



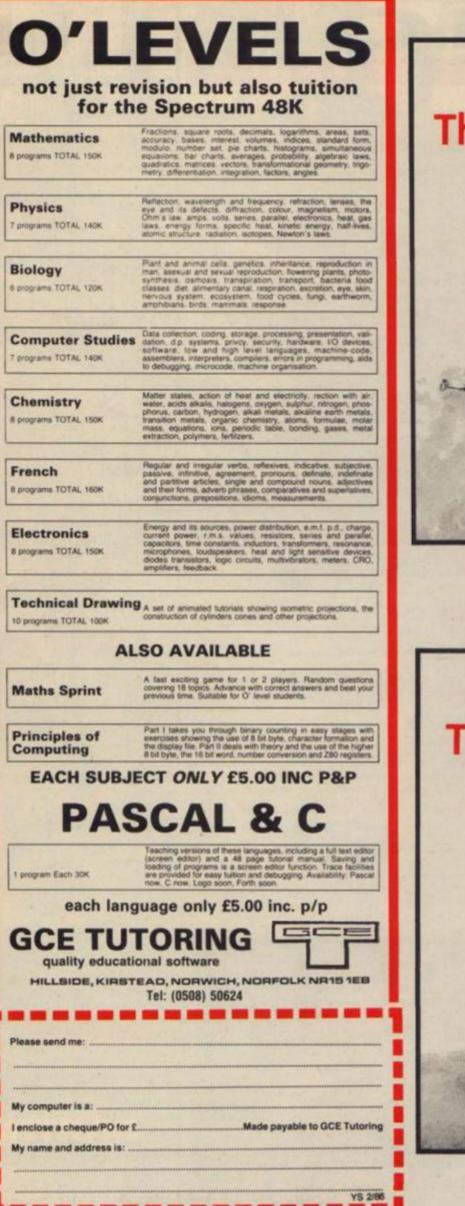




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## NOW YOU CAN EXPLOIT SPECTRUM GRAPHICS TO THE ULTIMATE. With the Graphics Suite from Print 'n' Plotter.

If you're interested in producing great graphics with your Spectrum, then these programs are designed with *you* in mind.

And you *don't* have to be an expert. Even with no programming knowledge the programs will enable you to produce fantastic graphics to use in every piece of software you write.

Or you can use them just for the fun of producing computer art. Each of the programs are inter-active and together they form the most accomplished graphics toolkit you will find on the market today. But you can also use each of them separately, as each are self-

contained and cover a specific area of graphics programming With Print 'n' Plotter's 'GRAPHICS SUITE', everything is made so simple you won't believe it.

## Justa few of the things you can do ...

#### **PAINTPLUS (GRAPHICS SUITE 1)**

If you want to produce fantastic screen graphics or UDG's on your Spectrum, then you will find PAINTPLUS not only a complete graphics toolkit ... but also the simplest to use at every level.

Facilities include: DRAW, PLOT, ARC, CIRCLE, FILL IN SOLID OR PATTERNS, FILL IN OVER MODE, DRAW RADIALLY, ARC RADIALLY, ENLARGE TO EDIT, PAPER WASH, BOX DRAW and so on

BOX DRAW and so on As well as drawing, PAINTPLUS has a tremendous UDG section. It also has UDG "grabbing" from screen as well as full facilities for defining, saving and loading UDG sets. The Organiser section of the program

The Organiser section of the program enables you to automatically store multiple screen graphics or multiple UDG banks. PAINTPLUS comes with a demo of screens, animation and alternative character sets, plus a

PAINTPLUS comes with a demo of screens, animation and alternative character sets, plus a copy of Print 'n' Plotter PICTURE BOOK – 100 pages of instructions, hints, tips, listings and related graphics information.

#### **SCREEN MACHINE (GRAPHICS SUITE 2)**

SCREEN MACHINE is the graphics manipulator.

Use it when you want to take your graphics and turn them into professional machine coded data for use in BASIC or M/Code programs. For instance:

SCREEN MACHINE will compress the memory consumption of your graphics to cram even more into the computer's memory –

As well as memory compression, SCREEN MACHINE allows you to put your graphics through a series of highly-sophisticated graphics manipulations.

These include ENLARGE, REDUCE, RELOCATE TO OTHER PARTS OF THE SCREEN, STEP AND REPEAT, BLEND SCREENS TOGETHER, RECOLOUR SELECTIVELY OR GLOBALLY, FLIP SCREEN, etc.

And SCREEN MACHINE also has a dedicated Text Compiler – ideal for anyone who uses lots of text for instructions or menus on screen.

SCREEN MACHINE also comes with a copy of PICTURE BOOK and a demo that's so good you can't believe it.

#### ART-O-MATIC (GRAPHICS SUITE 3)

Ever wanted to produce screen graphics for Adventure Games, Educational, Training, or Scientific programs and run out of memory because the graphics handling consumed too much memory?

If so, you need ART-O-MATIC, Print'n'Plotter's great new graphics compiler. With ART-O-MATIC you can draw, define and

with ART-O-MATTC you can draw, define and store an incredible number of screens or parts of screen in your programs as compiled instant machine code which is usable from BASIC or M/C.

The exact amount of compression possible depends on your graphics, but up to 99% is possible and an average of 85%-90% is usual. ART-O-MATIC is a complete graphics

drawing program, so you can produce your works of art and compile at the same time.

The instruction book and demo that comes with the program show you *everything* you need to know about cramming great graphics into your Spectrum.

#### **SPRITE MACHINE (GRAPHICS SUITE 4)**

There have been a number of programs called Sprite Generators. Most of these are selfcontained and not a great deal of use to people who want to use Sprites in their own programs. SPRITE MACHINE is different. This program

was written with you in mind – whether you are a professional, amateur or beginner.

There's never been a simpler Sprite program to use. All you have to do is draw your Sprite and then choose from a fantastic range of options to get it doing what you want.

You can: animate your Sprites, choose any direction and starting position, adjust speed, adjust height, choose running time, decide on edge actions such as bounce, wraparound, reflect or stop, make intelligent decisions like strike and collision actions, colour your Sprites or take colour from the screen, trace or nontrace, etc.

The program comes complete with a cursoroperated Sprite drawing board and catalogue/ store function.

Instruction booklet and demo are included with the program.

Now you can have professional Sprites in every program you write.

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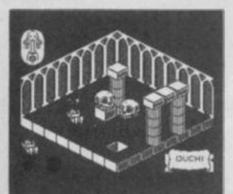
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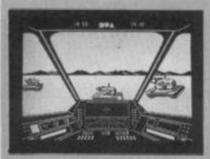
Name ....





Confused? You will be, when you read this zany bit of prose. Come on in and enter the world of Sweevo, a cute but absolutely clueless robot. This brainless heap of metal is extremely intelligent, clumsy, accident prone and has a lot of faith in apples.

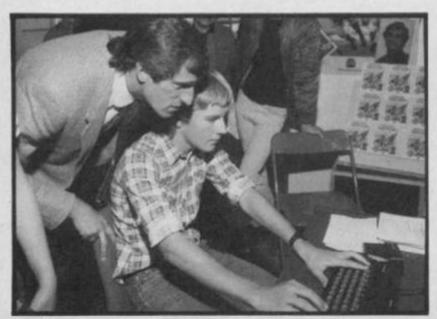
Gargoyle invites you to help poor 'ol Sweevo reach Active Status by getting rid of the widgets (don't ask) and clean up Knutz Folly. It sounds completely Knutz to us!



You can tank Ariolasoft for this game. Called Skyfox, it's a flight and combat simulation that's defected from those Commie devils onto the winning side, ours! The Speccy version costs £8.95 and is due for release on January 6th. So, strap yourselves in and take off in your Skyfox to shoot up your Skyfox to shoot up tanks and shoot down planes. That'll show those Commies!

Hey, Jude. Yesterday, all my troubles were so far away. Now it seems there here to stay. Help! I wanna hold your hand. Remember the fab four? No 9 Software has just released Beatle Quest, a text and graphics adventure for the Spectrum specially designed for all you children of the Sixties. It's based on the song lyrics by John, Paul, George and Ringo, 'cept he never wrote any, and features puzzles involving thirteen of their most famous songs. Quite a Magical Mystery Tour.

 Calling all technobrains<sup>1</sup> Maplin ics has just released the 66 edition of its catologue that es you all the gen on the latest dery bits and bobs you can der together. That's der logenner, rhan s nponents to all you hi-tech (s – you ve got hundreds of devils living under your (board, if you want to know re about their feeding habits Maplins book will tell you all for



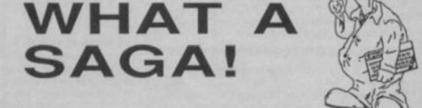
Ray Clemence, top international goalie and professional football hunk launches MacMillan Software's new game, World Cup Soccer. Nice one Ray!



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Stop holding your breath – the winners of the Saga Compo are about to be announced! Gasp! Corl Wow! Calm down for a minute and cast your minds back to your spectrum 19 where we asked you what you'd do with your Speccy's rubber because. The four first prize winners certainly came up with the goods. Adam Norton of Farndorough said 'T d have it framed' and enclosed ilustrations of 101 uses for a food Speccy keyboard. Alan Bristow of Grimsby sent in a poetic use for his faithful there a Your Speccy compo'' and that's just what he did – a blackmall type letter made up of the keys I And finally A Burton from Barnsley who produced an excellent drawing. (Another keyboard gone for a Burton, en'? Ed.) Congratulations to you all. cu'll all be receiving a Saga 3 Elle keyboard. The fore become prize winners who each get a says a keyboard are Colin Maclaren of Pasiley, for his tippexed message. Trever White and D Harwood who sent in cartoons. Take a look for yourself and see what cu thinks. The three Saga 1 keyboards go to P Camp of Cowley, Coin Reekie of File and the just leaves us time to say a big thanks to everyone who entered – you'll all be receiving your 25 discount vouchers soon.



Here's one for the Guinness Book Of Records – Troubleshootin' Pete thinking? Well, he needed to 'cos he had to take on macho man Chris Palmer at the recent launch of Ariolasoft's Think. And shock, horror, gasp, Pete won!



What an amazing discovery! Opus's sales fall mainly in Spain and Italy and Germany and Sweden... Well that's what John Harris, Opus' Sales Director says. "We've made a tremendous impact in Spain and secured contacts in other countries too!" And the baby behind all this success? Well, that's a Discovery.

Eek, it's a mouse. Mice were never really a problem that Frontlines worried about too much. But now the place is overrun with them. Fortunately, the one that AMS sent us has a lead attached to stop it running away from the Speccy. The idea is to grasp it in the palm of your hand and move it around while pressing its ears. Cruel but after all it's only plastic. The AMX mouse, from AMS, costs £69.95 - for that you'll get body, tail and interface with a **Centronics printer facility and a** fully illustrated operating manual. Much more important is the software - AMX Art is a drawing program that uses trendy icons and pull-down menus. For more details about the feeding and breeding habits of your mouse, call AMS on 061-483 2737.



Get your teeth into this! Domark has donated 100 pairs of falsies (teeth, silly!) to Frontlines and we're gonna give 'em to you. Just tell us whether people with wisdom teeth are cleverer than others and send your answer on a postcard to Your Sinclair, 14 Rathbone Place, London W1P 1DE. And if you forget to tell us your name and address, you won't get no fangs from us!

What a posy pair! Wonder-boy Stevie Smith and Yehudi White here are playing at the Black and White Minstrels and singing a merry note, to the tune of a cool one million, Saga's latest turnover. P'raps someone should teach them a thing or two about their instruments. The only noise their

keyboards are likely to let out is a little wine!



# T'zers...

The YS team has certainly been zipping about the country this month - it's a wonder we've had any time to write the magazine! I've been to see the Spectrum version of The Young Ones 'see the amazing preview this issue) at Orpheus' neadquarters in Bedfordshire. And what a hike that was - still I was well looked after by those nerdies at Orpheus. It's actually in Gamley, near Sandy and the office is a converted mill. There's even the original pigsheds maybe that's where it locks up its programmers while they're writing new games!

Troubleshootin' Pete had a flying visit to Bury St Edmonds (wise man) to see Martech's new game, **Zoids**. It's a strategic wargame where you have to pit your wits against the evil robot Zoids. More of that next issue.

So what else is new this month? Well, Saga is about to release a word processor that it says is better than **Tasword** — we shall see! It's also going to bring out another keyboard, the Saga 2+ but that's all I know at the moment.

Domark is keeping busy. It plans to release eight to ten games next year and there's a good chance that you'll be seeing **Eureka II** amongst them. There'll be prizes too, though not on the scale of **Eureka** sorry chaps. Oh, and I nearly lorgot, Domark is also hoping to secure the rights to the new James Bond film. Let's hope it'll be better than the last one game that is!

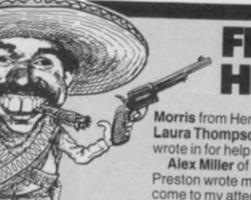
Electric Dreams is bringing out **Back To The Future**. Funny that, since it didn't know anything about it last month. Well, you know where you read it first.

Ocean has plans to release absolutely zillions of games next year. You should see the appearance of **Cosmic Wartones**, a shoot'em up, **Nomad**, another shoot'em up and **Hunchback II**, not a shoot'em up (it's an adventure) before Christmas. Things should hot up even more in 1986. January sees the release of **NFL Superbowl** to coincide with the final of the Superbowl.



These two wenches were out promoting Sir Fred when they fell into the hands of programmers David Perry and Nick Jones. Now who's gonna rescue these poor damsels in distress?

Seems that Quicksilva has joined the wargames bandwagon. Set in the final stages of a terrible war (aren't they all) Death Wake will have you quaking in your shoes. You play the part of the Admiral in Chief with the awesome task of restoring the homelands' morale and helping his army reclaim lost territory. But it ain't easy — the enemy is only a step away from producing, da da, an atom bomb! Sharp intake of breath. Arm your battleship The Undaunted and prepare to destroy the enemy. This is your last chance.



Eh, gringos come an' sip a tequila with me in the shade of that cactus for a fistful of faux pas — oops sorry wrong language!

D'you know. I woke up this morning with a dreadful feeling of foreboding something was going to be drastically wrong. Just shows how wrong you can be. Something didn't go wrong everything went wrong!

Apart from treading in the remains of a Tandoori take-away from the night before, I found the postbag choc-a-bloc with letters from frustrated readers who couldn't suss out the Nightshade POKEs from Hacking Away in the last ish.

Okay, nip off and dig out a pen you're gonna have to do some writing as well this month. Done that? Right, turn to page 28, proceed to the bottom of the first column and make an emergency stop at the 'see final screen when you die' POKE. Now all you've gotta do is add '0' after the last POKE in the block of three. Simple innit? That should sort you out and **lan**  Morris from Hemel Hempstead and Laura Thompson from Epsom who

FROM EL

Alex Miller of New Longton, Preston wrote me a note saying, "It's come to my attention that certain printer manufacturers are getting a little shoddy in their work. Gone are the standards of the British Industry... Get to the point Alex. "I can't suss out the listing of *The Grid*, *Your Spectrum* 21. The offending lines are on the bottom of page 72." Hmmm, I see what you mean. Line 49576 should read:

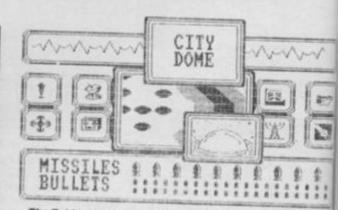
BB 34 10 F5 21 4F BB 34 = 851 More printing problems come from Daniel Golder from Benbulben, Co. Sligo. Daniel's having difficulty reading line 4740 in the *Worm* listing in last issue. It actually reads: 4740 IF T-2 THEN LET T=25:

PRINT AT 20,2" "

Got that Daniel? I hope that solves all your worries.

Well that just about puts the lid on it for another month. If you have any problems with the programs or the POKEs in the mag, drop me a line and I'll try to come up with the cure. Send your missives (Or your missiles! Ed) to From 'whatever-language-he's-intothis-month' Hip, YS, 14 Rathbone Place, London W1P 1DE. Adios pardners.

TROUBLESHOOTIN' PEDRO.



SEE YA LATER, GLADIATOR

Now you know just what it's like working on YS — not much fun! Slaving away over a hot typewriter, thrown to the lines, being instantly whipped by his imperial majesty, the Editor. Doesn't he know that Rome wasn't built in a day? Who's ya hero, Nero? (Get on with it, slave. Ed) Well, in Roman times, nobody and nothing was free unless you fought for it. Domark has recreated the atmosphere of the Coliseum in its new game, *Gladiator*, reviewed in this ish. But fortunately you won't have to fight for the freebie that's on offer. To find out if our gladiator here ever makes it to the top, just fill in the coupon (or a photocopy of it) and send it to Domark. In return, you'll receive a huge full colour poster of the complete cartoon. That gets the thumbs up from us!

Those of us who are about to receive a full colour poster of a Gladiator in action, salute you.

Name.....

Now send it to Domark Ltd, 204 Worple Road, London SW20 8PN.

IT'S NOT MUCH FUN

TO BE A SHADIATOR

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The Zolds are coming to a Spectrum near you. Mighty met monsters locked in mortal combat in Martech's ne megagame. Mmmm. You can get a good idea of the game fre this exclusive preview screen shot. Your mind has be merged with the Zold and what you see on the screen exactly what the Zold sees. Your mission is to find the s scattered pieces of Zoldzilla and restore him to wholenes

> Hey this is really off the wall or maybe off the floor. The Stock Exchange has just surfaced as a new software company and its first offening is *Bulls And Bears.* And no it's not a platform game set in a zool It's an investment game. Cor maybe you get a free copy of the FT with it!



Crikey, Virgin games has made so much dosh out of Now Games that it's decided to bring out a sequel, Now Games 2. Virgin Games' MD Nick Alexander said, "We were so pleased with the Now Formula that we're doing it again!" This time round Virgin's sticking on Elite's Airwolf, Tir Na Nog from Gargoyle, Cauldron from Palace, Chuckie Egg 2 from A'n'F and World Cup from Artic. Hang on though where's the Virgin game then? On second thoughts maybe it's not such a bad move to leave it out! Just a ioke, guys.



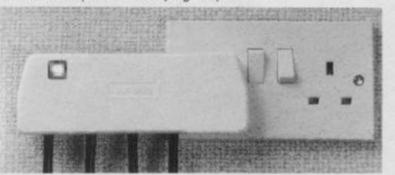
Hot on the heels of *The Art* Studio, Audiogenic has released *Icon Graphix* just in time to sneak onto the shelves before *Artist II.* It looks very much like a Commie conversion and lacks the one thing that everyone's screaming for — a mouse! Everything else is there, though — pull down menus, icondriven commands and amazing fill structures. At £9.95 it's not a bad buy — even better if they'd included a rodent option.



Crikey! Those little devils at Conblock have been taking sneaky photos of the YS office power point. Bit messy we admit. Still at least we've now got the chance to

buy Conblock's new four-way adaptor. It could knock your block off!

And if that doesn't switch you on, what about Duraplug's new fourin-one plug — the MultiLine? No need for four separate plugs just wire up four appliances into the one megaplug. What will they think of next? (A five-in-one-plug? Ed).





Wacky software house, Global Software, is on the verge of releasing some new games. There's The Beer Hunter, calm down all you CAMRA fans, and Attack Of The Mushroom People — hey that's really heavy man. Look out for them early next year.

Buonos dios Juan, gotta new motor? Lucky old Juan Manuel Perez Vazquez picked up a cool £12,800 as the prize winner in Firebird's *Gyron* competition. He decided against the Porsche. A wise choice — imagine the insurance for a 16 year old!

### •••

Tony Rainbird proudly announces the launch of Rainbird Software. Co-founder

on the new company. Rainbird Software will

type packages including

of Firebird, Tony has handed over the company to Herbert Wright so he can concentrate

produce mainly state of the art

applications software, strategy games, adventures and

simulations. Good luck Tone.

Here's an interesting little fact. If you unroll all the **Rasputin** tapes we gave away last issue and lay them end to end they'll run to 2106 Kilometers. Wow! Ed reckons that's the distance between here and Russia, but then he's never been very good at geography.

What else? Oh yeah, **Movie** — an interactive 3D adventure. The action takes place in gangland New York and you've gotta find a cassette tape that contains vital info. Sounds fab! And for sci-fi addicts there's V. It's based on the TV series. Ocean is also rewriting **Street Hawk** 'cos it thought it was too dreadful

to market. For once it's the first to admit it.

The rights to Superman outside the UK have been snapped up by software giants US Gold. Argus Press Software

hasn't exactly taken the charts by storm this year even with its subsidiaries Ouicksilva, Bug Byte and Lothlorien but it looks set to release simply squillions of games next year. Let's see how good it is at keeping its New Year resolution.

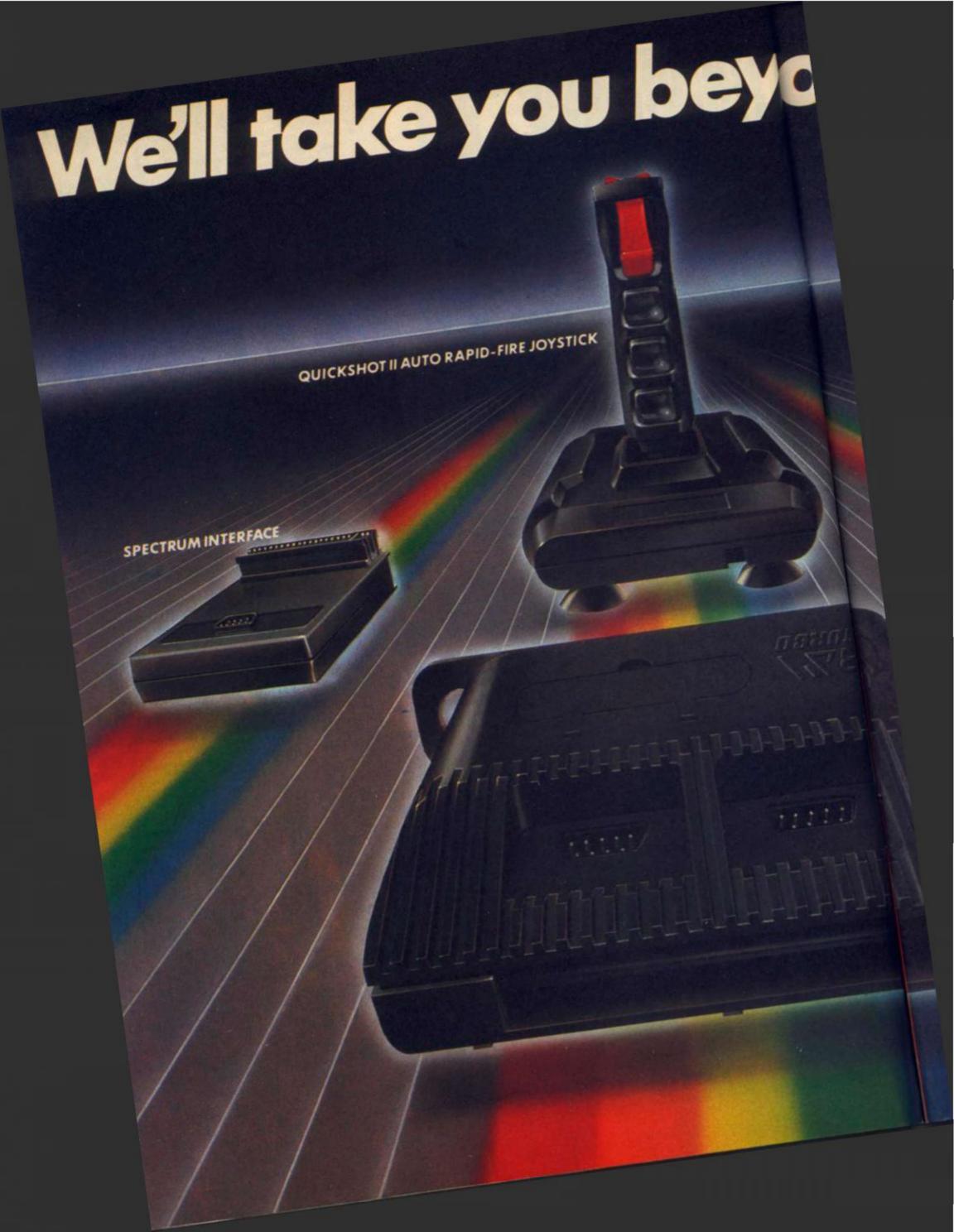
One of the first of these games will be about telly's favourite plastic presenter, **Max Headroom**. It's due to stutter out s-s-sometime soon.

