care of, so what Incentive needs are some superb sound-effects and broader efforts to match them. Naturally the Incentive people have come to AD readers to supply them.

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- Laser fire (beeping and outgassing)
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Incentive personnel will judge the entries themselves and the winner and runners-up will all have their effort featured in the game. The winner will get £300 worth of computer equipment, the effort included in Driller, a full credit in the Driller program and a copy of the game. The runners-up will get their efforts included in the game along with a full credit and a copy of the game. The number of runners-up depends purely on the quality of the entries, but obviously Incentive will want to use as many as possible in the game.

Obviously you'll need fair technical skill to enter the comp, so here are the points you should bear in mind. You can read in as many entries as you like with the coupon. They should be on tape or disk together with clear details of how to load and run the effect. Each routine should be less than 500 bytes and supplied with a documented assembly listing.

The judges will be looking for good effects that are short as well. And of course they've got to be your own original work.

Send entries to: AD Effects Comp, Incentive Software, 1 Minerva House, Colver Park, Aldenham, Herts, SG1 4YS. Because it's a tricky competition you've got an extended deadline: 31 August. The game itself will appear in the autumn - and we look forward to spreading fame all over the world for some of our readers.

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REAR VIEW

Sugarman's away (on hold)
— watch the mice play

HACKING THE CODE

Here's a tongue-in-cheek glossary of terms that crop up in reviews, cassette labels, adverts and other computer-oriented areas. We've put some up with a few, but perhaps you'd like to send us your own interpretation of some jargon.

"Amazeballs worth for" = somebody played it a couple of times in a bar in Belgium.

"Incredibly playable" = I have absolutely no idea why I like this game.

"Gals from 8 to 10 will love it" = anyone can beat this in five minutes.

"Witchhanta for" = we sold one in Peru.

"Megagame" = we paid six figures for the license.

"Steady addresser" = spend weeks trying to find something interesting.

"Invaluable aid" = we don't know what it does either.

"You are equipped with the ultimate weapon" = a laser.

"A new concept in games" = we can't afford expensive arcade licences.

"Totally original" = nobody else was mad enough to release this nonsense.

"Realistic simulator" = we complicated it twice as often to work out what you're supposed to do.

"Available now" = we're planning a re-release in six months.

"Real-time action" = the game moves eight times faster than you do.

"Compilation of four great games" = three very old games and one that wasn't fit to be released on our budget label.

"Phone megaphone laser ray" = gun.

"Fusion diaphane decelerator" = shield.

"Over 100 frames of animation" = be blacker a lot.

"Smooth scrolling" = well it was on the other version, can't think what happened to this one.

"Will you accept the challenge?" = don't expect us to help you after you've bought it.

"There's a slight delay in the game" = the programmer's in hospital after a long gliding accident, we'll have to wait all over again.

"Delightful title screen" = one worse than here on.

"I can't reveal any more of the game's secrets" = I couldn't get beyond the first screen.

"Fully compatible" = sorry, none, please for this one.

"Back out and buy it" = I've just received a large, free lunch from the software house.

"Mildious action" = it's laughably bad.

"One-driven adventure" = the programmer's license.

"Comprehensive instructions" = and they're all in Spanish.



BREEDING MICE

There's a little worried fawn at the office about our AMX mouse. It appears to be multiplying awfully. Since its introduction we've discovered two new types. AMX claims it's because they've had to change the construction of the buttons and the ball, but we've got a working suspicion that they're pin-dimensional beings sliding in to research and breeding rapidly so as to take over the world. Our advice: keep 'em caged or trapped in a plastic bag.



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