And finally we've a detective story with a happy ending — but don't try this yourselves kids. Odin had a break-in about a month ago and thieves got away with a lot of old deleted titles and eight copies of **Nodes Of Yesod**. Paul McKenna

Yesod. Paul McKenna said, "Villains smashed down the door of Bug Bytes' premises where we were storing some software and helped themselves. We put the feelers out and got info that the goods were out on the streets in

Manchester and Liverpool only an hour later." Odin actually recovered nearly all the software and six of the eight copies of **Nodes Of** 

Yesod but not with the help of the Police as I'd assumed. "Once we knew who had stolen the stuff and where it was located it was fairly straightforward. We just paid a little visit to these villains at 1 o'clock in the morning and got back all the stuff. They certainly won't do it again." That sounds ominous. Paul added, "Incidentally we weren't insured." Good job you got your stuff back then, eh lads? Teresa Maughan



# ond the Spectrum.

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Where can you get your hands on Ram's amazing Spectrum add-ons? You can see them at branches of Boots, Menzies, Spectrum Group computer centres, and good computer stores everywhere. Or return the coupon below.

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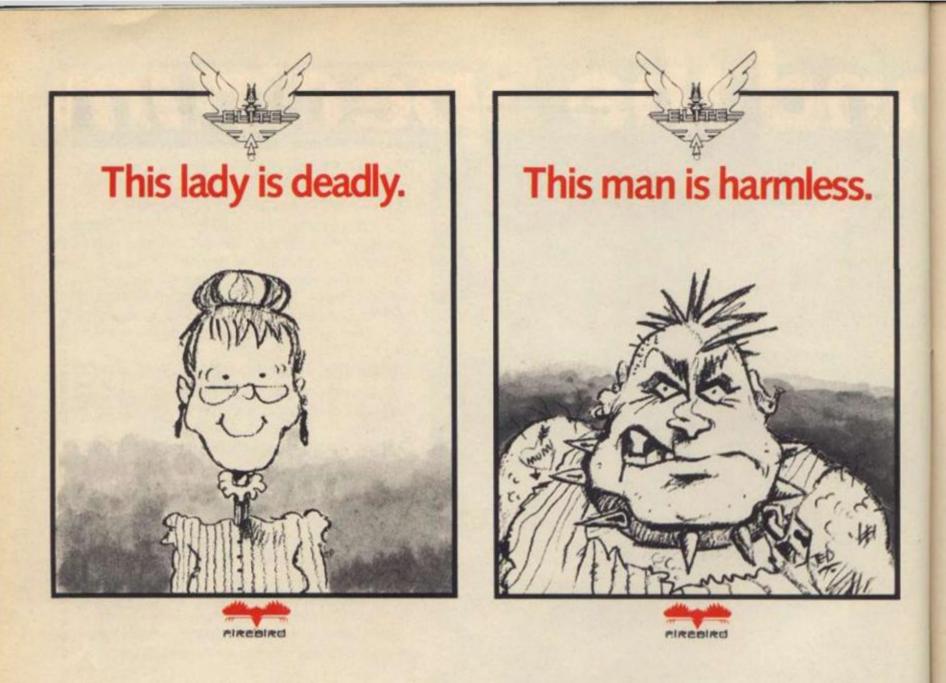
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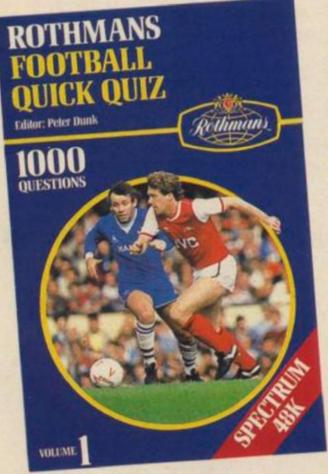


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Cassell Software from HOLT SAUNDERS



What the Q 'ell's going on for the QL? Find out here...

Metacomco is delighted with sales of its latest product QL C which was launched in September. A Metacomco spokesman told Frontlines, "QL C has sold extremely well since its release and is now one of our most successful products."

CDS has just released the QL version of Steve Davis Snooker — right on cue. And very playable it is too. Among its features you'll find computer play options with demo games, editing facility so you can set up your own tricks, three table speeds, accurate control over the degree of spin, joystick option and a variety of skill levels. And all for £14.95

The only trouble is we reckon it cheats. C'mon, even our Steve couldn't have pulled off some of the stunts the computer was throwing at us. There was this trick shot... (Hmmm, sounds like someone's a bit of a bad loser. Ed)



All looks jolly interesting, Steve!

Psientific Software has just released Q Calc at £9.95. It gives you an on-screen calculator that multi-tasks with other programs and is available at any time. It runs perfectly happily with programs such as Metacomco's Editor and there's even a cut-down version called Mini-Calc for use with programs that require a lot of memory like the Psion packages.

Marriage a la modem. This complete communications package from Tandata is designed to colour coordinate with your QL. Called QL-Comms it consists of three modules that stack together. Q-Connect is an intelligent serial port that includes all the software you need for full viewdata and Prestel emulation. Q-Mod is a matched modem operating at 1200/75 bps and 1200/1200 half duplex. Finally, Q-Call completes the system with an auto-dialler that also works as an auto answer modem. And the cost of this little lot? £173.90 plus VAT. Tandata's just bought the system off another company, so if you'd like to buy one off them, give 'em a ring on 01-940 6211.



Firebird Software has finally decided to leap on the QL bandwagon with its first offering for the QL — Booty.

Booty sold over a 100,000 copies on the Spectrum and Firebird reckons the time's right for more games for QL owners, so it's decided to convert it. It's a platform game that takes place on board a ship. You play the part of Jim, the cabin boy, and have to wander round the ship collecting a number of keys that'll enable you to open the pirate's treasure chest.

Booty costs £9.95 on microdrive - more than other Firebird games, but to offset this Firebird has decided to throw in another game, Grin Wars, completely free. When asked why Firebird had decided to move into the QL market, Phil Pratt said, 'We've been approached several times by hardware dealers urging us to bring out QL material and it seemed a logical step as many of our games are already available on the Spectrum." He added, "Many QL users have been left in the cold when it comes to games as there simply aren't that many available. We think it's good to have a presence in the market.

Booty should be available shortly before Christmas for all those hankering after some QL game madness. CARACTERISTICS DISK DRIVE VERSION (CST, MICRO-PERIPHERALS ETC.) £15.00 VAT

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Davidson - Your Spectrum

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Wanna know who's chasing who up the charts? What bubblers have burst on the scene or what raves from the grave are still grooving around? Then cast your opticals no further — all that's hot is here in the YS Hit List.

#### **Chart Chat 2**

This month's chart sees *Fairlight* dropping down from the top spot to number 6. Melbourne House's two martial arts games, *Way Of The Exploding Fist* and *Fighting Warrior*, have also been chopped down to size dropping from number 2 to 5, and 4 to 7, whilst *Daley Thompson* is holding his own at number 3. *Frank Bruno*'s own particular brand of exploding fist still lurks around the nether regions of the chart (*Bit below the belt that! Ed*)

The chart's high flyers have gone underground this month. Monty Mole has burrowed his way straight up the chart and surfaced in the number 1 slot with Monty On The Run. Close on his heels (or should that be paws?) is the underground bunker game, Impossible Mission.

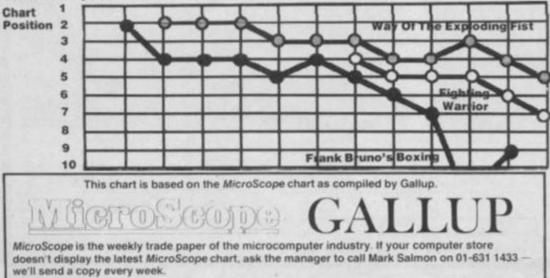
Adventures seem to be out of favour though. Starquake, Gyroscope and World Series Basketball all enter this month, whilst Shadow Of The Unicorn, Bored Of The Rings, Nightshade and Sorderon's Shadow all 'Go West'.

### **This Month's Top Ten Titles**

Position	Last month	Weeks in Chart	Title/Publisher
1	-	5	Monty On The Run/Gremlin Graphics
1	-	3	Impossible Mission/US Gold
3	3	8	• Daley Thompson's Super Test/Ocean
4	-	2	Starquake/Bubble Bus
5	2	11	Way of the Exploding Fist/Melbourne House
6	1	8	Fairlight/The Edge
7	4	6	• Fighting Warrior/Melbourne House
8	-	1	Gyroscope/Melbourne House
9	-	2	World Series Basketball/Imagine
10	8	10	Frank Bruno's Boxing/Elite
-			

#### **Fist Fight**

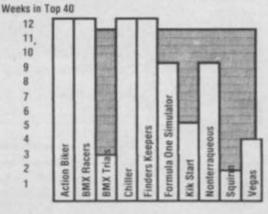
This chart shows the ups and downs of the fighting freesome (shome mishtake shurely! Ed). Those inscrutable oriental types seem to have the droop on our own Frank Bruno — but then again, they don't play by the Queensbury Rules!





#### **Masterful Ten**

In recent months Mastertronic has had ten hit titles. Five of these have helped Speccy owners get their show on the road, on either two wheels or four. In particular, Mastertronic's Action Biker and BMX Racers have both had a sustained period of success. The bar chart below shows how each of Mastertronic's games has faired over the past three months.



When Mr Bobo Baggybelly of Rathbone End announced he was about to celebrate his eleventyfirst birthday and the launch of Melbourne House's Lord Of The Rings with a magnificent compo there was much talk and excitement in Speccyton.

otta we gotta do?" said Dilli and Divvi with one voice. "Something about summarizing Lord Of The Rings."

"Bored of the Things?" asked Frond, Basildon Frond.

"No, *Lord Of The Rings*, the Tolkien book — we have to tell the whole story in less than 25 words."

"What's it worth?" asked Dildo

"Yikes — it says here a wow, whizzo, amaze-ing, absolutely fave rave and fab hologram worth squillions of readies" "What? You mean one of those fabarama

3D amazingly life-like images that you can hang on your hut wall?"

"Who's it of?" cried the assembled mass of Rathbone fairy folk.

"Er ... the Dark Rider"

"Spooo — keee" said Gland Alf, silently. "Groo" said Baggybelly "Who's coming to the goblin party?"

"After we've filled in the coupon — even thirty runners up get copies of the game" So send your entries to Bobo's hole in the ground — not a nasty, dirty wet hole you understand, oozing with worms, but because it's an editor's hole, one that means comfort — its address is *Lord Of The Rings* Compo, *Your Sinclair* 14 Rathbone Place, London W1P 1DE.



Lord of the Rings Runes, sorry, Rules 1. Entries should reach us no later than February 28, 1986, earthling calendar, that is. 2. There is no rule 2. 3. Bobo Baggybelly's decision is final. No correspondence will be entered into because

correspondence will be entered into because the postman won't go to Middle-earth - he won't even go to Middle Wallop.

\_\_\_\_\_\_

	Honest Injun, I don't live or work in Rathbone End. The complete story of Lord of the Rings in less than
ľ	twenty five words is
	Name Rune
ł	Address Rune
i	
	Daytime Tel. number Rune
Ŀ	Lord of the Rings Compo, Your Sinclair, 14 Rathbone Place, London W1P 1DE
	If you don't fancy cutting off Bilbo in his prime use a photocopy instead.

## #GLADIATOR



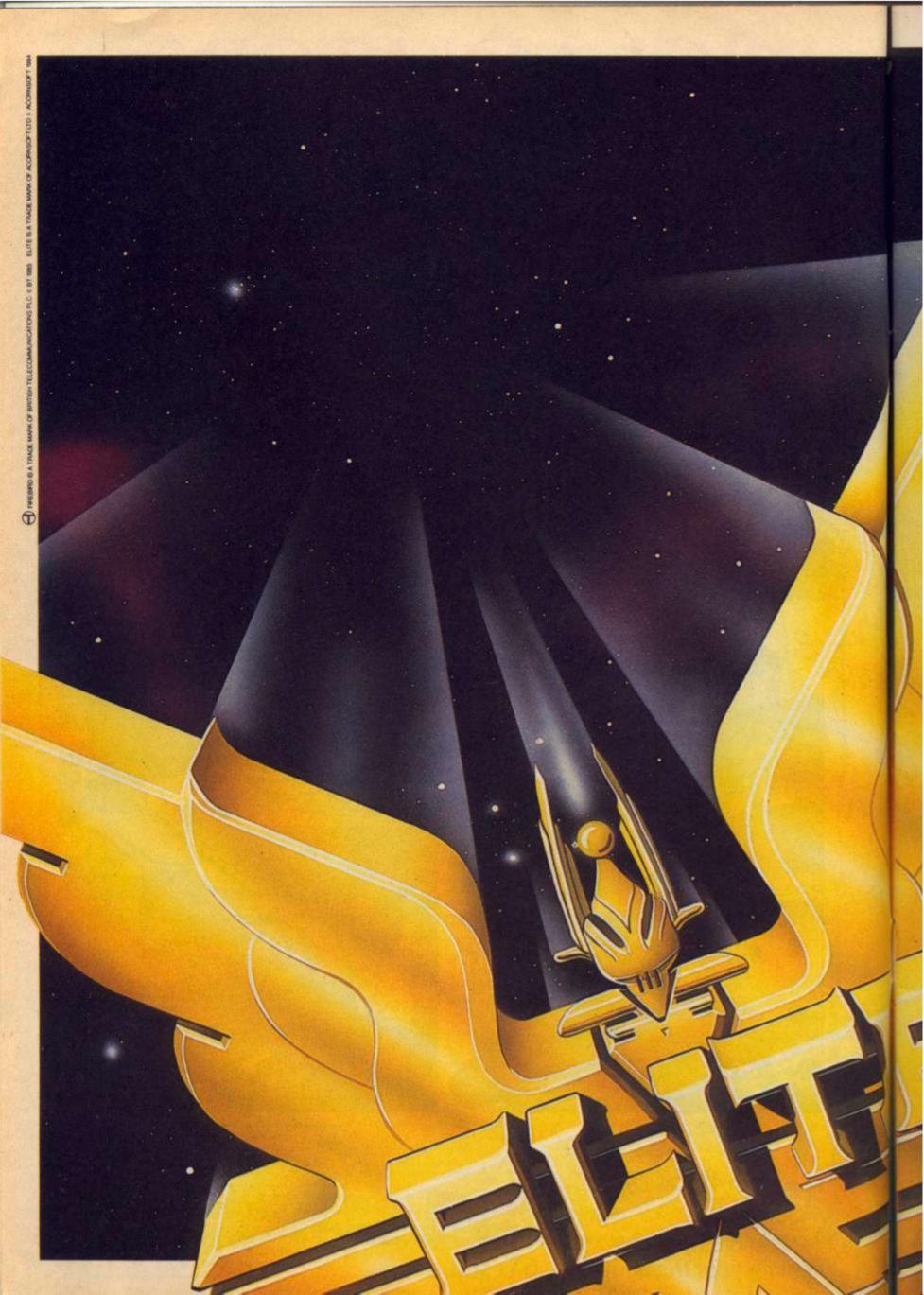
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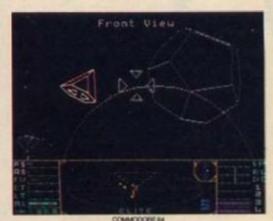
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up combat skills to win ratings of 'Average' to 'Dangerous'. If you can handle it you could become one of the **Elite**, and win the chance to compete in the Elite World Championships. It's dangerous all the way.

"To play it is to be entranced, enthralled and ensnared... stunning." (Computer & Video Games Magazine).

"A brilliant game of blasting and trading...truly a megagame" (Gold Medal Award, Zzap! 64 Magazine).

"One of the most imaginative games ever designed to run on a

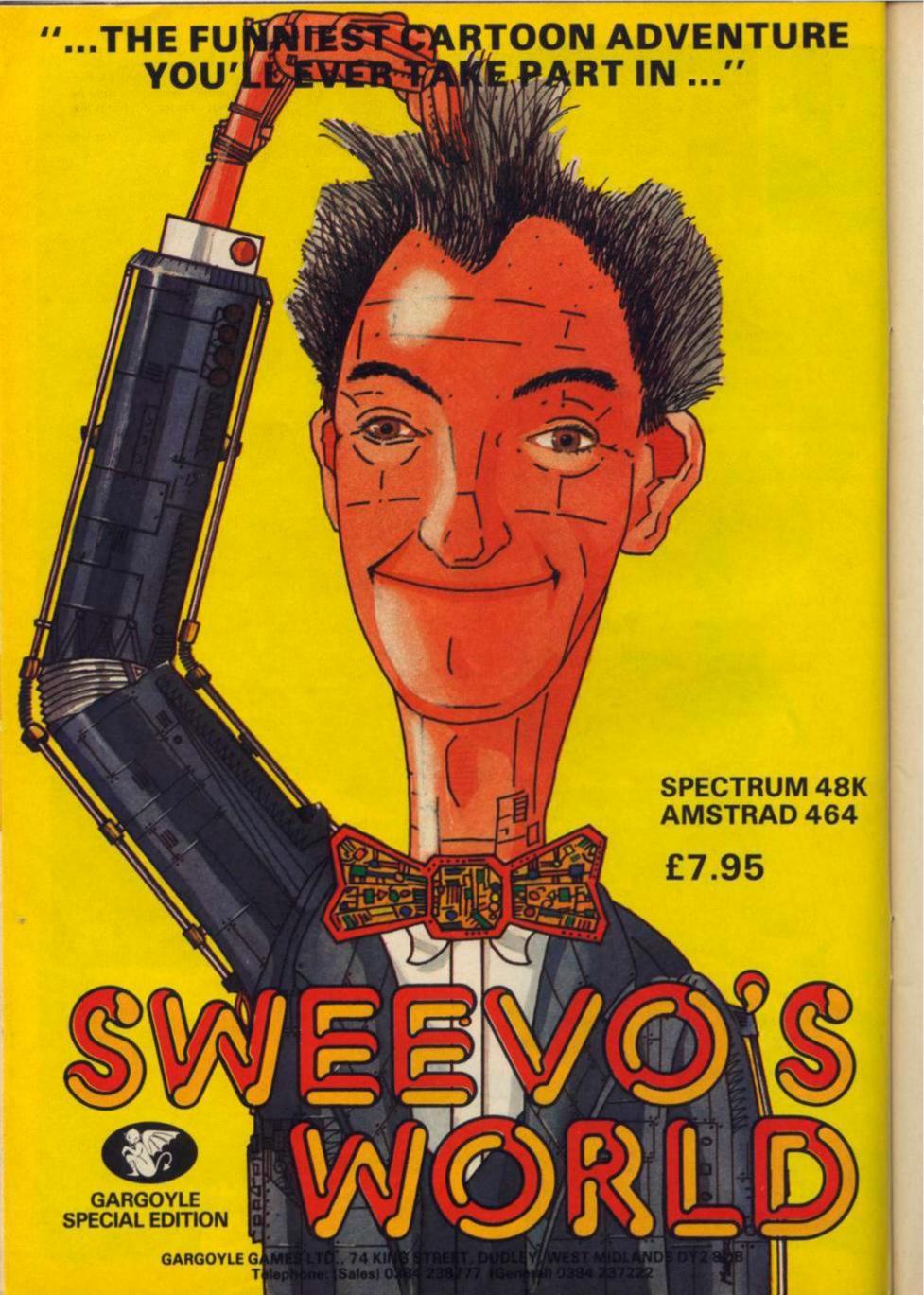
home computer ... " (Crash 'Smash', Crash Micro Magazine).

Elite is here now for the Commodore 64 and 128 and Spectrum, and (very soon) for Amstrad and MSX too – complete with Manual, Novel, Control Guide, Ship Identification Chart and more. Elite. Be dangerous. Front User

\*Zzap! 64 Magazine.







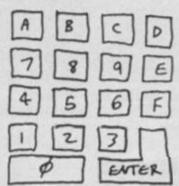


#### YOUR SINCLAIR, 14, RATHBONE PLACE LONDON W1P 1DE

#### A HEX ON YOU

I see that the new 128K Speccy has a small keypad attached to it. That set me wondering why a manufacturer hasn't yet come up with a hexadecimal format keypad to make typing programs in hex format into the Spectrum easier.

Such a device could plug into the interface port and simulate the relevant keys. It could look like this:



The arrangement of the keys with hex letters A-F on it, would certainly be more useful than a keypad with just numbers on it.

Perhaps YS Enterprises could market it. I'd certainly buy one! SG Wylie

#### Ramsgate, Kent

Now there's an idea. Pass the soldering iron, Pete. But what do we do with all those left-over letter transfers — the ones that run from G-Z? Anyone else got any more bright ideas? Ed.

#### **STAR CROSSED**

I was very pleased to see my letter in your September issue made Stor Letter.

I was even more pleased to see that a bundle of free software was on its way to me. Is it waiting - or where is it waiting - or what is it waiting for? I've just got the October YS and I see there's a bundle of free software for HIM too. Do I have to write 'more' Star letters and build up a 'bundle of free software' worth posting? Is all this in my mind? Am I dreaming? Does YS really exist? (All these questions will come under discussion in Philosophy - What's It All Mean and Why Are We Watching Channel Four At A Quarter Past Midnight? Ed).

Please write soon or I'm

sending my wife to stay at your office for a month. Then you'll know what hassle is and why I need my Speccy so badly! Mac Pittman Newark, Notts

I just hope your wife doesn't read this or that's one less reader for YS. As for the main drift of your draft, I'm very tempted to make this the Star Letter again and not send you two lots of free software but I s'pose it's somebody else's turn not to receive 'em.

Oh, alright, so someone here's been a bit lax but I'm not going to say exactly who — it might just be me. I'll get one of the minions to look into it. Peeeee-ter! Ed. Who're you calling a minion — I am not a vegetable! T.P.

#### **IT'S NO LAUGHING MATTER**

This is going to be a sensible letter. (It'll be the only one in the mag then! Ed). It therefore follows that I shouldn't mention Peet Shore's name and indeed I haven't.

The Troublemaker (shouldn't that be shooter? No, he always misses!) has been makin' trouble lately, though.

Take From The Hippy in Your Spectrum 19. Here Pete tells us how to 'deal with' dec/hex conversion. He tells us to put the number we want 'dealt with' into the A register and call the shadow routine. Notice he never actually says that this is the number that'll be converted — which is just as well since he doesn't tell us where the hex value can be found.

Maybe this is partially

caused by his physical disability — I wondered who the 'Invalid' in all those error messages was! Apparently, he doesn't have a 'beak to sip me coffee' either. I've always managed perfectly well without one ... I don't feel sorry for Gollum!

Has anyone tried using the USR call from Codebusters on the YS MegaBasic input command? Nope? Well try it!

Can I say hello to Carl Whitwell? (No, you ruddy well can't. What d'you think this is?

Radio 1? Ed) **Paul Taylor** (Hacker Extraordinaire) PS I'd use my old Speccy

keyboard as a rubber fly swatter (CW). Don't get many rubber flies around here (PT).

Is there a doctor reading the mag? Quick, I think the Ed's just had a nasty attack of philanthropy. This — the Star Letter? Can you blame me for not sending out those bundles of free softwarel **Trouble**shootin' Pete Yes! Ed

#### WE-EIRD!

Hey you. Yes you, the purple frog with the six heads, nineteen eyes and the little sign on your desk reading 'Ed'. (1 do hope you're not referring to our illustrious leader — well, it is the time of the year for my pay rise! Troubleshootin' Pete). You will:

1. Please send me full details of this new game, Alien 9 you seem to have invented in Input/ Output ish 21. Or could it be ... No... it can't be ... yes, it's a cock up! What am I on about? Put a sarcastic comment here and you won't receive another one of my wonderful letters. (Quick Pete, pass the file of sarcastic comments before he sends us more scribblings like this. Ed)

2. Please award this Star letter or a Trainspotter 'cos this is my third attempt. (Going for the sympathy vote, eh? Ed). Failing that, start up a new award like Weirdo of the Month and give the first to me! It'd shut me up for the next few issues. Yours for ever crawling from the bottom of my elbow.

Mark J Weirdo Jnr OBE,

President of the Hugo is a weird name society. (Membership 2) PS Did you know that the controls for Ocean's new game Rambo are O to go left, P to go right and S to stop firing.

Weird? You're a positive fruitcake! And no, I'm not going to start an award for you and the other nutty member of the Hugo society. You need help, not encouragement! Ed.

#### **RIGHT LETCHER**

I've got a little gripe for you. (What, only one? I'd just love a bunch of gripes. Ed). About a week and a half ago while I was out shopping in a town known to most of us as Stevenage (a small area on Venus for the unitiated) what did I come upon but a copy of Your Speccy ish 20.

Now I would've bought a copy there and then if it wasn't for the fact that I've already got an order placed on the other side of the galaxy with a Letchworth newsagent. Well, I've just got back from said newsagents holding a copy of my precious mag (creep, creep) and what do I find? A couple of compos in Frontlines that say 'and the first twenty people to send in the correct answers to these questions could win . ..'

Isn't that just a bit unfair to all Letchworthians? I bet that at least nineteen of the right answers came from Stevenagel



These cartoons are part of Adam Norton's winning entry in the Saga Keyboard Compo from Your Spectrum 20. Plus Adam, you've now won a game from Doodlebugs!

## LETTERS

Oh, I suppose that making this the star letter will put all these things to right.

#### David Willmott Letchworth, Herts in the right place.

PS While you're at it you could persuade the delivery bloke to come here first!

When it comes to compos the Ed's decision is final and he is unable to enter into correspondence on this matter ie the lazy old coot wants me to give you an answer. And the reason for running compos in YS that so obviously discriminate against Letchworthians is because .... we've got it in for you, we're running a vendetta against the town, we just can't stand you. Happy, now? Troubleshootin' Pete. And now tell 'em the real reason. Ed. Oh okay, what we really meant to say was that the first twenty people out of the Ed's hat win a prize they'd just better not come from Letchworth that's all! Well, not all of them anyway! T.P.

#### WILDGOOSE CHASE

flying doctor.

me a Trainspotters Award by deserve compensation so rush Castlemaine XXXX. I think I something other than from my hat. I almost drank nearly maimed by flying corks jump backwards and I was shock of this mistake made me Great Fire of London. The except for a screen shot of The mag was printed upside down, eyes, I noticed that the whole with tears welling up in my final Your Spectrum (sob, sob) While browsing through the What are you Poms up to? Nuneaton, Warwickshire Wildgoose)

#### An Irate Wallaby (Karl

Ed You to XXXX Casttemaine so. Gone already it's — T.A. no. Like more wally — wallaby about dunno. Special Antipodean an was Spectrum Your of issue last the that realise you didn't. Sport down kangaroo me tie well.

#### THAT WAY MADNESS LIES

I want to tell you how much I like YS but there's one thing that's driving me mad. As I live miles from civilisation — and photocopiers — I'm forced to buy two copies of the mag so that I can enter the compos and take advantage of your features like Digi'T'ape and Program Power. By the time I've cut out all the forms, the magazine is dead and I have to go and buy another copy.

Is this a plot on YS's part to



Seen the newest adventure from Mosaic House lately? Terror-Mole-nosl You have to construct a diary of your Spanish hols. But beware, you must bring back ten out of twelve successful pages of the diary.

Confused? Take a quick look at page 59 of Your Spectrum 21 and see what I mean. Come off it Ed, surely

make more money? The death of a copy of YS is a serious matter and so is my financial position. My solution to this problem is either to give me the 95p to buy another copy or include a pull-out booklet of entry forms.

#### Dennis Carroll Howwood, Renfrewshire

It seems obvious to me that living miles from civilisation is indeed driving you mad. But look at it this way - out there in the back of beyond without even the fun of the photocopier to fill the hours between dawn and dusk, what else is there to fritter your money away on? No discos, no Smarties, no Wham records - hmmm, not so bad after all! All those pound coins jangling around in your pocket means you'll eventually grow up lop-sided which is useful for walking up the sides of heath-covered mountains but not much cop for forming deep and meaningful relationships, and then you'll end up a bitter and twisted old miser. No, all things considered, YS is doing you a great favour. Ever considered buying three copies a month? Ed.

#### **AGONY AUNTIE**

I have a problem. Perhaps you can help me Pete? (You really do have a problem if you think Pete can help you! Ed). Well, actually, it's not me personally but a mate of mine. It's like this. He doesn't know whether to buy a Spectrum or a BBC or even a Commie 64.

I've told him a million, million times to get a Speccy but he's you can come up with something a bit harder. I don't care anyhow 'cos I claim my Trainspotter Award so there! Stephen Trask Rochdale, Lancashire

Herumph. I think you're just making a mountain out of a Mole-hill but you don't terrorfy me. Let's see what the next contender for the Trainspotter Award has to say for herself.

I've just read Your Spectrum 21 upside down for the first time ever — it's worth doing this when you get to page 51 as it's the only way to get a good look at the screen shot of The Great Fire Of London even if you do miss out on the rest of the info on that page! I thought I'd be safe for the rest of this issue. Surely, even you would not subject your readers and fans (?) (?? Ed) to yet more complicated contortions.

Who could have guessed that you — in your wisdom (??) (??? Ed) — had planned

still unsure. D'you think he's bonkers? I mean when I got my computer I went straight to a Speccy dealer. Could you give him a few words of inspiration to make him buy a Spectrum? **Nigel Clarkson Durham** 

Well, Nigel dear, I can see you really do have a problem. Oh, sorry ... your 'friend' really has a problem. But if we're lucky, you may have caught it just in time - another couple of weeks and it could've proved fatal. The trouble is that if your 'friend' can't see that the Speccy has the best games, the best graphics, the best ... well, it maybe that surgery is the only answer! There maybe a hope, though - even your 'friend' will be able to see at a glance that the Spectrum has one great advantage over the other machines. It has by far the best mag on the market this one. So, get round there and show him a copy now. Will



...Owing to a shortage of brain cells in vital areas, I am totally machine code illate... illrate.. blind - see, when they were giving out brains, I thought they said trains so I lashed out for a small, slow one! (Yep, you've got all the makings of a first-class trainspotter! Ed). David M Gibbon Salisbury, Wilts

...and before I run (from Ed's claws) I think Digi'T'ape should have programs on it that are too long for publication in the magazine. This way programmers would feel free to create 30K games. (Feel free! Sounds like a on driving us all up the wall by printing another screen shot of Adrian Mole's Diary under the heading of Terrormolinos?

Now, hanging from the ceiling and confused as to which way up to read your mag, I'm in urgent need of a restorative for the nervous tension caused by this issue of YS — so how's about a Trainspotter Award... or two???(???? Ed) Mrs L O'Neill

#### Transylvania

All that hanging upside down must have driven you completely batty! As for pointing out our mistakes, all I can say is fangs for nothing you really got your teeth stuck into them, didn't you? Still, this month's Trainspotter Award will have your name on it written in blood! You can stake your life on it, in fact. Now pass the garlic, Pete. Ed I suppose you're going to tell me my job's at stake now... Art Ed.

you do that for me? Will you, dear, will you? **Troubleshootin**' **Pete**.

#### SPACED OUT

Here's an incredibly simple idea that everybody probably knows already. But I'll tell you anyway. If you want to put a lot of instructions in a Print statement, after the first quotes fill the remainder of the line with spaces and start writing on the next line as you want it to appear. When you've finished all the information you want to print, you can erase the first line of spaces. This saves a lot of time searching and justifying half words and the like.

Steve (useless programmer and games player) Osborne Carlton, Notts in my hankie

As Mr Caine would say, norra lot of people know that! Troubleshootin' Pete.

good idea. We've got the tape if you've got the time! Ed) Freddie Lewis

#### A Barton lad from Bedford

...I was thumbing through issue 21 of Your Speccy — yes, that's the one with a picture of the Ed on the front cover, grovel, grovel. (Ho, ho, who're you trying to kid. The Ed as Rambo? Dumbo, more like! Troubleshootin' Pete. Uuurgh...if I could only pick up this Bullworker I'd clobber you with it. Ed) Fraser B Wallin

#### Ramsgate, Kent

...Is it true that only Groan-ups can crack jokes as badly the Ed? (Oh, groan. Ed).

Andrew McGutchion Earlsdon, Coventry



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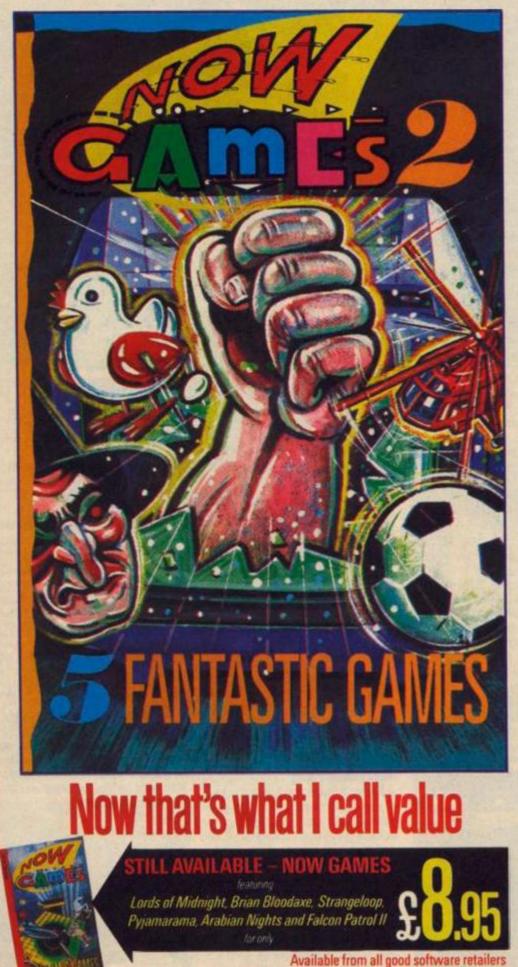
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## Five Fantastic Games Keep your eyes peeled for NOW GAMES 2. Five major software bits jostle for

your attention on this packed-solid-with-fun cassette.





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2. TIR NA NOG - Gargoyle Games

This remarkable interactive graphic adventure allows you to play the mythological Celtic, Cuchulainn, searching for the fragments of the Seal of Calum.



3. CAULDRON – Palace Software Take up the witches' challenge and unravel the mysteries of this beautiful land in this striking arcade adventure.



4. CHUCKIE EGG 2 – A & F Software Help Hen House Harry in the smooth running of the A & F Chocolate Egg Factory! He must find equipment and find out where to use it in this amusing arcade game.



5. WORLD CUP – Artic Computing This great football simulation lets you re-enact the tough fight to the World Cup Final. Play a friend or the computer (a pretty tough opponent)!





That motley crew **Rick Robson**, **Rachael Smith**, Steve Malone, Luke C. and Alison Hjul, are back with their joysticks at the ready to bring you a bumper collection of the latest games.

Microsphere/£6.95 Rachael Oh God, 'orrible Eric's back! Why they didn't expel him at the end of last year I'll never know - he makes that Adrian Mole of 4C look like a saint. But he didn't end his Skool Daze when he stole his report and now he has to sneak it back into the headmaster's safe. That's not just a question of catching masters with a crafty catapult either. Oh no, the alterations to the building have made life a whole lot more difficult and he's even saying he'll come over here into the girl's school. And do you think that the threat of lines from our headmaster will stop him? No! He'll just suck up to his girlfriend and get her to do them.

The reason he's coming over here is because the key to the headmaster's safe hangs round the headmistress's neck. ., and we'll be gossipping about that behind the bike sheds, I can tell you! But the spotty little Rambo is well armed and he thinks it's funny to release a frog or a mouse here.

#### Mastertronic/£1.99

Steve Despite its title, this game is not a philosophical discourse on whether a machine has a soul - score 100 points for each deterministic fallacy disproved. It's instead one of those games where you enter the lair of an evil genius in order to save mankind.

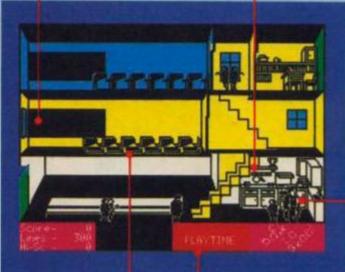
On the face of it, Soul is an ordinary arcade adventure featuring Mastertronic's improved graphics. There's the usual series of obstacled rooms to get through, filled with mobile nasties, and commands to fire and pick up useful objects. However, you won't get out of a section until you find the key. Since both these objects are fairly well hidden, players might find themselves doing a lot of wandering around before





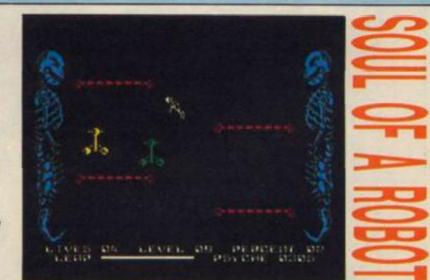
Blackboards are for writing on. In fact, they're the only way to enter the combinations that free the bike and open the biology

How to deliver an eau. Drop the frog in here then lopple it onto the head's head with a pult. Sneaky.



You'll find arm scattered around the desks. When you first enter a room try as many as possible before others occupy them... and don't forget the girls' school. Miss Take, our headmistress, and woe betide if she catches you here. ce can provide a listactory ersion thou

Every school has its timetable — and chances are Eric will be ignoring it. However if he gets caught he'll need to go at double speed because the lines add up if he



#### finding them.

Luckily, the constant buffering you get from the nasties doesn't mean you lose a life, it just diminishes your energy. But be warned! I had to restart the game when my

#### Mastertronic/£1.99

Alison Imprisoned in a maze of caves, embedded in the planet of Doom, you must collect five keys to escape the evil clutches of the villainous Lord of Darkness whilst avoiding the usual selection of traps and nasties.

Well, if that induces the same feeling of impending comatose in you as it did in me, you'll be surprised.

Caves of Doom, with its little boiler-suited hero, may look like a poor-man's Jet Set Willy

robot got itself stuck between a platform and a spaceship!



II, but it's a battle of dexterity and wits as you zoom through forty locations, dodging marauding minions, in pursuit of your ultimate escape.

Well, I'm told there are forty locations - I couldn't even get through half that number. Cheaper than the price of a cinema ticket, it'll certainly keep you glued to the screen for a helluva lot longer!



The target of Eric's struggle, the safe. 'Fraid that door remains shut till the head unlocks it. Watering the pots makes the plants grow. Could producing a flower at the school gates win a female heart\_\_\_\_ and help with lines?



Stairs can present a control problem unless you remember that Up or Down, if pressed early, will still move you forward until you much the stars. How to conker Albert, the caretaker. Drop a stink bomb here when the head's around then knock a horse chestnut out of the tree onto the oddjob man's noggin. But it'll mean more

• Eric's inventory. The well equipped schoolbooy never travels without at least one mouse, some stink bombs and a water pistol... but try to avoid the lines that appear to That boys school still looks like an ant colony and all the old masters, ugly as paintings, are back trying to keep Eric where he should be. Only Eric has to get the bike and get the teachers drunk and to do that he's got to get our headmistress's sherry which gives him even less time for studying than before.

I've always found Eric a bit uncontrollable and there are times when he seems to be going his own sweet way. And the masters are as bad as ever. They don't give you time to move before dishing out even more lines, which might mean that Eric's education comes to an abrupt end. But on the whole I'm sure he'll live to try again, and a lot of

people won't be sorry. I will though. You see, I only know so much about Eric because.... yes, I'm his girlfriend. And if he asks me to write out any more lines I think I'll hand him over to the head myself.



ALADDIN'S CAVE

Steve Just when you thought it was safe to go back into the Mansion, those awfully nice people at Artic have brought out another JSW clone.

Actually Aladdin, Son of Willy isn't all that bad. There are some fairly fiendish rooms to get through and Artic has added stings to the tail.

Firstly, you can change into a dolphin, genie or whatever, which makes collecting objects much easier. The old trick of picking up the easy pieces and coming back won't work on this one. If you leave a room before you've picked it clean, you lose all your other pieces.



CHCKEN CHASE G

#### Firebird/£3.95

Rick This may be a Gallic two screen cheepo that you won't need to buy on higher perches but it's high on the pecking order of this type of game. Essentially you have to direct your petit cock round his coop, upstairs, downstairs and occasionally in his lady's chamber, where the little red rooster learns all about the bees and the humans. Along the way he must eat to keep his strength up to satisfy his Frenchmen's 'apetite'.

However, rotten rodents ranging from rats to stoats keep ripping off Madam's eggs. This harrasses the hen to the point where she wallops our game cock about the wattles. Most amusing.



Rachael The stench of blood in the hot sun. The roar of voices. A battle where victory means freedom from slavery... and defeat means death! Never before has a game captured the spirit of Castle Rathbone so well. *Gladiator* may be set in a Roman arena but the mechanics are much the same. And above all the bloodshed sits Emperor Ed, the man who can give the thumbs down to our efforts.

Domark's addition to the D.S.D. (Do Someone Damage) genre is divided, like Gaul, into three parts. First you can watch a bout or two in the arena, perhaps laying the odd bet, though you'll have to do this in pence rather than denarii because the gambling option isn't any more than a flashing message saying 'Bet Now', as far as I could see. Despite the cheeky suggestion that betting is a programmed part of the game it's a compliment that the fights appear realistic enough to make them worth watching.

Once you've lost all your change by buying Gladiators it's time to practise in the woods. Choose the two player option then leave your opponent static as you dance



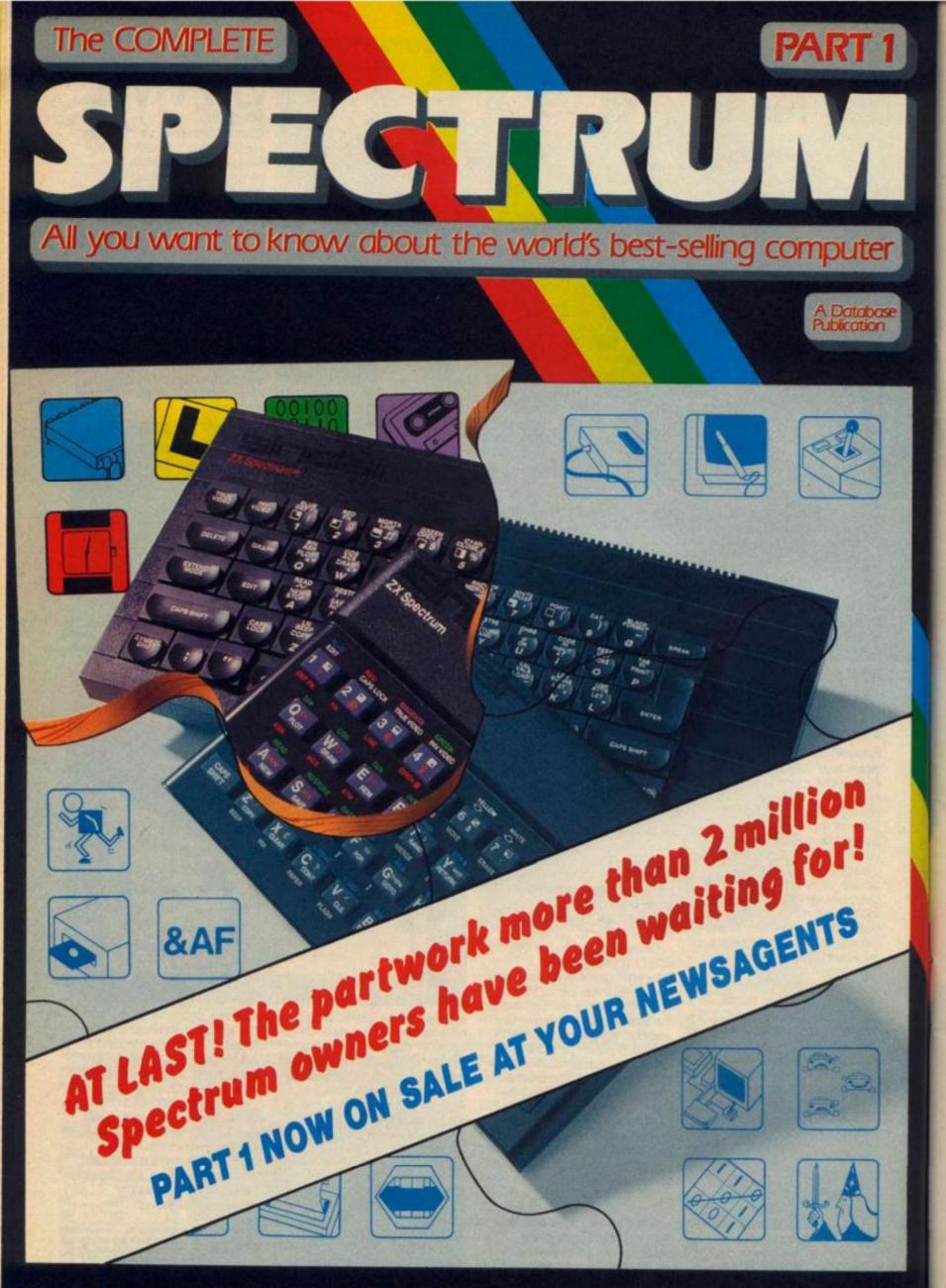
around him before dealing a nifty thrust with a sword. Or a spear or dagger, or throw a net, or whatever, because equipping yourself for combat from the complete classical arsenal is an important part of your preparations. Then it's back to the arena for the best of three falls and the emperor's thumb, which turns

at the end of each combat.

It's an interesting addition to combat games with 25 moves available, though the preproduction copy's method of control, using two prods of the fire button for some blows, is highly unsatisfactory. While Domark promises to replace it, the alternative remains to be judged. Providing it works better than this it should give you real involvement with your fighter. I felt cheated that two player combat is not available in the arena so, in this mode you cannot win your freedom.

Perhaps not the most enduring of games, but with superb animation, it's certainly different and it gets my qualified thumbs up.





In six monthly parts

### £1.50

## ROCKMAN Mastertronic/E1.99

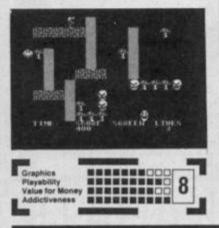
Luke Here's yet another additon to the long line of *Manic Miner* clones where the game's addictiveness more than compensates for the lousy graphics.

As the Rockman, you have to tear around the screen eating mushrooms and avoiding the ghoulish smiling faces that seem to follow you wherever you go. I say 'seem to follow you' because they do have quite a strict routine of movement which can, after a while, be predicted.

Rockman can move incredibly fast when he wants to, but he can also be controlled accurately.

Once you reach certain levels, you're assigned a password which means you can bypass the easy and familiar levels and start on unknown territory right away.

Overall, not one of the best arcade games I've seen but, if you're looking for a game to while away an hour or two, *Rockman* comes highly recommended.



#### Mastertronics/£2.99

Rachael Finders Keepers was the game that proved that budget need not mean cheap and nasty. While it lacked state of the art graphics it was playable way beyond its £1.99 price tag. Now here's David Jones again, with our old friend Magic Knight, and a far better looking game, but at a higher price. A whole pound more! Questions will be asked in the House because, despite the 50 per cent price increase.... this is probably even better value!

Now we are talking larger sprites, though with no less charm; more detailed settings, with less of the platforms element; and a far more complex game but one that is wonderfully playable. At the heart of Spellbound

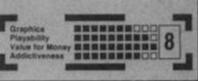
are the nested menus, summoned by Fire. Using them you can pick up, drop, examine, read, interact with characters, throw things.... in fact there seems to be an option for virtually every situation! Just as in a traditional adventure you spend a lot of time searching for objects. You'll always need to check what you're carrying because many things contain clues. The speed of the menu



system makes this almost effortless. And it won't take long to discover that some objects, however fishy they may seem, can be very helpful!

But to the plot. As Magic Knight, you have to enter the castle of that mad, bad mage, Gimbal who has got his necromancy in a twist once again. And as well as trapping himself in a soul bleaching spell, he's taken seven other highly individual characters with him. You must free them as well as the incompetent illusionist before time runs out. This is all presented with a wonderful selection of logical puzzles and humorous touches and even the odd bit of arcade action thrown in for good measure.

It doesn't take the Crystal Ball I found in the lift to predict that this will be at least as big a success as Jones the Programmer's previous chart topper. But the really crucial puzzle I still can't solve is.... how do they do it at the price?



#### Activision/£7.99

**Rick** Our 'Enery'd enjoy this one. Activision's made a noble effort at presenting the ignoble sport for the small screen in a game that puts as much emphasis on the pre-fight training as it does on the bruising bout. You play both trainer and boxer. So it's brains as well as brawn that'll decide whether you're champ or chump.

Your first task is to create your own boxer. You have the technology, but do you have the imagination? He can be endowed with all sorts of qualities — not just the obvious ones of stamina and strength but also image and attitude. You can even choose hair colour.

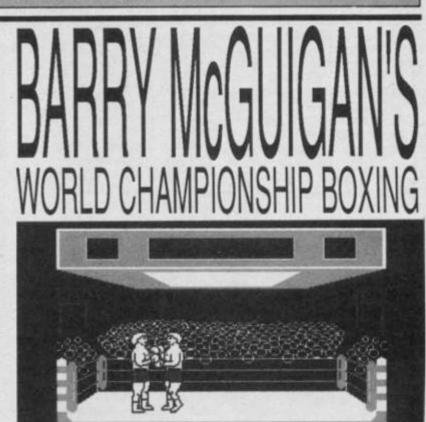
Through the promotor (who will appreciate your rapidly rising winnings) you can choose your opponent — either from the title contenders or the new pro-listings. The further up the listing you go the tougher your fight. Aware of his qualities, you can have up to twelve weeks in the training camp, where you have to choose how much time to spend on each part of your program — light bag, heavy bag, hand bag, weights or whatever.

Let's hope you get it right 'cos now it's the Real Mcoy. A bout can last up to twelve three minute rounds. You're able to use a good number of pugilistic punches and counters — and again you'll have to decide your best strategy — keep your guard up or go for the kill. Beware — three clean blows could mean the end of the bout.

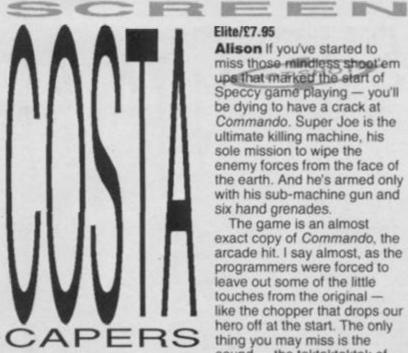
My only minor criticism is the lack of manoeuvrability — the boxers scuttle crabwise about the ring. And where's the skipping rope in the training camp? No

wonder these boys aren't so light on their feet! All in all a top-ten contender in the software boxing championships.

1		Contraction of the local division of the loc		
l	Graphics			
	Playability		0	
	Value for Money		0	
i	Addictiveness			
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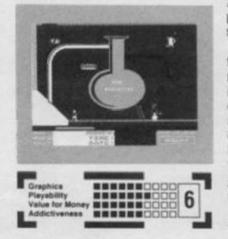
Firebird Software/£7.95 Luke Call this a holiday? It's more like a nightmare!

Poor ol' Ted has lost all his luggage on his way to Spain, and he's first got to find his credit card and then buy back all his belongings... especially his camera so that he can take snapshots to show his workmates back home Drinking cans of lager help him in difficult moments... but a drunken Ted is not easy to control, and the hangover's even worse!

At first sight, Costa Capers really looks the biz. Modelled on Jet Set Willy, there are loads of screens cluttered with various nasties as well as useful items, such as parasols to keep the sun off. Trouble is, you can't tell which objects are useful to pick up and which ones kill you - you often just have to lose a life to find out and then remember which objects to avoid. The programmers have also opted to include the 'die for ever syndrome from JSW, in which you keep falling through screens to your death. (If you get as bored as I do with this, an undocumented tip is to press the Break key and return to the beginning.)

Another little tip is to switch off the accompanying theme music as soon as you can playing Costa Capers with the plaintive strains of Viva Espana in the background is no fun at all!

Overall, the idea of Costa Capers is an awful lot better than its execution.



#### Elite/£7.95

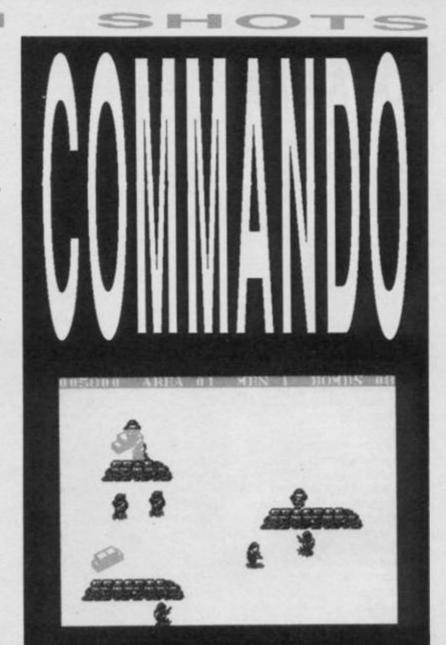
Alison If you've started to miss those mindless shoot'em ups that marked the start of Speccy game playing - you'll be dying to have a crack at Commando. Super Joe is the ultimate killing machine, his sole mission to wipe the enemy forces from the face of the earth. And he's armed only with his sub-machine gun and six hand grenades.

The game is an almost exact copy of Commando, the arcade hit. I say almost, as the programmers were forced to leave out some of the little touches from the original like the chopper that drops our hero off at the start. The only thing you may miss is the sound - the taktaktaktak of the machine guns and the kerpow of the grenades

Once on terra firma, the game's the same - it's kill, kill, kill all the way to the end. Then it's straight back to the beginning where the slaughter starts all over again.

There are no real rules just get in there and blast away, slaying the stormtroopers, gunning the grenadiers and blowing up the enemy battalions. Your machine gun's got unlimited fire power so spray those bullets about like a man with no arms - and after an hour or so's keyboard bashing your arms'll ache so much, you'll wish you didn't have any either!

The graphics are really neat but you'll hardly have time to admire the scenery - hang around too long in one place and the enemy sends in the heavy mob.



Commando won't stretch your mind and if you've got a downer on mercenary militarism then give it a miss. But if you like your shoot'em ups simple, they don't come much simpler than this. Play it

and blast away a few brain cells - yours and the enemies'



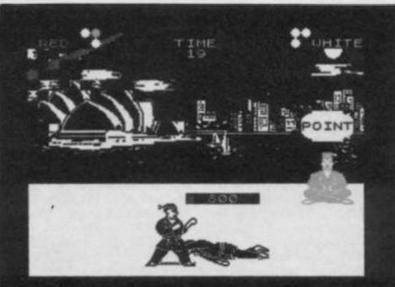
#### System 3/26.50

Luke With so many games based on the thrills and spills of the old Kung Fu movies, International Karate is definitely a worthy attempt at being the best.

Animation's fine, but the backdrops of the various countries you fight in get pretty boring after a while. But then graphics isn't what the game's all about. Clobbering your opponent hard and fast's the aim of the game ... International Karate has its Bruce Lees positively leaping all over the shop!

The fighters can choose from sixteen different movements but, as you can imagine, the logistics of carrying out these sophisticated moves especially in a two-player bout! - is more than a set of weary fingers - or even a jaded joystick - can contemplate.

The judge of the fight announces - yes, the



program speaks... and it's almost understandable too! the scores, and puts the players back to the starting grid if the fighting gets too silly.

It's an enjoyable game but getting the maximum out of your fighting figure is a little difficult. All the same, it's fairly addictive and, if you just

restrict yourself to a wellchosen routine of kicks and punches, you can generally get good enough to fight your way through the levels



#### New Concept/£11.95

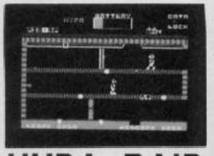
**Rick** Wax down the three-fin thruster, break out the factor five and the Ray-Ban sunnies, surfies... mmm, zinc oxide is so becoming.... This is it, the Big One, New Concept's square deal surf game *Surfchamp*, endorsed, no less, by the Irish Surfing Association — are they the one's who looked for a downhill lake for the water skiing team?

Credit where it's due. This really is a whole new concept in computer games, centred around the new Dublin based company's tactile interface that makes a joystick redundant. Well, in fact, it's a bit of plastic shaped like an ironing board you put on top of the keys. Then instead of pumping keys you simulate the movement of a surfboard — with your fingers, not your pins, you understand.

Titter not. It's not as silly as it sounds. In fact, for your average player it's too much like surfing and not enough of a computer game. A lot of time will be spent just paddling out looking for a wave and then mastering the skills to stand up, ride it, aerial, hang five and hang ten. Multiply this by weather variations, choice of board and gear (five of each) and you'll see there is plenty of game variation. There's also a choice of a ten speed practice mode or actual competition (with real life compo

possibilities). And you've got to put your vital statistics in to increase the lottery.

So, nottalotta people might like this, but I loved it.

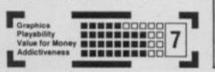


## HYPA RAID

### Rachael Platforms and ladders provide the basis for

Hypa Raid, but as it's at a budget price we need not complain. It's a case of completing screens by travelling from floor to floor via teleport lifts, opening doors by walking across panels with your fire button pressed, or pushing buttons on the walls and collecting pieces of an object - all while avoiding the wandering baddies. Later rooms include booby traps, which can only be crossed when they flash blue, and teleports to other rooms.

Those with an eagle eye will have realised that I've only described this in the most abstract terms (thought I'd slipped up, huh?). That's because I quite like the game on this level. What I don't like is the plot that's been tagged on. 'The Russians have built. a MIG Starfighter .... As a top CIA Agent.... you are the natural choice to.... save the West from Russian domination.' Gee, well, it's quite a thrill to be helping Uncle Ronnie further his Star Wars project and ensure that those Reds have no counter measure.... I don't think.



## SWORDS AND SORCERY

#### PSS/£9.95

Rachael Through the mists of time in the dim and distant past a proclamation was made throughout the land .... Yea, verily, PSS will produce a true computerised role playing game and it shall be called Swords And Sorcery, to follow the alliterative vogue. But as time passed many scoffed and said that such a task was beyond the heroes of the age. And then one day the clouds rolled and the heavens thundered and the earth shook and the postman delivered a package. Only two years late S & S had arrived.

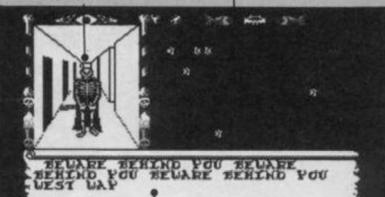
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The great thing about Dungeons and Dragons and the like as far as I'm concerned is that they fire the imagination and draw you into a convincing world created by the games master. A lot of that involvement comes from playing with like minded people (or for those who have never become involved, loonies). Obviously you loose that element with only the hum of the computer to keep you company.

Role playing games are also notorious for the involved mechanics of running a world; constant dice rolling, looking up tables and consulting charts is conducted by the referee. But a good dungeon master will make it all look effortless and create an ongoing narrative with the players. Again the computer fails because the cluttered screen is far too busy. Familiarity will help you accustom yourself with the revelant windows, but even then I'd have preferred less of the bones showing.

The visual display. Here's a skeleton who's mindless, antagonistic, and illustrated in rather blocky graphics.

Here's your map, showing where you're going and where the wandering monsters are.



SURFCHAMP

SURFIN' CHAMP

#### HOW HOLDING DUST HANDLE ACT TALK

The best part of the game. Your chance to threaten the nasties with the cutest curses going and they can give as good as they get only too few to choose from! The scrolling action menus which are surprisingly easy to get into and amazingly versatile. But beware — eat without first dropping your sword and though you'll be told it wasn't edible if'll have gone!

Above all though, the dungeon should be believable, and it's the curse of bad players to create chamber after chamber of monsters. Unhappily the computer reproduces this 'hotel corridor' syndrome perfectly, replacing subtle traps and vivid description with continuous battles.

Not that it's all bad, and I'm sure S & S will become a cult of sorts. There's room for better dungeons as later levels are added to the core MIDAS system. And the true spirit of the game starts to come All the latest news, from what you're carrying to how that last jab with a sword did. During combat you'll find your eyes crossing as you try to watch this, the command menu and the status panel all at once.

through if you get a chance to indulge in a little casual conversation with a monster before combat — the battle cries and insults are great. You also train your warrior at the start in various skills and attributes can be increased. But in the end I found it all too mechanical to do what it set out to, which is indulge the player in role playing.





Mikro-Gen/£9.95

Rick Mikro-Gen's Sir Fred

an airline but a lighthearted adventure set in medieval times. It should provide a surfeit of laughs for even the

rescue the damsel in distress. Although you'll get to see her

seven rooms she's held until you've completed the whole adventure. What's more, each time you start a

any one of fifty-eight game

of game play option - and

over again - do you really

amazing gymnastic abilities

runs, jumps, swings on ropes

and swims realistically. His in-

puffed, falls over and drowns

a crack swordsman and brill

pretty realistically as well! He's

built inertia means he gets

- all his armour! He

TERN

want to?

despite -

A

Firebird/£3.95

Т

Rachael Perhaps somebody

all Fu Manchu and Chow Mein

should tell Firebird that it isn't

east of Dover. Their latest

Mandarins and Japanese

Samurai, all out to stop our

hero. He must be a mighty important guy to have the

whole weight of the orient

thrown against him as he

game includes Chinese

plenty of objects to seek and

#### Ariolasoft/£7.95

Alison So much for good old fashioned thinking, you'll need a PhD in applied mathematics to get one over the computer in this souped up version of Connect 4. Well, at least that's what I thought 'til the Ed thrashed me... so what better incentive to persevere with the game?!

It all sounds pretty mindless - get four counters in a row on a six by six board. But, although it's easy to learn, it's a devil to master.

You can only push your counters in from the bottom or right of the board and, to heighten your frustration, as soon as you make a move, all the counters on that row or column budge along one.

But, just to ease things along, Ariolasoft has provided not only natty little icons with which to select the type of game you wish to play but also a tutorial mode where the computer will only let you select winning moves. Trouble is, on the lower levels, since the computer refuses to think ahead, the game's likely to get itself into a loop as you both place your counter in the only conceivable winning position!

If you're into zapping and killing, give this one a miss strictly one for the strategists.

	Graphics Playability Valus for Money Addictiveness	7	
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#### Micro-Computer/£7.95

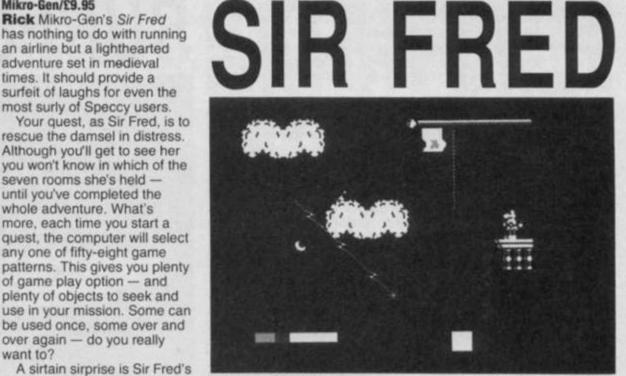
Rick Remember how Hampstead starts - you're stuck in a grotty bedsit, watching 3-2-1 - it's the height of the social deprivation. Well, I've no desire to attain Hampstead, but Micro-Computer's cheap adaption of a cheap TV game just adds insult to injury

It begins with a moronic True or False quiz which simply repeats the same questions with each round of the game. It moves on (though it's flattering to suggest this game has any sense of progress) with the wit and vision of a dead anchovy to a platform game of such unremitting mediocrity that I cannot even crack jokes of Ted Roger's standard to alleviate the gloom. The jolly chap chats away on the tape between sections explaining the rules. I'd never have thought I'd be glad to hear his voice!

Despite the massively inappropriate blurb the point is not to encourage family harmony via the home computer "avoiding the isolation that is so often caused by the machines that we are presented with in the modern world," but greed. By sending off your winning scores you can qualify for prizes which include a seven day holiday in Spain. And that's where all the money's gone folks - not on the program. Assign this one to Dusty Bin.

It's so bad that if I was offered a choice between this and a season ticket at Highbury I'd seriously waver before buying it. The game, that is.

	and the second se		
Graphics	BB00000000		
Playability		2	
Value for Money	<b>E</b> 000000000	6	
Addictiveness		100	



bow man. Makes yer sick, don't it - no wonder he always gets the girl..

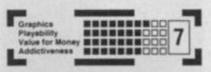
There's not a lot you won't have seen before, but it won't always have been so well packaged. The graphics aren't cosmic (nor medieval, mind)



indulges in that cliched quest to rescue a princess.

Traditional Japanese houses have paper walls. The same goes for this game because behind the admittedly pretty graphics lies no more than yet another maze game, and one that's tissue thin at that. Its major gimmick is a stone jumping routine that's so easy that the few times you do fail it will be because you're nodding off

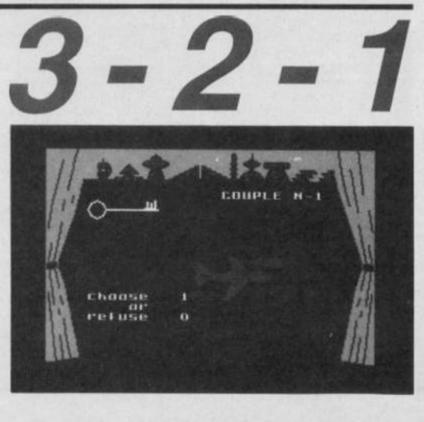
like the game it's good and solid. You could well while away a few knights with Sir Fred.



Difficulty comes in the hape of the warriors who block your path and must be tisposed of by knives found /ing around. The fact that nere are barely enough of hese makes life harder. But lon't throw one then dodge off screen to avoid the Samurai's sword because you'll have wasted a weapon - they don't carry through. With scoring in the three figure range it won't even please the high number freaks

Why Firebird are putting this out in the Super Silver Range I have no ideas, but Confucius, he say, don't buy this road of oliental Coberers





14.95

Microdrive

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SOFTWARE

7.95

Tape

(Unlikely to be available before Christmas)

more game and has more powerful graphics than Rush me: Knight Flight (QL) E14.95 Cranetnike (Creative) Constrained and Constrained (CREATER OF OF OF)

#### Martech/£7.95

Rachael When C Rathbone's very of Charles Atlas the Ed. said that in just seven days he could make a strong woman ad he'd bout t me a gue chest expander! Instea muscle bound micro less that ever Now I must confe Sin Thompson was responsible for the demise of my second tick in a weekend I ve version to Sinclair sp ar but they say that a healthy body makes a healthy mind so here goes.

SCR

Unlike the Track and Field mob, Geoff Capes concern hims with display some strength. He pu chops logs, rolls tru loads barrels and rings the fai ound be es with a of Sumo re w sigh of relief, it's not all ar io

Obviously before you can even punch your way out of a paper bag you'll need to build some muscle, which you can do either energetically, with ten seconds of wrist action or the lazy way, by pressing fire and accepting what God gives you, rou then allocate the strength between eight muscle areas, from ankles to strengthors

eving each of the stunts Ach for different skills. The involving vehicles consist of chasing the illuminating muscle icon with a pointer and pressing fire as an animated Mr Capes (be very polite here bigger than me) flexes re screen. Barrel load sees the addition of joystick pumping and bell ringing could kill yet another Quickshot, but ping and wrestling call e for timing. In each case you can apply more effort to activity to speed it up gh this uses muscles th more quickly. As any rema is added enished it's worth aim ficiency.

It's not perfect, but it should keep a lot of people happy with its variety and difficulty. And here's a playing tip — If you really want to build nuscles like Geoff's.... do some press ups while the game's loading!



## ROBIN O' THE WOOD

#### Odin/£9.95

Luke This is a funny sort of game — and you don't realise just how addictive it can be until you've been playing it for at least two hours!

Okay, it must be admitted... there are certain cynical gamesters who might point a finger at the format of the game and mention a couple of Ultimate titles, but *Robin O' The Wood* is certainly in a category of its own. For instance, the first time I played the game, it was over 40 minutes before I realised I hadn't yet been killed and tossed back to the beginning. Not that the game's easy...

You get to play the part of Robin, hurtling around the castles, woods and open land searching for keys, flowers, and all sorts of other medieval knick-knacks. The Normans trudge around the scenery relentlessly firing off crossbows at you, but they're fairly easy to dodge and they don't do that much harm anyway. The real menaces are the red rats - they kill... and quickly too! If you catch sight of one of them rushing towards you, there's no point in trying to kill it with your spear - it's just a waste of time

Your life energy is measured by a white strip beneath the playing area. As you suffer crossbow bolts and encounters with rats, it gradually turns mauve and then blue... which means you're dead. Of course, find the white-bearded sage and you not only gain a new life but all your ills are cured. Watch out though for the green goddess that appears

## BRAINSTORM

#### Bubble Bus/£1.99

**Rachael** Back in the land of arcade adventure, you control Robin Banks, an interplanetary alien zapper who's been sucked down the plughole into Professor Brainstorm's castle. You can escape by walking, or using your jetpack, through a 650 screen maze where you collect keys and special weapons to do away with the eight guardians.

All fairly standard stuff, though nicely done, as you'd expect from the ever improving Bubble Bus. There's a nice touch too in the use of momentum when steering Robin, and loss of life results in him flying around like a burst balloon.

So far, so good, but either





out of nowhere, steals some of your treasure and naffs off.

Graphics are good and movement around the screen is both fast and smooth. And, although the screens are all fairly similar — which is how the programmer has managed to cram so many into the game — there are familiar landmarks every now and then

I'm losing my touch or the game is just too difficult. The problem lies in the Clone's 28 varieties — that's almost half as many as Heinz! — whose ability to fill the airspace is worse than jets at Heathrow. Though they're easy to kill there're so many, and they replenish so often that it's to get your bearings from. It doesn't really bear much similarity to the Robin Hood stories we all know and love but that doesn't matter a bit. A great game — buy it!



nearly impossible to avoid them, even while shooting. What I saw I liked but its sheer difficulty eventually made me lose interest.



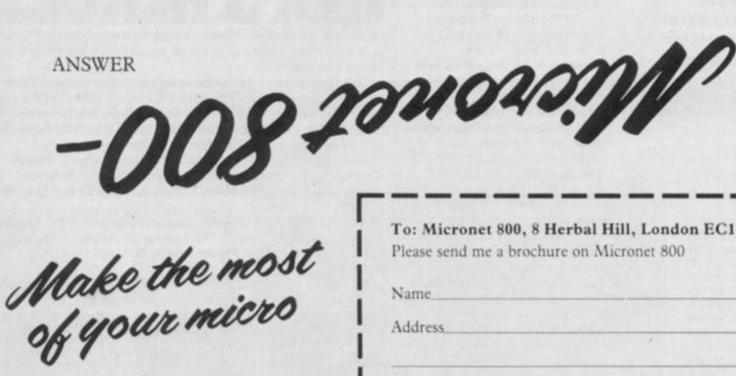


OK. Quiz Time!-

- 1 Where can you find over 100 FREE software programs a year?
- 2 Who can you go to for FREE round the clock advice and help?
- 3 How can you get instant news, views, gossip and "hands on" reviews 24 hours a day?
- 4 Who gives you FREE national electronic mail?
- 5 Where can you "chat" with 70,000 other micro users?
- 6 Who'll help you publish your own database for all to see?
- 7 How can you take part in national multi-user strategy games?
- 8 How can you book a seat on the 3.15 from Euston-at midnight?

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ANSWER



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YS 2/86

Click, bzzzzt. Ow! I must get that chip fixed. It's givin' me gyp, I can tell you. Anyway, how the hell are ya? Awright! Good. Now, to business. This time I've been getting a lot of comeback (Keep them letters comin', chummies!) from my pleas for mail from you carbon based gamers. I'm pleased to say the response has been staggering. Well, Pete staggered in with the sack, anyroad.

Pushing right off, we have a note here from one Andrew Menzies of Bradford. "I thought I'd send in a few tips..." About time too! Sorry... "Here are some codes to tap in to Frank Bruno's Boxing: (Use the name AND)

Boxer 2	Code	MM710F49B
		(FUNG CHOP!)
Boxer 3	Code	B7XI00L05
Boxer 4	Code	FK5IN0A07
Boxer 5	Code	CE9IN9817
Boxer 6	Code	IHCIN96A8
Boxer 7	Code	ML6ION4B6
Boxer 8	Code	BFAINN2L5

To see the final effect, enter the code CGAINA5CA" Thanx a squillion Andy. Now I can really take it on the jaw. (BIFF! Argh!) If I had one, that is...

I left you all in suspenders last month by giving you half Keith Gronneberg's epic solution to Fairlight.

Hah! Powerrrrr! Ha-ha-ha. Oops. Erm. With no further ado here is the final solution.

"Take the Book of Light. two small stoppered bottles, and the cross hidden under the throne, to the room with the monk standing at the top of the stairs. Drop the cross in front of him and push it at him - he'll disappear. Do the same with the next two monks this time with the stoppered bottles. At the top of the stairs pile up a barrel and a chair, and using the Book of Light, jump into the room above. Here you'll find the key to the castle gate. If you drop the Book, the figure here changes into a monk, but this seems to be a good thing, as I've only been able to get back out with him in this state." That's it, well, the bare bones of an explanation! This'll illustrate the difference between knowing how to complete a game, and actually doing it. (Teacherly tone or what!) But the averagely brilliant gamer should complete the game using these clues. Thanks Keith, pure gold.

Hello, what's this? A missive from my old mate Russell Olieff of Armthorpe. What's that he says? He's found loads of mistakes in Hyper Sports? Well, tell us about it, Russie! "For a start." (This boy means business!) "If you're going fast in the swimming your man freezes. And not only that, I had a strange experience in the shooting. I scored 10,100 and the computer gave me an X and I failed to qualify. The score of 10,100 also didn't become the first in the world. I was playing my best game ever with 500,000 points! The weight lifting said 240kg but I thought it should've been 260kg. So I lifted 240kg twice" S-T-R-A-I-N... Snap! "Twice, and still failed to qualify. I thought after the weight lifting the swimming would go back to 45 seconds, but it doesn't! Does anybody know what's

going on?" Nope! Well, actually, there are two possibilities. One, your copy of Hyper Sports is corrupted, or two, there are some bugs in it. My advice to you, my little fruit juice, is to two-step your way back to the dealer you bought it from and get him to swop it for you. Having eliminated that possibility, you're then free to have a go at the manufacturer if it continues to work against you! Okay, me

old chutney? Right, face front! If you look across the page, you will notice we have more screen shots from my very own monitor. Cast a beady eye over the hints'n'tips therein and ask yerself a question could I do this? Well, yes you could. If you have tips on how you became an arcade hero, a hi-score, and a mug-shot of yourself, you're in! Your score'd better be good, though. I'll match it, point for point and you'll see the results - my score against yours. Hex's Heroes. Be there or be, like me, square. You can also write to me about your current fave games.

Fave games of the month are the totally marvey I, Of The Mask and the program which could out-Elite Elite, Tau Ceti. I can't leave these babes alone, and neither will you! Go get 'em, and let me know what you think. That's it. My mailbox is

That's it. My mailbox is ready, my printer is powered up and ready to print out your letters (Brrrtl Roger, Hex! — Peter the Printer) and my optical pickups are polished and waiting for your words. See you there. I'm waiting... Click. Bzzzzzzzz.

Buzzz, wirrp. Can Hex Loader be turned on by you? He's just waiting for your hints 'n' tips to get all charged up. But remember when you send them to include a sketch of the screen, clearly labelled with your suggestions. Hex holes out at Hack Free Zone, Your Sinclair, 14 Rathbone Place, London W1P 1DE.

Wheeeeee! Phizzz, Phutt... Phew, it's lucky that Pete plugged me back

in, or else I wouldn't have had time to tell you about this month's Hex's heroes. Mmmmm...

Well, seasonal greeting an' all that are obviously floating around the mind of **Snowy White** from Westbury-On-Trym who claims to have scored the big zilcho in Durell's Scuba Dive, 'cos he melted! Seriously though (what does that mean?), Snowy managed a respectable score of 17-0 in Match Day, which ain't too bad for a snowman.

Across the water in the Needer-lance (that's Holland, huh?), Jeroen Molenach (hope I spelt your name right, Jeroen!), has knocked up a wonder-fuel score of 59550 on Pole Position. But I think it's time for a gear change!

Hurdie-hurdie-hur-di-hoe. Ahhh... We must be in Sweden. See de good score on Exploding Fist, 29600. Must be the wonder-haircut himself, **Per Holm**. Maybe his hair took that position after he bumped into a mad reindeer.

But that's all I can tell you, because I think Pete wants to use my power point to plug in the coffee machine. Two sugars please Pe...



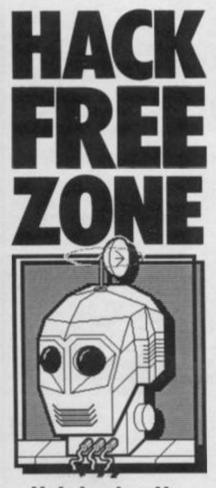
Match Day/17-0



Per Holm Exploding Fist/29600



Jeroen Molenach Pole Position/59550



He's back — Hex Loader — that hex fiend hextraordinaire, with more hexcellent hints'n'tips for fast hack free action.

# **NODES OF YESOD**

When the red astronaut appears, press the

If a gravity stick doesn't appear, though, you're in tuh-rouble! Run for it!

When you play the game, collect every

alchiem, until you've filled the alchiem box.

alchiems just by going through the maze in

go through it once again. This'll give you a

higher percentage, and a better chance of

one go. Once you've been through the maze,

You probably won't have collected all the

gravity stick key.

winning.

These tips might help you with Nodes Of Yesod — courtesy of Hex!

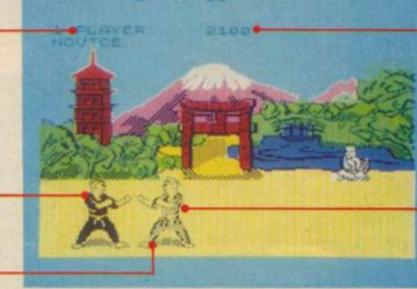
  When you have the eight alchiems, go straight to the equivalent marker alchiem. You'll fall down a hole and come face to face with a monolith. Gasp! Walk into this, and you'll have won! Yee-ha!!!

Try and keep the marker alchiems to the right of the box. If your useless alchiems are on the left, the red astronauts will take one of them, leaving your stash of markers untouched!

# WAY OF THE EXPLODING FIST

Way of the Exploding Fist punched in by Graham Cairns

How to cheat the hop! First switch the game from One to a Two player game. Then, as nobody's operating your opponent beat the living ping-pongs out of him. Unethical, yes. But enormously satisfying!



Hi-score equals 10th Dan for the 36th time.

This is Dan. He's not invincible — first take three steps toward

him.

This is you. Now, kneel down and lunge out, punching him when he's in range. This works with almost every opponent of every Dan.

Another good move, if you're a little bit tired of being beaten to a pulp, is the low sweep of the leg. This topples your opponent, no matter what colour belt he is.

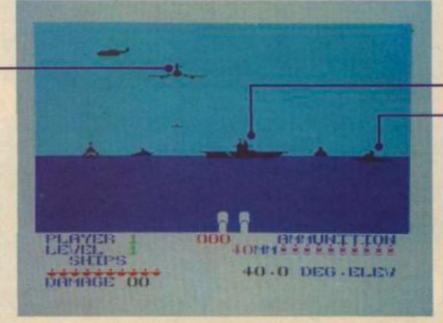
# **BEACH HEAD**

Kevin Matthew of Middlesbrough, Cleveland, gets tanked up for Beach Head

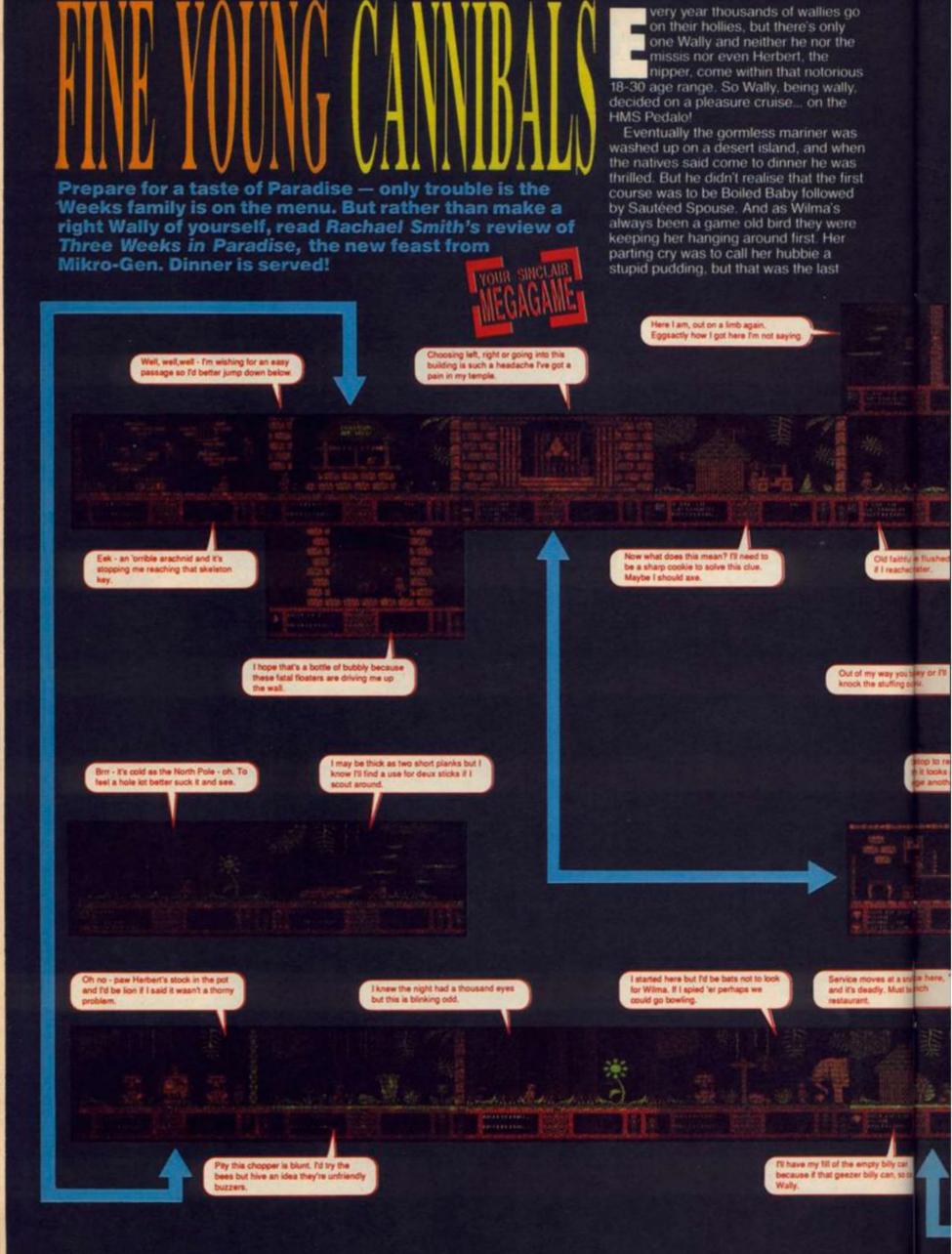
When shooting the planes, don't hold the trigger \_ down or use an auto fire. Let your ammunition build up when the sky is relatively clear.

Should you decide to fight on land don't shoot the tanks and move straight away. The other tank will follow and you'll miss. After firing try and hold your course.

 If you're on your last shot, but have three or four tanks left, don't hit the fortress. Run your tanks through the system toward it. Try to avoid hitting it until you're down to your last tank.



in the ship to ship battle, the carrier is usually at 48 degrees, the little ship on the extreme right is at 24-28 degrees and the following one at 69-73 degrees. On the extreme left you'll find another ship at 59-62 degrees, and finally one at 54-58 degrees. This is the best order to hit them in 'cos this is the order they fire.



thing he wanted to be — and he was already hot-footing it into the jungle.

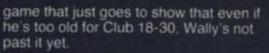
And that's where this episode in the Wally saga begins. You're helping him rescue his family and stopping him getting... sorry, becoming somebody's just desserts. You just have the man (man?) himself to control this time, but other features make the game an advance.

Instead of just swopping objects you can now choose to pick up and drop things as well as having to use them in the right places. That means Rambo-wally's rescue mission calls for even more ingenuity. There's also a nice selection of puzzles, from the fairly obvious to the maddeningly difficult, but they all depend on acute lateral thinking and horrible puns.

In return there's less of the arcade element this time with fewer things to dodge. But the thing I liked best about *Three Weeks* was its humour. There's a speech bubble *Ouch* as he rubs his behind. And look out too for the scrolling message line at the bottom of the screen that conveys some screamingly cryptic clues, as well as the family's cries of help.

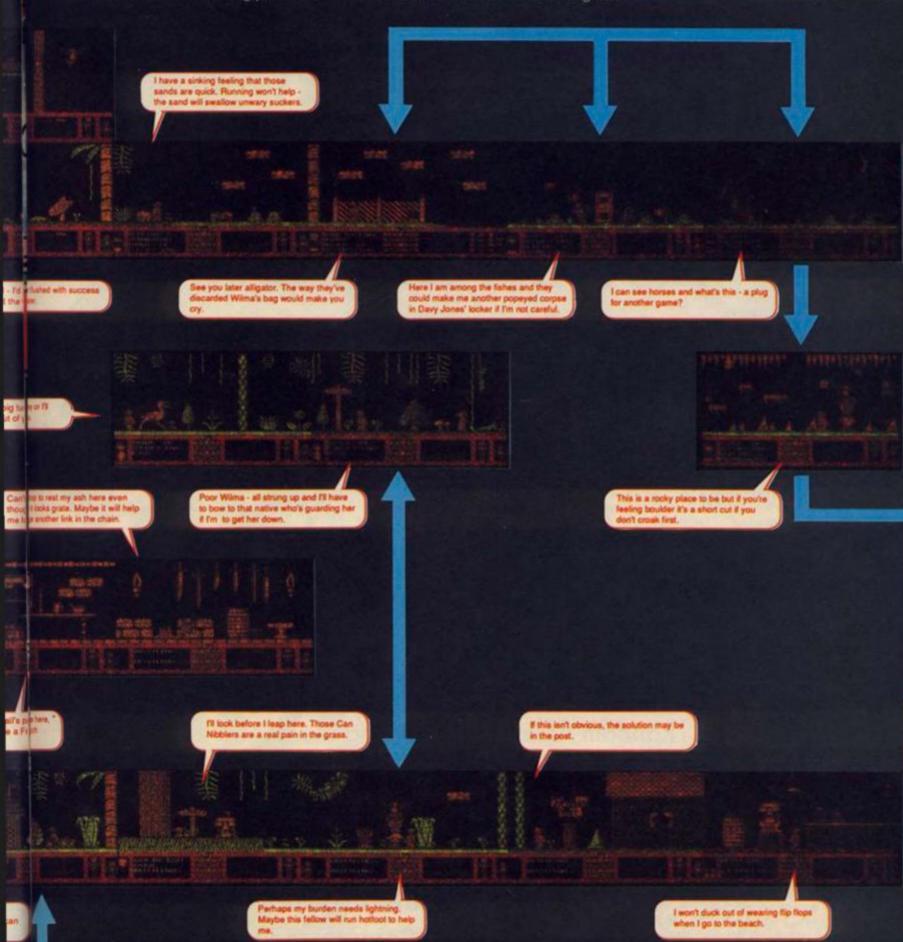
And finally fed up with reviewers' constant grumbles about attribute problems, Mikro-Gen has included the option of switching off Wally's colouring

A word too for the music — it's great, and it adds a lot to the humour. A great





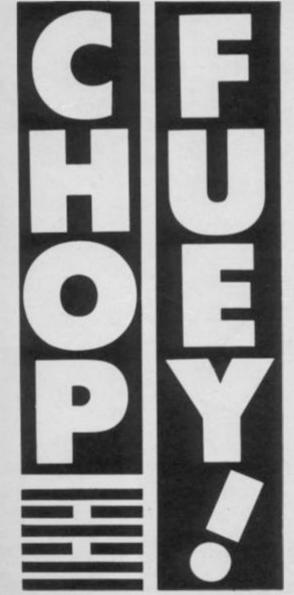






# YS BUBBLE COMPO





#### D'you fancy yourself as a real ah so? Well here's your chance to win a Kung Fu suit or one of 30 copies of Durell's games — then you'll be Kung Fu fighting!

Ah so! What's this? Another hiiii yaaaagh, chop suey, Confucius he say, velly velly amazing competition for Your Sinclair readers to enter. Yes, in conjunction with Durell Software we're offering three genuine Kung Fu suits for the lucky winners. And if you're not into Kung Fu you can always use them as pyjamas! Stop ninjing you at the back, even if you're not a winner you've got the chance to win a Durell Tshirt and a copy of one of its games - that's right, any one of its games. Happy now? The master of Kung Fu, Bruce Lee has been known to utter words other than Ho Lee Fook! What do you think he's saying in the picture above? Okay grasshoppers, jump to it. Fill in the speech bubble and send the whole caboodle to Kung Fu Fighting Compo, Your Sinclair, 14 Rathbone Place, London W1P 1DE. Cutting remark: If you don't

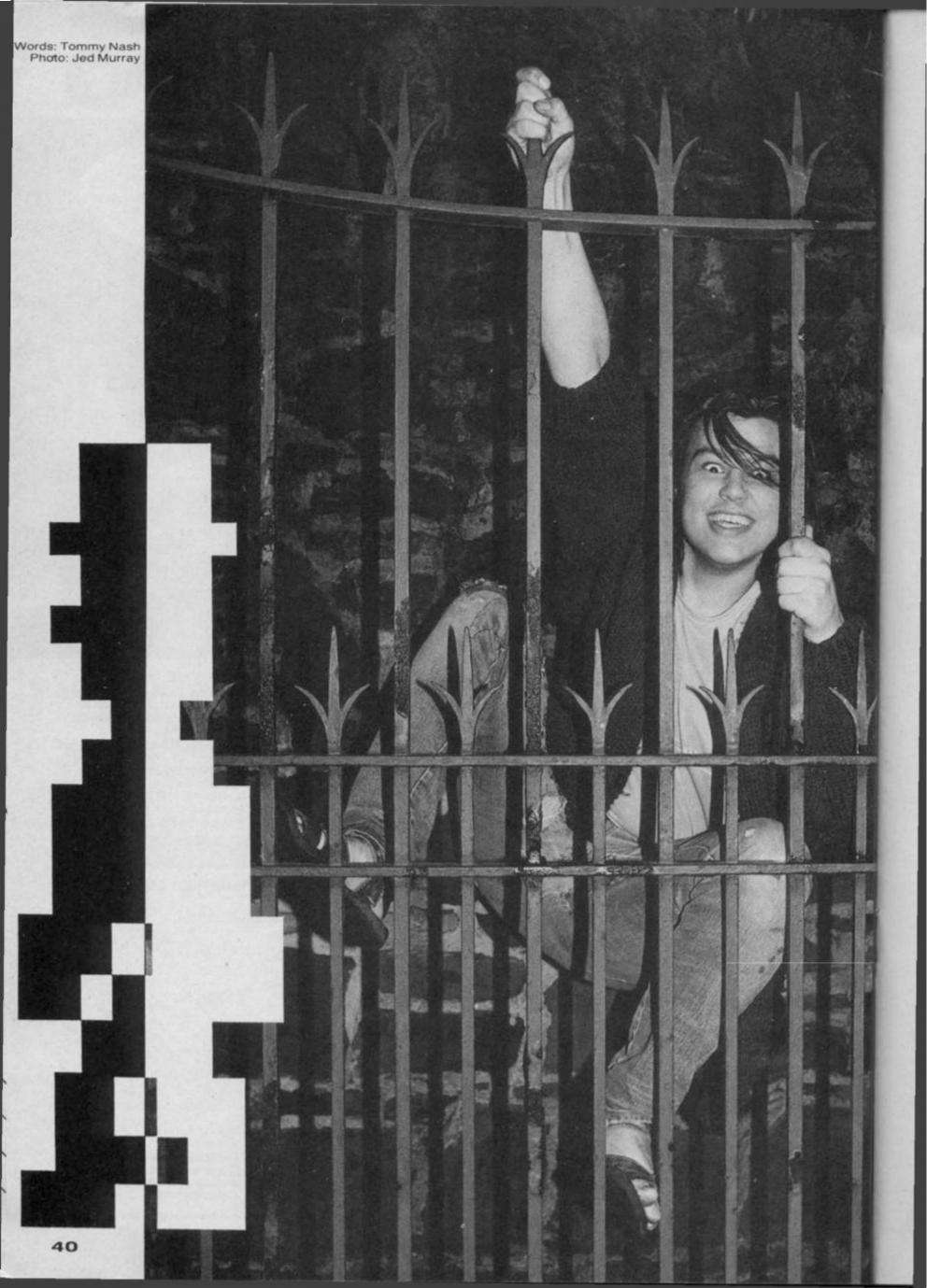
Cutting remark: If you don't want to spoil your issue don't karate chop this page use a photocopy instead.

#### **RULES OF THE MASTER**

Employees of Sportscene Specialist Press and Durell are not allowed to enter this competition and neither is Lee Van Cleef, The Master. Entries must reach us by March 31st 1986 — Year Of The Gerbil (no not Kevin the gerbil). The Editor's decision is final and no amount of arguing will change his mind. (Unless of course you're a Black Belt! Ed)

#### SPECIAL FRIED COMPO

Name
Address
Postcode
If I'm one of the lucky runners-up I'd like the following game: Turbo Esprit Saboteur Critical Mass Combat Lynx Harrier Attack & Scuba Dive (Two games)
Please tick the appropriate box



# Show us your Willy

S S P E A K E A

γ

#### "I s'pose there's not much sex in Jet Set Willy. Maria's a bit on the stocky side and as for Esmerelda, she zaps you when you touch her."

atthew Smith isn't the tidiest of programmers. Take the time he went to a posh restaurant in the Sears Building in New York. No corduroys, no

cut-offs, no sweat-shirts, no sandals — that was the house rules. Bit of a shame really 'cos that just about describes Matthew's wardrobe! Yep, he's a right scruffbag on the outside, but on the inside — well, that's another matter. Beneath the crumpled clothes and the hippy hair is a razor sharp wit and a phenomenal programming talent. Well, what d'you expect from the man who created every (well, nearly every) Speccy owner's favourite comic character — that's right, the manic jetsetter himself, Miner Willy.

# What are you working on at the moment?

A Spectrum. (Big grin!)

# Let's rephrase that. Is it true that you're working on Willy Meets The Taxman?

No comment. (Even bigger grin!) Oh, okay yes. I'm designing it and doing the graphics and there's a team on the programming. This time Willy's going to be taller than before — he's grown up since JSW.

# Will it be another platforms and ladders job like *Manic Miner* and JSW?

There are things that could be described as platforms but they'll be hidden. And the baddies, about fifty of em, won't be the stupid bouncing up and down type. They'll be intelligent well, all except for the stupid ones that is!

#### is this the end of Willy as we know him?

Yep. He won't even be brought back by public demand. The platform game's finished — JSW was the best ever. There's no new programming ideas in this game — well, it's not really anything to do with me. They won't even program the game as I've designed it — must be 'cos I can't design properly! The only way to get results is to program myself.

# So, what are you working on at the moment?

No comment. (There's that grin again!) Well, I am working on a project. It's not just a game — more a way of life... state of the art... fast loader... interactive... it's a mental challenge controlled by the computer and... pheweee... Everything but the game's called *Limbo* — in fact, everything's in *Limbo*. And when you stop playing, you go into *Limbo* too! It's also an expandable game so don't think you'll get away with just buying the one tape. And it'll take advantage of different Spectrum memory sizes. It'll work on a normal Spectrum but it'll use the extra memory of a 128K if you've got one. **Have you got one?** 

S

Yeah... er, no! Sorry Sinclair! I saw one on my holidays in Italy... er, Spain.

What's your favourite new game? The only decent game recently is Fairlight.

#### Do you mind people taking the

mickey out of JSW? No, I take the piss myself. That's what he's there for — he's a bit like Charlie Chaplin.

### Isn't JSW a bit like a waking nightmare?

A woken-up too early nightmare! Most of the game was planned under the influence of alcohol and written under the influence of other noxious substances.

#### D'you think there's anything deeply psychologically disturbing about your games. All those Willies and toilets?

No. But you'd better ask my analyst. I s'pose there's not much sex in JSW. Maria's a bit on the stocky side and as for Esmerelda, she just zaps you when you go to touch her. Originally you were going to have to take her to bed

 and then she'd kill you. But I dropped that for deep psychological reasons. Hmmm.

#### D'you still live at home?

(An eavesdropper: I thought everyone lived at home.) Wherever I lay my hat, that's my home!

Have you got any fluff in your navel? No... oh, hang on, yes there is some.

What colour is it?

#### Purple.

How old are you now?

Nineteen. No longer the boy wonder, eh? Not over the hill yet though!

Are you a trainspotter? Not since I lost my paintbrush.



## ATTACK All artists should be hung – and Peter Shaw is no exception! His pictures may not make it to the Tate just yet but with the help of Rainbird's Art Studio he reckons he's on his way.

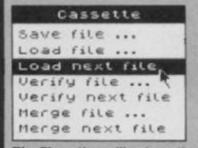
Now I know what you're going to say 'cos I said it myself. What? Another art package? Well, it's gonna have to come up with something a bit special if it's going to drag me away from Melbourne Draw/PaintPlus/The Artist\* (\*delete as applicable). Well, prepare for a surprise. Art Studio, the new package written by OCP but marketed under BT's Rainbird label, has more than a few features to recommend it. The first thing you'll notice is the 'pull-down menu system' - and it's not just a gimmick but the basis of all that makes this program so user-friendly. Yes, I know that word's overworked but you'll find you hardly need to refer to the manual. So, how does it work? Well, it prints a menu bar across the top of the screen from which you can choose a comprehensive second menu that gives you access to the feature you want. Just move the cursor to your chosen option and press fire. If a feature has even more on offer, then you'll be presented with a third and sometimes a fourth menu on-screen. If you choose to use a joystick or even a mouse, you never need touch the keyboard at all! But all this is still not the be-all and end-all of an excellent art package. To challenge the current competition a new package must offer a wider range of features than the rest - and be able to perform them quickly. Art Studio comes out shining on both counts. In fact, it works on the Spectrum with all the charm of a program like MacPaint on the Macintosh. Not altogether surprising as that program was obviously the main source of inspiration for Art Studio the same pull-down menus, many of the same features and all of the flexibility. Plus both programs can be operated with a mouse. More than likely you'll have come across the mouse before it's similar to an upturned trackerball that you roll around the table top to move the on-screen cursor. The combination of Art Studio and a mouse will make it nigh on untouchable - and even without, the competition's gonna have to go a long way to beat such an excellent package.

FAX BOX	
Name	Art Studio
Publisher	Rainbird
Price	£14.95

X2 X4 X8 Attrs. Set Reset Togete Henu

In x4 magnification you can change specific pixels without losing sight of the overall piccy. To scan across the screen, use the arrows on the x and y axes.

On the highest level of magnification (x8), you're presented with an onscreen grid option — it's well worth sticking with it if you don't want to get lost when you're getting down to detail.



The file option will automatically give itself a header corresponding to the system you've chosen -1 was using cassette but microdrive and disk options are also available. The most interesting item on the menu is for merging your screen creations with each other.

Misce	ellaneous
View s	creen
Clear	screen
Bright	grid 1
Bright	grid 2
Remove	e grid
Change	e colour
Return	Nto BASIC
	number

Here's a ragbag of goodies that don't sit happily anywhere else. You can see the whole screen using View Screen, for instance, and the Bright Grids will superimpose a grid so you can set the colour just right. You'll find the rest of the menu options are fairly self-explanatory.

Windows	
Define window.	
Last window	
Whole screen '	
Clear window	
Cut & paste windo	10
Cut, clear & paste	
Invert window	5-1 - 1
Re-scale window	
Clear & re-scale	
Flip horizontal	
Flip vertical	
Rotate 1/4	
Rotate 1/2	
Rotate 3/4	
Merge x	
Multiple x	

Look at the window that makes this package different. Yes, windows allow you to cut and paste your piccy until you're completely happy with it. *Art Studio* also allows you to rotate, flip and invert your windows. Well, flip me! Magnify Mag. X2 Mag. X4 Mag. X8 Grid /

The magnify feature is the best yet – it beats the Macintosh! Just choose the level of magnification you want and you'll be given a magnifying glass icon that you can position over the area you want to see. Natty, eh? E

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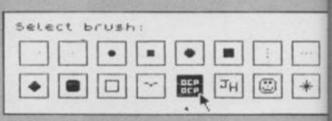
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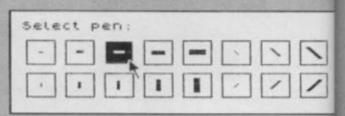
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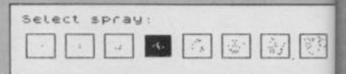
How's this for paint power? In Edit Brush mode you can define any shape you like, yes anything, and then use that to paint the drawing area. The Pen option even allows you to draw with a pen of differing thicknesses.



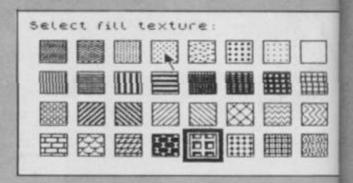
The brush is perhaps the most flexible way of covering the screen. And apart from the sixteen you see here, you can redefine any of them to your liking



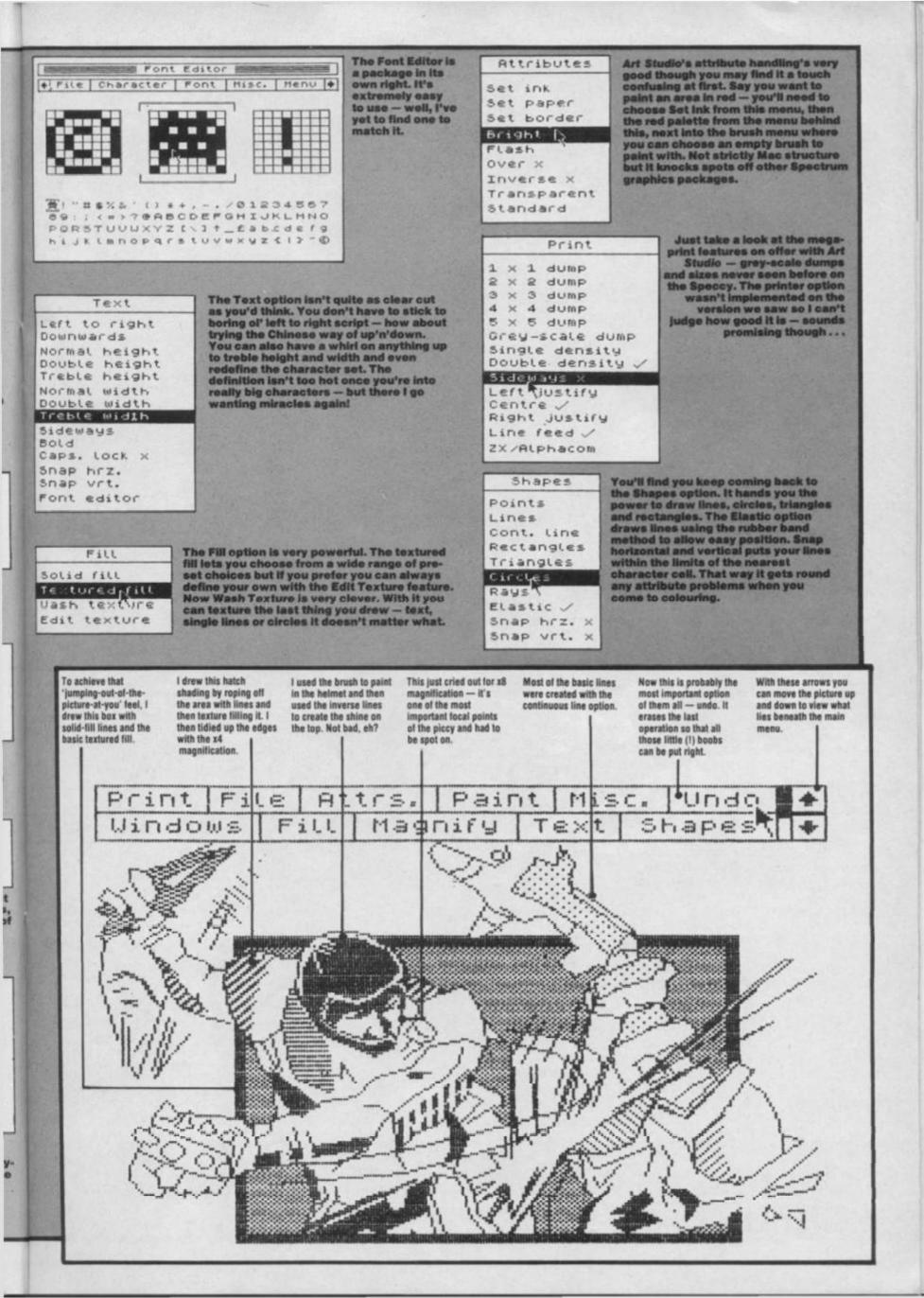
Here's the menu that greets you when you're in pen mode. The sixteen preset nibs produce some very interesting patterns and they're just great for writing italics.



Now, the spray can selection may seem limited, what with only eight choices compared to the other menus but remember they act as a random spray. So, each o these choices only acts as a guide to how large an area the spray will cover.



This is the choice of present designs that you're presented with in Textured Fill mode. There are thirty six of them in all but remember you can always define your own.







# **OPPORTUNITY KNOCKS!**

That's all folks! Opportunity is now on its last knockings. Yep, this is the last chance for your code to be up there with the best six Speccy programs under 5K. So, can *Hot Shot* shoot to the top of the programmer's poll? Or will it be one of the five previous programs that you'll find in back issues of YS? It's all down to you as you'll be the ones doing the voting. Next month, you'll find a run down of all the programs and a chance to buy them all on one Digi'T'ape. Then you'll be asked to cast your vote. Bit more sophisticated than the old clapometer, eh what?



#### **By M Wallis**

How can a game with so few bytes (just 3854) have so many features? Ask M Wallis. His Centipede-style game has eight directional movements — it's leggier than your average octopus — Kempston compatibility, optional extra lives, hold/restart and automatic fire. In all it scores more points than Torville and Dean!

Oh, by the way, don't think you've slipped up if your Speccy appears to crash after the main selection screen — just take another look at that copyright message. Once you've got that sussed, you'll just need to know that the control keys are Q for up, Z for down, I for left and P for — well, you can work that one out yourselves.

To get the game in, enter the Basic loader and save it, followed by the machine code.

Basically, this is the Loader. It just there to load in the code.	's
	and the
Ø>REM 000000000000000000000000000000000000	nn
1 REM ^ HOT-SHOT	~
2 REM ^ BY M.WALLIS	~
3 REM ^ 1985	-
4 REM	AA.
1 CLEAR 27999: BORDER 1: PA	PE
R 1: INK 5: CLS : PLOT 10,158:	
RAW 138,0: DRAW 0,-20: DRAW -1	
.0: DRAW 0.20	
2 PRINT AT 3,2;"H O T - S H	0
T"	
3 PRINT AT 9,9;"I S S T I	1
L"	-
4 PRINT AT 15,15;"L O A D I	
6"	14

#### **The Hex Loader**

The Pacia London

Hexperts will already have one of these on tape but for the rest of you, enter it and use it to type in the code.

20 PLOT 66 ,110: DRAW 122,0: D RAW 0,-20: DRAW -122,0: DRAW 0,2 0 21 PLOT 110 ,60: DRAW 118,0: D

RAW 0,-20: DRAW -118,0: DRAW 0,2

- 30 PRINT INK 1:AT 0.0:
- 40 LOAD ""CODE
- 50 LET t=USR 28000
- 100 SAVE "HOT-SHOT" LINE 1

The Hex Data Enter the code into the Hex

loader eight bytes at a time. The start address is 28000 and the length 3854. Okay?

28000 21 50 78 25 22 36 5C 3E =524 28008 00 3E 00 32 01 5B CD 4A =483 20 =746 75 3E 1F DB 1F FE 00 28016 28024 41 3E 1F 32 80 74 32 AØ =662 74 32 BE 74 DE 74 28032 32 32 =910 74 32 9E 74 28040 7E 32 BC 74 =920 28048 32 DC 74 21 00 00 22 83 =584 28056 74 22 A3 74 22 C1 74 22 =806 28064 E1 74 21 CB 5F 22 81 74 =951 CB 57 22 A1 74 21 CB 22 BF 74 21 CB 4F 22 28072 21 =870 28080 47 =761 74 3E 32 75 =962 28088 DF 3E C9 83 28096 02 CD 01 16 3E 88 CD 9B =652 28104 22 3E 00 32 BD 5C Ø6 18 =489 28112 CD 44 ØE 21 5D 22 7B 73 11 7B =693 28120 50 01 30 00 21 85 =451 28128 49 73 ED 80 3E ØA 32 02 =725 21 ØØ 32 ØE 16 28136 5B 3E 32 Ø3 58 =352 28144 00 22 00 58 3E 07 =258 28152 5B 3E 84 32 ØD CD 6F =627 5B 3E 28160 6E 00 CD C3 73 CD 03 =895 28168 71 3A ØD 5B 47 C5 CD 42 =814 71 28176 CD FF 73 CD 1C 70 CD =1238 28184 84 CD D2 6E CD 42 71 6F =1152 28192 3A ØD 58 C1 BB 28 ØC FE =845 28200 00 CA BØ 7B 3E 00 CD 03 =771 73 28208 18 19 11 05 88 21 DØ =427 28216 87 85 03 11 00 21 CD 05 =451 CA 72 28224 CB ØØ CD B5 Ø3 CD =1110 28232 FE 01 20 BD @1 3C 80 21 =570 28240 85 73 11 49 73 ED BØ 3A =924 58 3C FE 14 28248 BE 32 28 03 =532 28256 ØE 58 3A ØD 30 32 =390 5B ØD 93 ØD 58 94 28264 5B 18 18 E5 =767 28272 C5 D5 F5 CD 6B ØD CD CD =1390 7F 28288 1F 32 68 CD 72 3E 00 =696 32 BF 21 AØ 28288 5C 3E 4F SC =711 28 04 23 28296 6E 7E FE FF D7 =1039 =771 28304 18 F7 97 32 8F SC 3E 02 F1 D1 C1 28312 32 6B 5C =1318 E1 C9 28320 00 53 43 4F 16 16 52 45 =424 49 56 45 53 86 7F =526 28328 06 40 28336 20 20 31 20 39 20 38 20 =322 28344 20 20 42 20 59 20 20 35 =368 28352 4D 20 2E 20 57 41 20 =403 20 28360 4C 20 4C 20 49 20 53 FF =659 28368 00 00 E5 C5 D5 F5 21 07 =924 23 4F 28376 58 7E 5E 23 56 FE =800 3A 78 28384 00 36 SC E6 AB 20 =754 28 Ø5 F1 28392 FE 00 D1 C1 E1 =1167 28400 C9 36 28 3A 78 5C 1E E6 =828 28408 03 CA 12 77 28 36 FF ED =927 4E D5 CD 2A 28416 5B Ø8 58 =845 75 28424 FE 06 CC 03 71 14 CD 2A =847 28432 =927 75 15 FE Ø6 CC Ø3 71 D1 28448 00 3E 10 D7 97 D7 3E 16 =743 78 D7 7A D7 28448 D7 3E 20 D7 =1199 SF 28456 3E 20 D7 15 78 81 FE =931 28464 FF FE 15 20 02 ØE 11 20 =627 28472 02 0E 01 D5 C5 CD 2A 75 =791 71 28480 FE CC CD 2A =847 86 03 14 28488 75 15 FE 06 CC 03 71 C1 =911 28496 D1 7A FE FF 20 0A 3E 00 =944 28504 32 07 58 F1 D1 C1 E1 C9 =1217

28512 ED 53 08 58 79 32 07 58 =688 3E Ø5 D7 28520 3E 10 D7 3E 16 =659 28528 D7 78 D7 7A D7 3E 97 D7 =1318 C1 C9 =1498 D7 E1 F1 D1 28536 3E 98 28544 D1 C1 E1 C9 ES C5 D5 F5 =1712 3A ØA 5B FE ØØ 20 24 78 5C FE FD 28 Ø5 F1 3A =539 28552 D1 =1214 28560 77 21 ØA 5B =938 C9 3A 28568 C1 E1 47 3A C6 28576 79 SC 78 5C AD =925 30 E6 ØF 30 23 77 =787 28584 10 FC 23 36 00 ED 58 08 58 28592 3E =581 D7 10 D7 3E 00 D7 3E =807 28600 16 7B D7 7A D7 3E 20 D7 3E =1046 28608 20 D7 14 14 CD 2A 75 FE =905 28616 28624 00 20 28 15 3E 10 BA 30 =418 89 97 32 ØA 58 F1 C1 D1 =954 28632 32 ØC 58 28640 E1 C9 7A 3E 10 =779 3E 05 D7 3E 16 D7 78 =919 28648 D7 28656 D7 7A D7 3E 95 D7 3E 96 =1190 18 E2 FE 03 20 06 =997 D7 ED 28664 =717 28672 ØB 5B 18 CF 3E 10 D7 5B 28680 3E 04 D7 3E 16 D7 7B D7 =918 28488 70 07 TE 91 D7 14 18 EB =1039 E1 C9 F5 E5 =1712 28696 D1 C1 D5 C5 47 3E Ø1 35 28704 3A ØE 5B CD =555 28712 70 30 B8 20 F9 C1 D1 E1 =1264 28728 F1 C9 00 00 00 E5 D5 CS =1081 73 47 28728 F5 21 46 11 03 80 =554 22 28736 19 10 FD 5B 5E 23 =682 36 =485 28744 4E 3E 02 B9 20 85 56 23 C1 28752 F1 D1 E1 C9 3E 10 D7 =1362 97 16 D7 7B =1125 28760 D7 D7 7A 3E 28768 D7 3E 20 D7 3E Ø3 89 20 =806 78 05 7A 81 =992 28776 04 10 C3 BD 57 CD 2A 75 D1 FE 00 0E 79 82 FE 20 28 08 28784 20 =946 FE =853 28792 28800 FF 28 04 57 C3 BD 70 7A =1004 81 FE 20 28 04 FE FF 20 =1000 28808 28816 (AR) 79 ED 44 4F 1C 63 BD =925 82 57 CD 70 D5 2A =1027 28824 79 75 28832 D1 FE 04 20 06 0E 03 10 =550 70 FE 06 20 28840 C3 BD 26 79 =915 28848 82 57 C3 BD 70 79 ED 28856 4F 1C C3 C6 70 CD 2A 44 =1139 75 =976 28864 FE 04 20 02 ØE Ø3 3E 16 =393 BB 20 06 =339 28872 1E 11 16 1F ØE 28880 FF 3E 15 BB 20 07 3E Ø3 =629 28888 89 ØE Ø1 CD 2A 20 02 75 =598 06 71 2A =767 28896 FE CC 03 36 5B 23 71 28904 73 72 23 3E 10 D7 =705 28912 3E Ø3 D7 3E 16 D7 78 D7 =917 28920 7A D7 3E 90 D7 F1 C1 D1 =1401 28928 E1 C9 00 E5 D5 C5 =1368 F5 3A 28936 ØD 5B 30 32 ØD 58 47 3E =452 28944 32 01 68 SC 3E 16 D7 3E =611 16 D7 3E 28952 D7 3E 16 4F 32 =727 28960 BF 5C 3E ØØ 88 28 86 3E =589 94 D7 05 18 F5 3E 3E 02 32 6B 5C 3E 28968 20 D7 =944 28976 00 32 =425 ED F1 28984 BF SC CD 72 D1 =1434 CI 28992 E1 C9 E5 C5 D5 F5 CD 56 =1601 71 ED 58 02 58 CD 29000 FA 74 =1105 F1 29008 D1 C1 E1 C9 00 E5 D5 =1511 3A 04 58 FE 29016 C5 F5 88 20 =881 03 C3 64 71 3A 04 29024 5B FE =818 29032 00 20 11 3E Ø1 21 04 5B =240 23 ED 58 02 58 29040 77 73 23 =725 29048 72 28 00 00 3E 10 D7 3E =512 29056 00 D7 3E 16 D7 2A 5B 05 =652 29064 7D D7 7C D7 3E 20 D7 2D =1033 5D 54 CD 2A 75 FE 29072 00 20 =827 =535 32 22 Ø5 5B 3E 10 D7 3E 29080 D7 29088 07 3E 16 D7 7D D7 70 =985 =922 29096 D7 3E 93 D7 3E 00 BD 20 29104 15 3E 10 D7 3E ØØ 3E D7 =653 16 29112 D7 7D D7 7C D7 3E 20 =1010 29120 D7 3E 00 32 04 5B F1 CI =856 29128 D1 E1 C9 F5 3E Ø1 CD 83 =1151 32 04 58 2A 05 29136 97 73 58 =549 2D F1 FE 04 29144 28 04 FE 82 =844 29152 20 19 3E 10 D7 97 D7 3E =778 29168 16 D7 7D D7 7C D7 3E 20 =1010 D7 3E Ø1 CD C3 73 29168 F1 C1 =1227 29176 D1 E1 C9 FE 05 20 22 2A =1002 29184 ØB 5B 3E 10 D7 97 32 ØA =686 29192 58 D7 3E 16 D7 7D D7 =1069 7C

29200 D7 3E 20 D7 3E 20 D7 3E =895 29648 F5 16 00 5F 19 44 4D 22 =566 30048 76 CD 5E 76 CD A6 75 CD =1228 C1 3E 76 AF 29208 8A CD C3 73 F1 D1 =1393 29656 80 58 3E 01 32 6B 50 =465 30056 E1 02 16 28 C9 FE 01 20 ØD 2A 58 29664 D7 3E D7 3E 07 D7 =820 F1 29216 08 =642 16 30064 1F 29224 3E 10 D7 3E 00 32 07 5B =503 29672 44 4D CD 18 1A 35 30 D7 =728 30072 D3 76 CD 29232 18 49 3E 02 3E 00 32 =425 D7 21 73 06 14 7E =612 29680 32 6B 5C 30080 76 10 FD 7E F1 C1 29240 23 20 04 28 09 =619 29688 BF 50 D1 E1 C9 E5 =1533 BB BA 22 30088 3E 00 F3 F1 29248 23 23 10 C1 D1 E1 =119 29696 C5 DS F5 01 FE BF ED 78 =1458 30096 CD 44 ØE C9 23 02 3E 28 73 29256 7E FE 02 F2 36 =954 29704 E6 10 FE 10 28 6B 21 00 =696 30104 3E 38 32 3E 29712 01 29264 05 CD C3 10 =662 5A 11 6D 70 EØ 00 ED =802 30112 44 ØE CD 29272 D7 3E D7 3E 29720 BØ 21 5A 36 01 =371 10 02 16 D7 =916 00 00 11 30120 78 76 FD D7 7A D7 3E 91 D7 18 DC 29728 01 DF ED 3A =785 30128 75 78 29280 =1218 5A 00 BØ 00 F6 29288 05 C3 73 3E D7 29736 SB 32 15 78 3A 01 59 32 =482 58 ØE 3E CD 10 ≈875 30136 20 Ø2 D7 16 D7 D7 18 78 78 32 76 29744 29296 3E D7 3E 7B D7 =916 16 3E 00 00 5B CD =550 30144 ØD C2 BB 29304 7A 3E 91 29752 34 CD 3E FD 82 DB =1031 30152 Ε. E5 =1237 20 00 19 02 29312 D5 C5 F5 2A 78 7D =1264 29760 FE E6 02 FE 28 02 18 =808 30160 CA 5C E6 C2 75 =1175 F6 29320 1F 57 70 E6 ØF SF 06 00 29768 19 3E 7F DB FE E6 04 FE CD 75 =588 30168 02 D7 29328 3E 10 D7 3F D7 3E 16 =656 29776 84 28 E7 3E FR DB FE E6 =1291 30176 3E ED 52 29336 7A 91 =1312 =833 D7 D7 37 C2 3E D7 29784 02 FE 02 28 CD A6 =1013 7B DD 7B 30184 20 00 C6 07 5F 7A 57 29792 21 5A 75 ØD 29344 7B C6 03 18 DB 6D 70 00 30192 11 =613 7B 29352 83 57 82 5F 3E 1F BA 29800 BØ 78 40 =845 01 EØ 00 ED 3A 15 =837 30200 02 FE 30 06 3E 12 20 57 06 78 32 59 32 FB 29360 7A D6 18 F5 =778 29808 00 5B 3A 16 78 01 =392 30208 47 C9 06 30 11 29816 5B 02 3E 29368 BB D6 =675 ED 59 DB =1044 30216 00 58 47 F1 C1 29376 5F 18 F5 10 CB D1 =1226 29824 FE E6 01 FE 01 28 12 1D 30224 00 5B 21 =827 29384 E1 E5 C5 00 21 48 =1173 29832 7B FE 02 28 ØC CD 2A 75 30232 CD 52 C9 DS =795 23 29392 47 73 3A ØE SB 3D 7E FE =790 29840 FE 00 20 05 CD FA 74 18 =886 30240 05 2B ØE 23 F6 =413 75 ØD C2 70 28 CD 23 10 58 02 FE 29400 02 20 ØC 29848 1E ED 59 3E DB =986 30248 CD F6 C1 D1 C9 97 30256 3E 01 00 E1 =1042 29856 FE E6 02 FE 02 28 10 10 =826 20 29408 ØE 29864 29872 17 20 58 7B FE 28 Ø3 ØA CD 02 FE 2A 74 32 76 29416 18 FB 00 00 00 2A 5B =487 =814 30264 C2 75 16 D7 3E 10 D7 3E 00 D7 3E =654 00 ED =109730272 05 23 70 29424 29880 58 02 3E DF DB FE =1172 =1203 =1339 E6 20 ED 52 76 C9 5C 76 29432 D7 7D D7 70 D7 3E 30280 CD 29888 F5 01 FE 01 28 12 14 7A FE FE =710 78 C6 Ø2 3E 10 47 C5 00 E5 D5 30288 29440 C9 00 20 28 Ø5 ØC CD 2A 74 75 18 21 01 00 06 32 =145 29896 CD FE 00 =702 29448 01 20 16 30296 29904 FA 1E ED E5 CD 85 03 =833 #899 30304 21 ØØ 29456 11 01 00 C5 58 29912 DF SB 02 SB 3E DB FE =1172 C1 21 23 ØØ 23 Ø6 10 FØ 14 C5 E6 29464 E1 23 18 =803 30312 E5 36 12 29920 04 FE 84 28 10 15 7A FE =715 =295 21 00 86 29472 30320 DØ ØØ 11 29928 29936 2A 74 75 F1 28 C5 C5 01 FF ØA. CD FE 00 =923 00 7E 06 07 FE =788 30328 C1 29480 E1 E5 03 20 CD D1 C1 =1249 FS EE 10 ED 79 F1 17 =1121 FA 30336 36 ØF 19 29488 00 29944 E1 C9 CS F5 3E =1394 E5 D5 16 23 C1 C1 10 D1 E1 EA C9 FF 29496 C1 10 F2 C1 =112230344 20 D9 C9 58 10 E4 F1 00 24 28 29952 D7 2A 02 70 D7 70 D7 =1029 00 =1313 30352 76 29504 11 DD D7 53 D7 3E 20 D7 19 01 29960 3E 10 3E 00 3E =664 30360 81 29512 FF 11 =632 20 11 29968 D7 02 10 FF @1 11 =371 ED SB =921 29520 14 02 12 1E 1C 30368 ØB 00 CD 29976 3E 86 D7 3E 16 D7 78 D7 =920 1D FF 11 1E FF 11 1F =651 30376 01 20 00 29528 11 F1 97 C1 21 11 1F =319 29984 7A D7 3E 94 D7 D1 =1405 00 00 01 Ø1 77 80 29536 FF 15 01 30384 77 20 29992 E1 C9 E5 D5 C5 00 =1249 29544 09 00 ØB 01 00 07 01 =27 30392 44 01 01 D5 30000 58 BB 28 09 43 01 05 01 00 84 =17 20 =653 77 29552 00 06 00 30400 11 65 00 19 10 FD D1 5A 00 30008 16 =615 29560 01 00 03 @1 00 02 01 00 =8 30408 11 AC 20 30016 19 7E C1 D1 E1 C9 00 38 =1038 20 CD C9 3C =23 29568 Ø1 Ø1 0.01 00 01 00 13 @1 30416 3C 30024 00 30032 01 3E 02 CD 01 9B 22 3E 09 =53 00 16 3E =354 00 12 01 00 11 101 10 29576 80 30424 00 =32 CD 32 BD =657 ØF 01 00 ØE 01 00 30432 20 29584 01 00 20 20 30040 86 18 CD 44 5C ØE CD BB 29592 ØD 01 00 ØC 01 00 ØB 01 =39 =753 30440 20 20 20 =29 29600 00 ØA 01 00 09 01 00 08 30448 48 4F 54 =16 01 20 20 20 01 00 107 01 ØØ 06 00 30456 29608 20 n 01 00 03 @1 =15 29616 05 01 00 84 30464 16 01 00 01 01 88 00 =5 30472 3D 20 29624 00 02 20 29632 01 00 00 E5 D5 C5 F5 3E =947 30480 20 20 49

F1

29640

4F 32 8F 5C 2A 00 5B =738

DB

3E ØF 32 6A 76

CD 5E 76 86 64

00

32

86

8D SC 86

ED 77 C9 06 84

32

70 23 CD

75 ØE ØD 2B 11

78

19 ØE 20 70 2B 37

ØD C2

ØE ØD 23 70 11

3F

E6

C2

04 76 10 FD 3A

CD 52 76 78 32

88 5A ØE 20 70

76

11

37

11

52 76 ØD C2 42

06 18 11 20 00

06

10

3E 02

01

74

30

CD 30

00 CD

01 21

77 01

11 CD

20

20

48 4F 54 2D 53

20 20 16 04 80

20 48

06

52 49 47

20 3D 20 4C 45

20

30488

Studion Sta 46 54 20 34 88

FE E6 1F

76 10

SB 47 CD

D6 75

C9 76

00 19

26

ED

FE 40

C9

CD 85 03

E1

CD

20

00 CD

2Ø 77

16 02 00

45 59

16 00 11 F5

ED 52

75

00

ØD C2

20

3F

20 00

19 10 FB

18 11

FB

20 11 02 77

20 00 CD

09

20 20 20 20

00 20 20

51 20 3D 20

20 00

CD 9B

21

F6

CD F6

78

3E 10

17 76

76 19

76

37 3F

ØE

C5 21

20 23

01

CD 76

11 23

20 11

30

00 CD

01 20

48 54

FD

CD 18

00

75

C6

7Ø

ØD

ØE

C2 20

00

ØD

16

3C

01

20

30

53

3E Ø7

8D 5C 86 18

46

88 58

CD F6 75 ØD

FE =1283

=663

=1057

=816

=409

=750

=636

=854

=812

=657

=849

=598

=750

=739

=1161

=573

=920

=710

=727

=737

=372

=788

=248

=956

=619

=813

=319

=997

=1151

=606

=200

=823

=646

=726

=634

=742

=644

=675

=446

=382

=466

=517

=536

=578

=667

=522

=256

=459

=325

=444

=236

=507

=407

=424

=1190



#### by Stewart Green

Eat your heart out, Buck Rogers — Stewart Green's self-styled megagame puts you up there with those other star war heroes -Flash Gordon, Luke Skywalker, Ronnie Reagan... Alien is an Arcadian shoot'em up, it lets you arm a photon craft and exterminate squillions of aliens — and between remorseless waves you can slope off to capture a fuel pod to replenish your power packs. And then you're hot in pursuit of pulse after pulse of alien attackers. Go on, shoot 'em up!

The machine code is in two parts so entry is a bit out of the ordinary - follow the instructions carefully.

#### **The Basic Loader** Type this in and save it with SAVE "ALIEN" LINE 10

1 GO TO 100

10 BORDER 0: PAPER 0: INK 0: C LEAR 29999:

12 PRINT INK 9; FLASH 1; AT 10, 10; "LOADING: "; INVERSE 1; "ALIENS LOAD ""CODE : RANDOMIZE USR 3 0000

15 DIM A\$(32): INK 7: FOR A=0 TO 7: PRINT AT A,0; OVER 1;A\*: N EXT A: PRINT BRIGHT 1;AT 12,10;" by S. GREEN"; AT 14,6; "for YOUR SP ECTRUM"; AT 16,10; 1.10.85"

20 FOR A=0 TO 10: BEEP .01,A: NEXT A: BEEP .1,A: INK Ø: LOAD " "CODE

35 RANDOMIZE USR 35193: LET hs =0

40 POKE 23606,145: POKE 23607, 250

50 REM define keys 55 BORDER 5: PAPER 5: INK 3: C

LS 60 PRINT INK 2; AT 6,4; "PLEASE"

;AT 7,4; "SELECT" 65 PRINT AT 2.0: "==========

=====": FOR A=3 TO 18: PRINT AT A,0; "="; AT A,31; "= ": NEXT A: PRINT AT 19,0; "======

67 PRINT INK 1:AT 10,10:"1 - S

INCLAIR";AT 12,10; "2 - KEYBOARD" 70 LET S#=" PRESS KEY '1' TO L TO U SE THE SINCLAIR TYPE INTERFACE OR KEY '2' TO USE THE KEYBOA

RD 75 LET A=0: LET S\$=S\$+S\$: LET X = 1

80 PRINT INK 2:AT 18,1:5#(X TO X+29): LET X=X+1: IF X=LEN S#/2 THEN LET X=1

85 LET K#=INKEY#: IF K#>"2" OR K#<"1" THEN BEEP .03,0: GO TO 7 0

90 POKE 23728, VAL K\$

99 CLS

100 LET score=10\*USR 32100: PAP ER Ø: INK 7: CLS

102 RANDOMIZE USR 30000: PRINT INK 7; PAPER 0; AT 10, 10; "SCORE=" ; SCORE

105 FOR A=0 TO 20: BEEP .01,A: BEEP .01, A+10: NEXT A

109 IF SCORE<HS THEN GO TO 116 110 GO SUB 200

115 BORDER Ø: PAPER Ø: INK 7: C LS : RANDOMIZE USR 30000

116 FOR A=0 TO 20: BEEP .01.A: BEEP .01,A+10: NEXT A

120 PRINT FLASH 1; AT 12, 10; "HIG H SCORE"; FLASH 1; AT 14,13; HS 130 LET I=0

131 INPUT "": PRINT #1;" PRES S 'K' TO CHANGE KEYS": POKE 2365 8.8

140 IF INKEY#="N" THEN INK 0: P APER 1: FLASH 1: CLS : PAPER 7: FLASH 0: PRINT AT 10,11; "CHICKEN ": FOR A=50 TO 0 STEP -1: PRINT AT 12,13;A: BEEP .01,A: NEXT A: PRINT USR Ø

141 PRINT INK 1:AT 20,2: "DO YOU WANT ANOTHER GO Y/N": LET I=I+1 -(7 AND I=8)

142 POKE 65186,29: RANDOMIZE US R 65000

145 IF INKEY#="K" THEN GO TO 40 150 IF INKEY\$<>"Y" THEN : GO TO 132

160 GO TO 100

195 PRINT INK 7; PAPER 0; AT 10, 10; "SCORE="; SCORE

200 INK 6: PAPER 1: BORDER 1 201 CLS : PRINT INK 7; PAPER 0;

10,10; "SCORE="; SCORE 210 FOR L=0 TO 2: GO SUB 8000: NEXT

220 LET hs=score: CLS : LET n=2 FOR L=0 TO 20: PRINT INK (RND 21: \*8); PAPER 8; AT 21, RND\*14; "A NEW

HIGH SCORE. ": BEEP .01,n: LET n =n+5-(20 AND n=45): LET A=USR 35 82: NEXT 1

230 RETURN

#### The Hex Loader Use this loader to enter both sets of Hex data.

8000 RESTORE 8050: FOR I=1 TO 8: READ T.N: BEEP T.N: NEXT I 8050 DATA .1,11,.1,11,0.8,16,.05 ,11,.05,16,.05,11,.05,16,1,20 8060 RETURN 9999 SAVE "ALIEN" LINE 10: SAVE "SCREEN"CODE 30000,1899: FOR A=0 TO 100: NEXT A: SAVE "ALIEN"COD

E 32100,3990: BEEP 1,0: GO TO 35

#### The Hex Data I

#### This is the first set of Hex data, named SCREEN. Enter it and save it after the Basic loader with SAVE "SCREEN" CODE 30000,1899.

30000 CD 56 75 3E 40 21 00 58 =655 30008 E5 D1 13 01 FF 00 77 ED =1069 30016 B0 F5 06 0A C5 60 11 0A =757 30024 00 CD B5 03 C1 10 F5 F1 =1084 30032 3C FE 48 20 E0 C9 11 00 =860 30040 40 DD 21 54 00 DD 09 7A =754 30048 FE 48 C8 DD 7E 00 A7 28 =1080 30056 0A FE FF 28 06 12 13 DD =823 30064 23 18 EC DD 46 01 12 13 =624 30072 10 FC DD 23 DD 23 18 DF =1027 30080 00 00 00 00 00 23 7F FF =417 30088 01 80 00 01 01 FF 01 F0 =627



30096 00 01 03 FF 01 FC 00 02 =514 30104 FF 03 FB 00 01 01 FF 01 =764 30112 80 03 FC 00 01 01 FF 01 =641 30120 F0 00 04 03 FF 02 F8 00 =752 FF 01 FC 00 02 1F =549 30128 01 07 30136 FE 00 01 03 FF 01 FC 00 =766 =782 30144 03 07 FF 01 F0 0F FE 07 30152 FF 02 FC 00 04 07 FB 03 =771 30160 FF 01 00 01 1F FE 00 03 =545 30168 1F FF 01 00 01 07 FE 00 =549 30176 04 0F FF 03 FE 0F F8 00 =794 30184 06 FF 02 81 FF 01 C0 1F =871 30192 FE 00 03 0F FF 01 00 01 =529 30200 03 FF 02 F8 00 02 3F FF =828 30208 03 80 07 FF 02 E0 00 03 =622 84 FØ 1F FE 00 03 30216 07 FF =794 30224 07 FF 01 80 03 FF 01 00 =650 30232 03 01 FF 01 FC 07 FE 00 =773 30240 01 07 FF 01 FB 00 03 1F =547 30248 FE 00 01 1F FF 01 F8 0F =805 30256 FF @1 CØ ØØ Ø2 Ø7 FF 01 =713 30264 80 03 FF 03 F0 07 FF 01 =892 30272 FØ 03 FF 01 07 FF 01 80 =890 30280 7F FE 00 03 0F F0 00 01 =640 30288 01 FF 01 C0 03 FF 03 FB =958 30296 07 FF 01 F0 00 01 FF 03 =762 30304 80 1F FF 01 80 00 03 0F =561 30312 FF 02 FC 00 25 FF 02 E0 =1027 01 F8 00 01 30320 00 01 03 FF =589 =775 30328 07 FF 01 FC 00 02 FF 03 30336 FB 00 01 01 FF 01 F0 07 =737 30344 FC 00 01 07 FF 01 FB 00 =764 30352 04 03 FF 02 FC 00 01 07 =524 =795 30360 FF 01 FC 00 02 1F FE 00 30368 01 03 FF 01 F8 00 03 07 =518 FF 01 F0 0F FE 07 30376 FF 02 =1029 30384 FC 00 04 07 F8 03 FF 01 =770 30392 80 1F FC 00 03 1F FF 01 30400 00 01 07 FE 00 04 0F FF =701 =536 30408 03 FE ØF F8 00 06 FF 04 =785 30416 CØ 1F FE 00 03 0F FF 01 =751 30424 00 01 03 FF 02 F8 00 02 =511 30432 3F FF 03 80 07 FF 02 E0 =937 30440 00 03 07 FF 04 F0 1F FE =794 30448 00 03 07 FF 01 80 03 FE =651 30456 00 03 03 FF 01 FC 07 FE =775 30464 00 02 07 FF 01 F8 00 03 =516 30472 1F FE 00 01 1F FF 01 FB =821 30480 0F FF 01 E0 01 E0 07 FF =992 30488 01 80 03 FF 03 F8 07 FF =900 =759 30496 01 F0 03 FF 01 03 FF 01 30504 E0 FF 01 FE 00 03 0F E0 =976 30512 00 01 01 FF 01 80 03 FF =644 03 FF 01 F0 30520 03 FØ 00 01 =743 30528 FF 02 FC 00 01 1F FF 01 =797 30536 80 00 03 07 FF 02 F8 00 =643 02 E0 00 01 03 30544 24 @1 FF =522 30552 FF 01 F8 88 81 87 FF 81 =768 30560 FC 00 02 FF 03 FB 00 01 =761 30568 03 FF 01 E0 07 FC 00 01 =743 ØF FF 101 F8 00 04 07 FF 30576 =785 30584 02 FC 00 01 07 FF 01 F8 =766 1546 30592 00 02 1F FE 00 01 03 FF 50600 01 FB 00 03 07 FF 01 F8 =763 =927 30608 ØF FE ØF FF Ø1 87 FC Ø0 30616 04 07 F8 03 FF 01 80 1F =677 30624 FC 00 03 1F FF 01 00 01 =543 50632 07 FE 00 04 1F FF 03 FC =806 30640 0F FC 00 05 01 FF 04 E0 =756 30648 1F FE 00 03 0F FF 01 80 =687



02 F8

88 82

=892

7E EE

38656 83 FF

30664 03 00 01 03 FF 02 FØ 00 =584 30672 03 0F FF Ø4 FØ 1F FE ØØ =802 03 07 FF 01 80 03 FE 30680 00 =651 30688 03 03 FF 01 FC 07 FF 01 =777 30696 00 02 07 FF 01 FC 00 03 =520 30704 1F FE 00 01 07 FF Ø1 F8 =797 30712 ØF 01 FE 03 F0 87 FF =1030 80 03 FF 03 F8 07 30720 01 FF =900 30728 01 EØ Ø1 FF Ø1 Ø3 FF Ø3 =743 30736 00 03 0F E0 00 01 01 =498 FE 30744 FF 01 80 00 01 7F FF 82 =769 30752 EØ 00 01 =979 03 FF 01 FØ FF 30760 02 FB 00 01 1F FF 01 00 =538 =547 30768 01 02 FB 00 04 FF 24 01 30776 FF 02 FØ 00 01 83 FF 01 =757 FC 00 30784 FC 00 01 03 FF @1 =764 30792 02 FF 03 F8 00 01 03 FF =767 30800 Ø1 EØ 07 FC 00 01 ØF FF =755 00 04 07 =773 30808 01 FC FF 02 FC 30816 00 01 07 FF 01 F8 00 02 =514 00 01 03 FF 1F 30824 FE Ø1 CØ =737 FB 30832 00 03 87 FF 01 ØF FE =783 38840 ØF FF 01 03 FØ 00 04 0F =533 30848 FB 01 FF 01 80 1F FC 00 =916 30856 FF 01 00 01 07 Ø3 1F =552 FE 03 30864 00 04 1F FF FB ØF FC =808 30872 00 05 03 FF 04 E0 1F FE =776 30880 00 03 ØF FF 01 80 03 FF =660 00 02 03 00 30888 FB 82 FF 7F =637 01 03 30896 02 FØ =519 FF 00 03 0F 38984 FF 04 FØ 1F FE 00 03 07 =794 30912 FF @1 80 03 FE 00 03 03 =647 30920 FF 81 FB 07 FF 01 00 02 =769 30928 07 FF 01 FC 00 03 1F FC =801 38936 00 01 07 FF 01 FØ ØF FF =774 FF 30944 82 F8 07 ØF @1 80 03 =659 FF 101 30952 83 FF FB ØF EØ 80 =1001 30960 01 FE 01 FF 03 FE 00 03 =771 02 7F 30968 CØ ØF 00 00 02 1F =369 38976 FF 82 80 00 01 FF 01 EØ =866 FF 30984 00 01 01 FØ 00 01 7F =625 30992 ØF FE 00 05 7F FF Ø1 EØ =881 31000 02 F0 00 01 00 24 Ø1 FF =535 FC 00 31008 03 FF 01 01 101 FF =768 31016 01 FC 80 01 01 FF 03 E0 =737 =745 31024 00 01 03 FF 01 E0 07 FE FF 31032 00 01 1F 01 FC 00 04 =544 31040 07 FF 02 FC 00 01 ØF FF =787 31048 01 E0 00 02 1F FE 00 01 =513 31056 07 FF 80 00 03 07 FF @1 =656 01 01 31064 01 F8 1F FE ØF FF =806 31072 EØ 00 04 0F F8 01 FF 01 =748 31080 CO 1E FC 00 03 1F FF 01 =765 31088 00 01 07 FF 01 00 04 1F =299 FB 31096 FF 03 ØF FF 01 00 =782 05 31104 03 FF 84 EØ 1F FE 00 03 =774 31112 ØF FF @1 80 03 FF 02 EØ =883 04 00 01 03 31120 00 02 FF FF =520 =767 31128 00 83 ØF FF 02 FB 04 FØ 1F FE 00 03 07 FF 31136 01 80 =679 =743 31144 03 FF 21 EØ 00 02 03 FF @1 F8 @7 FF.01 00 02 03 =517 31152 -1F 31160 FF 01 FC 00 03 FC 80 =794 FF @1 FØ 31168 @1 07 07 FF 02 =768 31176 DE F8 07 FF 01 80 01 FF =1118 03 F8 ØF FF 31184 01 E0 00 01 =747 31192 7E 00 01 FF 03 FE 00 03 =642 31200 07 CØ 00 02 3E 00 02 03 =268 FF 01 FE 00 02 3F 80 =783 31208 88

31216 01 3F FC 00 02 07 C0 00 =517 31224 05 3F FF 01 00 ØF 87 EØ =570 31232 80 03 7F 01 80 00 ØE =528 31240 21 FF 82 FB 00 01 2.93 FF =765 @1 FC 31248 88 82 3F FE 00 01 =573 31256 81 FF CØ 00 02 FF 02 03 =710 31264 Ø1 EØ 87 FE 00 01 7F FF =869 31272 01 FC 00 04 07 FE 07 FC =777 31280 00 01 0F FF 01 80 00 02 =482 31288 FE 00 01 1F 87 FF @1 80 =677 31296 00 03 ØF FF Ø1 FC FF 01 =782 31304 FE ØF FE 01 80 00 04 0F =671 31312 F8 Ø1 FF Ø1 CØ 1F FC 00 =980 FF 31320 Ø3 1F 87 01 00 01 FF =553 31328 01 F8 00 03 1F FF 03 F8 =789 31336 ØF FF Ø1 EØ ØØ Ø4 03 FF =757 31344 04 E0 1F FE 00 03 ØF FF =786 31352 FF 01 80 03 01 FC 00 03 =643 31360 FF 84 80 02 FF 02 FB 00 =766 31368 03 0F FF 04 FØ 1F FE 00 =802 03 07 FF 31376 01 80 03 FF 02 =654 EØ ØØ Ø1 Ø3 =739 31384 FF Ø1 F8 Ø7 31392 FF 01 03 FØ 101 FF Ø1 FC =1009 31400 1F FØ ØØ Ø1 Ø3 FF 00 03 =533 31408 01 FØ 07 FF 03 F8 07 FF =1016 03 FB ØF FF 01 80 01 FF 31416 =906 31424 01 00 01 3E 3F EØ 00 @1 =352 31432 FF 02 FE 00 03 07 00 07 =528 =416 31448 ØF FC 00 05 07 80 00 09 31448 07 FC 00 0B 03 C0 02 =467 00 31456 3F F8 00 02 ØF FF 02 EØ =809 31464 00 02 38 00 02 FB 00 02 =310 31472 07 80 00 04 03 FF 02 FB =647 31480 00 01 07 FF 01 FC 00 02 =518 31488 01 FF =544 1F FE 00 01 02 00 31496 03 07 FF 01 F0 07 FE 00 =767 31504 Ø1 FF 02 FC 00 04 07 =7.69 FB 31512 07 FE 00 01 ØF FF 01 00 =533 FE 00 =550 31520 Ø3 1F FE 00 01 07 FC 31528 Ø4 ØF FF 03 FE ØF 00 =79日 31536 06 1F FB FF @1 CØ 1F =765 01 31544 FE 00 03 1F FF Ø1 00 01 =545 02 00 03 1F 31552 07 FF FF 03 =556 31560 EØ 07 FF 02 00 04 07 FF =754 31568 04 E0 1F FE 00 03 07 FF =778 31576 01 80 03 FF 01 EØ 00 02 =614 31584 Ø1 FF Ø2 9F FF Ø1 00 02 =675 31592 07 FF F8 00 03 0F @1 FF =784 1F FF 31600 01 F8 3F Ø1 F8 FF =1102 31608 01 00 03 07 FF 01 80 03 =398 31616 FF 02 FC 00 01 03 FF 01 =769 31624 FØ Ø7 FF 01 03 F8 00 01 =755 =782 31632 FF Ø1 FC 00 Ø3 1F 00 FØ 31640 01 03 FF 01 CØ 07 FF 03 =717 FF 31648 FB 07 =994 Ø1 EØ Ø1 FF 03 31656 FØ 1F FF 01 EØ 00 01 1C =782 31664 00 01 1E FF 02 FE 00 =580 25 31672 18 FC 00 03 3F E0 00 02 =571 31680 FF Ø1 FB 00 02 3F FF 02 =826 31688 F8 00 02 FF 01 00 @1 01 =508 31696 FB 00 02 FF 01 F0 00 04 =750 31704 03 FF 02 FB 00 01 07 FF =771 31712 01 FC 80 02 1F 00 01 FE =541 31720 01 FF 02 00 03 07 FF 01 =524 31728 FØ 07 FE 01 31736 04 07 F8 03 FF 02 FC 00 =1011 04 07 F8 03 FE 00 01 1F =548 31744 FE 00 03 1F FF 01 00 101 =545 31752 07 FE 00 04 0F FF Ø3 FE =792 31760 OF FB 00 06 1F FC 01 FF =808 31768 @1 CØ 1F FE 00 03 1F FF =767 31776 01 00 01 83 FF 02 EØ ØØ =486 =715 31784 Ø2 3F FF 03 80 07 FF 02 31792 80 00 03 87 FF 04 FØ 1F =668 31800 FE 00 03 07 01 80 03 =651 31808 FF 01 C0 00 02 01 FF 02 =708 31816 ØF FF Ø1 00 02 07 FF 01 =536 31824 F8 00 03 FF 1F Ø1 CØ 3F =793 FF Ø1 FB 00 03 31832 1F FF 01 =794 31840 07 FF 01 80 03 FF 03 CØ =844 31848 03 FF 01 FØ 03 FF 01 07 =765 31856 FE 00 01 FF 01 FC 00 03 =766 31864 1F FØ ØØ Ø1 Ø3 FF Ø1 CØ =723 31872 07 FF 03 F8 07 FF 01 F0 =1016 31880 01 FF 03 CØ 1F FF 101 CØ =930 31888 00 01 0C 00 01 1F FF 02 =302 31896 FC 00 FF 00 00 00 00 00 =507 STOP

#### The Hex Data II Here's the second set of Hex data, named ALIEN. Enter it and save it five seconds after the SCREEN data with SAVE "ALIEN" CODE 32100,3990.

 32100
 CD
 F4
 84
 3E
 64
 32
 19
 87
 =953

 32108
 3E
 03
 32
 07
 87
 21
 00
 00
 =290

 32116
 22
 17
 87
 21
 25
 87
 06
 06
 =409

 32124
 36
 30
 23
 10
 FB
 3E
 0F
 32
 =531

32132 48 5C 06 19 21 73 89 36 =534 32140 23 10 FB 21 90 5C 36 00 =625 36 32148 FF 28 FF 2B 3E 32 32 =812 32156 1D 87 AF 32 1F 87 21 30 =636 32164 22 2E 87 3E 30 30 32 2E =469 32172 87 32 2F 87 3E Ø5 32 14 =584 3E 13 CD EF 32180 38 87 21 =867 7E 32188 87 22 20 87 CD 9B 85 CD =1034 32196 EB 7D CD F4 84 3E 18 CD =1232 32204 7E ED 4B 17 87 EF C9 3E =1098 32212 19 CD EF 7E C5 06 0A 60 =984 32220 11 0A 00 CD 85 03 CD ØF =636 32228 85 CD 69 85 C1 10 EF 36 =1082 32236 14 87 C6 Ø3 32 14 87 32 =611 32244 10 87 3A 19 87 D6 84 30 =647 3E Ø1 32252 02 19 87 32 BA =335 32 32260 87 3A 1F 87 3C 32 1F 87 =635 32268 2E 87 2A 7C FE 39, 38 03 =717 32276 20 26 2F 24 22 2E 87 18 =484 32284 00 CD FF 7E 21 92 88 =918 11 00 3A 14 87 36 32292 03 01 19 =296 32300 3D 20 FA CD 2A 84 CD F4 =1171 32308 84 06 11 21 73 89 11 85 =462 32316 88 36 00 19 10 FB 14 =424 3A 32324 87 47 DD 21 92 88 C5 DD =1160 32332 00 28 28 CD E1 7E 00 FE =890 32340 84 16 40 5F CD 4C 84 FE =980 =984 32348 ØF 20 F3 ED 48 1A 87 DD 32356 70 ØØ CB 43 28 03 00 71 =759 32364 88 DD 73 01 DD 40 36 02 =678 32372 @5 87 CD F5 83 @1 2A 03 =767 32388 00 DD 09 C1 10 C8 35 10 =717 32388 32 9E 86 11 CF 50 ED 53 =966 32396 53 ØF 87 00 87 ED 93 =978 CD 32404 85 CD F3 7F CD 22 80 3A =1133 32412 07 87 11 FF 50 F5 D5 21 =985 32420 86 ØE ØF CD C8 84 9B D1 =1064 32428 1D 1D F1 30 20 EF CD 98 =991 32436 85 06 20 C5 CD EF 85 C1 =1138 32444 10 F9 21 61 88 CD E1 84 =1093 32452 FE 80 38 03 79 21 =765 88 22 32460 20 87 ED 58 0D 87 ØE ØF =672 9B 86 32468 21 CD C8 84 AF DB =1253 32476 FE E6 1F FE 1F 20 F7 AF =1254 FE 1F =1386 32484 DB F7 FE E6 1F 28 32492 C3 BF 7F 32 A2 FE CD E8 =1416 32500 FD C5 0E 96 10 FE 0D 20 =929 32508 FB C1 C9 3E 12 32 1E 87 = 940 7F 43 32516 CD 13 ED 1A 87 22 =850 32524 05 87 ED 53 20 87 C9 3A =886 32532 1E 87 11 9B B7 21 3D 86 =701 32540 06 CC 0E C4 3D C8 11 85 =879 32548 87 Ø6 CC ØE C5 3D CB =834 11 32556 06 =833 DØ 87 21 63 86 CC ØE 32564 CC 3D C8 11 FC 87 Ø6 =1072 C5 32572 ØE C5 3D C8 F5 3E 11 32 =846 87 32580 1E F1 14 A3 11 88 =775 21 32588 06 84 ØE 84 3D C8 06 86 =685 32596 80 ØE 88 3D C8 F5 3E 12 =876 32684 32 1E 87 F1 11 98 87 21 =796 32612 3D 86 06 C4 0E CC 3D 3E 12 32 1E 87 F1 C8 11 =876 =798 32620 F5 32628 48 88 21 87 86 06 32636 C5 3D C8 06 CC 0E CC ØE =737 C5 3D =940 32644 CB 3A 14 87 C6 ØA 32 =691 14 1F 87 18 80 32652 87 AF =711 32 21 32660 BE 03 06 64 E5 C5 4E 23 =792 32668 7E 23 E6 7F. 47 E5 CD E5 =1252 32676 E1 C1 10 F0 06 1E =969 22 E1 4E =930 32684 C5 23 7E 23 E6 1F C6 32692 80 47 E5 CD E5 22 E1 C1 =1314 32700 10 EE C9 3E BF DB FE CB =1384 32708 67 20 88 3E FD DB FE CB =1134 32716 4F 20 F8 CD F3 80 CD 9F =1299 81 32724 CD E1 84 FE FE CC FB =1654 32732 85 CD 93 81 CD 7F 69 =1109 3A 32740 10 87 FE 00 CA D3 7D 3A =1013 32748 1D 87 FE ØA 30 ØC DD 21 =742 32756 C3 89 DD 7E 00 FE 00 CC =1137 32764 10 82 CD 78 83 CD 8D 82 =1129 32772 CD 2A 84 3A ØA 87 32 15 =653 32780 87 CD 8D 82 3A 13 87 FE =1125 32788 BA 28 11 ED SB OD B7 CD =876 32796 4C **B4 FE** 7A CC 3E 81 =1233 FE 32804 ØF 62 82 CD 4A =1081 C2 80 ED 7A 32812 58 0D 87 CD 4C 84 FE =1028 32820 D5 CC 3E 81 D1 3A 13 87 =1029 32828 4F 21 9B 86 CD C8 84 CD =1143 32836 54 1F DØ C3 BF 7F 3E ØF =913 32844 32 13 97 3A 80 5C FE 01 =785 28 32852 44 EF DB FE CB 3E 47 =1148 32860 CC 87 82 **3E EF** FE DB E6 =1473 3A 32868 06 FE 06 28 11 1D 87 =545 32876 00 28 FE ØA D6 Ø1 32 1D =598 32884 87 3E 8A 32 13 87 3E =840 EF 32892 DB FE CB 67 20 2C 3E EF =1124 32900 DR FE CR SE C8 CB D8 C3 =1585 32908 DB 80 3E EF DB FE CB 5F =1419 32916 C3 DB 80 CØ CB CØ 3E E7 =1422

32924 DB FE CB 4F CC 87 82

3E

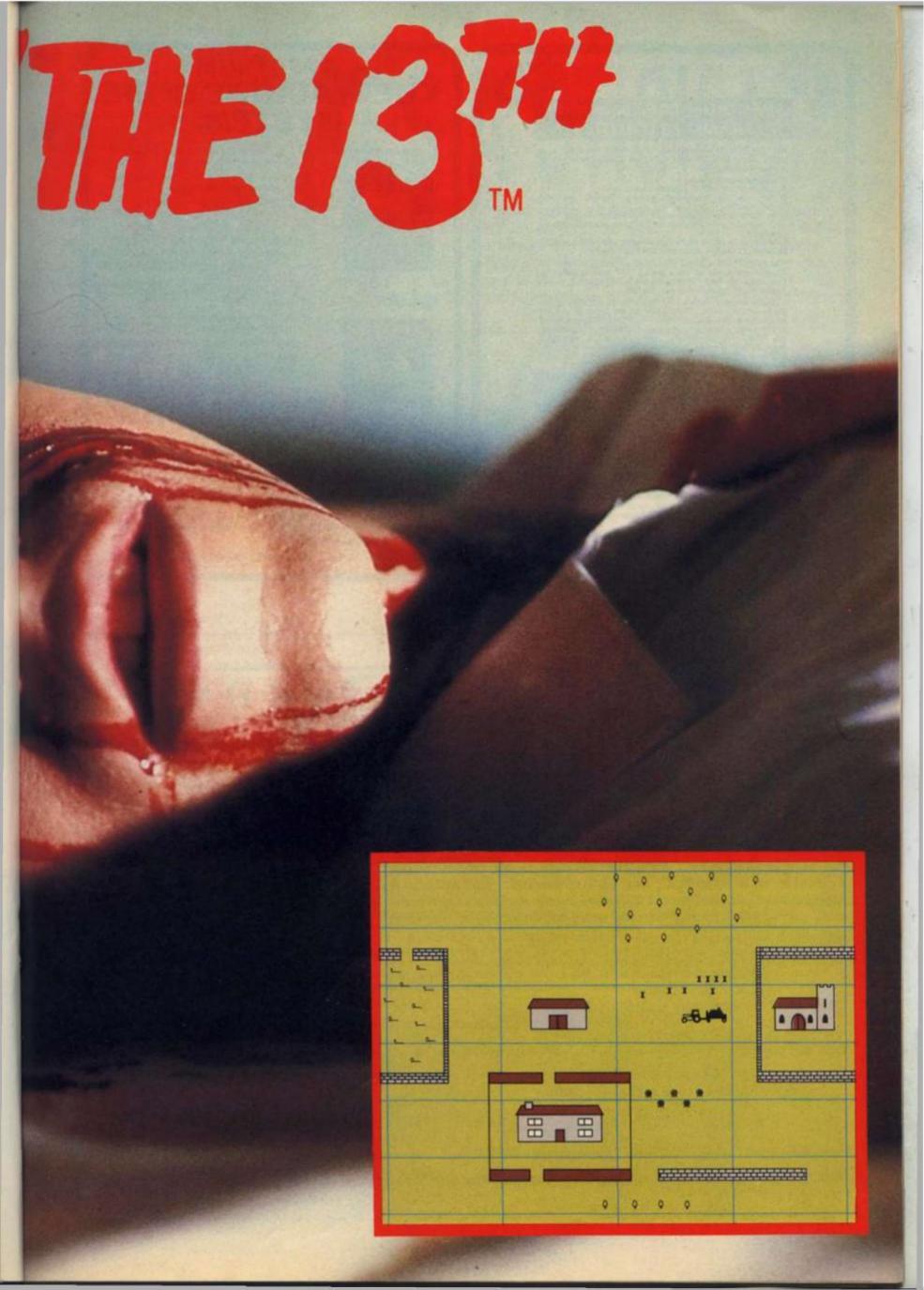
=1286

32932 7E DB FE E6 1F FE 1F 28 =1185	77770 07 FE 11 00 14 CD EL 04 -1000	TAETO 00 00 11 10 00 10 00 04 -114
32940 11 3A 1D 87 FE 00 28 0A =543	33732 87 FE 11 28 14 CD E1 84 =1028	34532 00 0A 66 1F DC 1C ED 24 =664
	33740 FE F0 38 0D DD E5 DD 5E =1328	34540 44 08 69 22 18 DB 30 82 =636
32948 D6 Ø1 32 1D 87 3E 8A 32 =679	33748 Ø1 DD 56 Ø2 CD 34 82 DD =918	34548 29 00 24 00 1A 48 00 42 =241
32956 13 87 3E F7 DB FE CB 47 =1210	33756 E1 11 03 00 DD 19 C1 CB =887	34556 00 00 02 40 18 00 10 04 =110
32964 20 0C 3E EF DB FE CB 47 =1092	33764 60 C4 EB B3 10 99 C9 DD =1249	34564 00 3D 86 03 5A 00 60 CB =587
32972 C8 C8 D8 C3 D8 80 3E EF =1462	33772 E5 C5 CD BD B2 C1 DD E1 =1589	34572 36 CF 50 CF 50 41 00 8A =831
32980 DB FE CB 47 CØ CB CØ ED =1571	33780 C9 3E 89 D3 FE 3E 09 D3 =1147	34580 08 60 10 00 00 60 C4 CC =616
32988 58 0D 87 0E 0F 21 D5 86 =648	33788 FE D5 4E 23 3E Ø1 BE 23 =868	34588 08 31 12 01 61 88 53 43 =459
32996 D5 C5 CD C8 84 C1 D1 CD =1554	33796 28 ØC C5 D5 CD C8 84 D1 =1208	34596 3D 30 30 30 30 30 30 20 =381
33004 38 84 ED 53 0D 87 C9 3A =915	33804 E5 CD 93 84 E1 C1 CD C8 =1536	34604 4C 3D 30 31 20 4B 45 59 =499
33012 1D 87 F5 CB 3F CB 3F CB =1144		34612 53 2E 2E 2E 2E 2E 2E 2E =405
33020 3F FE 00 11 E0 50 28 10 =694	33820 02 2A 05 87 23 7E 21 D4 =590	34620 2E 20 31 2D 4C 45 46 54 =471
33028 47 21 CB 86 0E 10 D5 C5 =881	33828 86 77 28 C3 F5 83 3A 15 =946	34628 20 20 52 49 47 48 54 2D =491
33036 CD CB 84 C1 D1 1C 10 F1 =1224	33836 87 06 00 10 FE 3D 20 F9 =753	
		34636 30 20 2E 2E 2E 2E 2E 2E =356
33044 F1 E6 07 FE 00 28 08 47 =851	33844 CD BD 82 C9 CB 40 C4 93 =1335	34644 2E 2E 46 49 52 45 2D 32 =481
33052 AF 37 1F 10 FC E6 AA 06 =935	33852 84 CB 48 C4 80 84 CB 50 =1146	34652 20 4F 52 20 39 20 20 20 =378
33060 08 12 14 10 FC 3A 1D 87 =536	33860 C4 5C 84 CB 58 C4 9F 84 =1198	34660 20 20 41 4E 59 20 4F 54 =491
33068 ØE 10 FE ØA 30 02 ØE 90 =502	33868 D5 E1 7C E6 18 CB 2F CB =1269	34668 48 45 52 20 48 45 59 20 =520
33076 21 E0 5A 06 0C 71 23 10 =529	33876 2F CB 2F C6 58 67 7E C9 =1013	34676 46 4F 52 20 53 48 45 49 =560
33084 FC C9 3E 1D 32 A2 FE CD =1215	33884 7A FE 50 28 13 7B C6 20 =868	34684 4C 44 53 2E 20 20 20 20 =401
33092 E8 FD 3E 08 32 84 5C DD =1050	33892 5F DØ 7A C6 Ø8 57 FE 58 =1060	34692 20 20 20 20 20 20 20 20 20 =256
33100 21 73 89 06 11 DD 7E 00 =655	33900 C0 78 C6 20 5F 16 40 C9 =927	34700 20 20 20 20 20 20 20 20 =256
33108 FE 00 28 12 DD 7E 01 BB =847	33908 78 E6 E0 FE C0 20 E6 78 =1408	34708 20 20 20 20 20 20 00 20 =224
33116 20 0C DD 7E 02 BA 20 06 =617	33916 E6 1F 18 FØ 7B D6 20 5F =989	34716 42 45 57 41 52 45 20 4F =549
33124 DD 36 00 00 18 09 C5 01 =506		
	33924 DØ 7A D6 Ø8 57 FE 38 CØ =1141	34724 46 20 54 48 45 20 42 55 =510
33132 05 00 DD 09 C1 10 DE 06 =672	33932 78 C6 20 5F 16 40 C9 78 =858	34732 44 47 49 45 53 2E 20 20 =474
33140 0A C5 26 00 68 11 01 00 =367	33940 6F E6 E0 SF 7D 3C E6 1F =1106	34740 01 20 4D 55 54 45 4E 54 =510
33148 CD B5 03 C1 10 F3 ED 5B =1169	33948 83 5F C9 78 6F E6 E0 5F =1210	34748 20 42 55 44 47 49 45 53 =547
33156 0D 87 21 98 86 0E 0F CD =704	33956 7D E6 1F 3D E6 1F 83 5F =934	34756 20 50 41 52 54 20 54 57 =546
33164 C8 84 3A 1D 87 C6 ØF FE =1021		34764 4F 2E 20 01 20 4E 4F 57 =434
33172 61 38 02 3E 60 32 1D 87 =527	33972 2F CB 2F C6 58 57 79 12 =809	34772 20 50 52 45 50 41 52 45 =559
33180 3E ØF C9 DD 21 73 89 06 =790	33980 D1 06 08 4E 1A A9 12 14 =534	34780 20 54 4F 20 4D 45 45 54 =526
33188 11 DD 7E 00 CB 7F C4 85 =1071	33988 23 10 F8 C9 D5 7A E6 18 =1089	34788 20 54 48 45 20 53 50 49 =525
33196 81 11 05 00 DD 19 10 F1 =654	33996 CB 2F CB 2F CB 2F C6 5B =1036	34796 44 45 52 20 43 52 45 41 =534
33204 C9 C5 DD 5E 01 DD 56 02 =1023	34004 57 79 12 D1 06 08 7E 12 =593	34804 54 55 52 45 53 2E 20 01 =482
33212 D5 21 D5 86 ØE ØF CD C8 =1027	34012 14 23 10 FA C9 E5 C5 2A =990	34812 20 41 4E 4F 54 48 45 52 =561
33220 84 D1 C1 C5 DD 46 00 CD =1227	34020 0B 87 46 23 3E 3F A4 67 =643	
33228 38 84 7A FE 40 20 0D 7B =796		34820 20 40 45 41 54 48 45 40 =543
	34028 78 22 08 87 7E C1 E1 C9 =1045	34828 20 57 41 56 45 2E 20 01 =418
33236 E6 EØ FE ØØ 20 Ø6 DD 36 =1021	34036 21 00 40 E5 D1 13 36 00 =608	34836 21 21 21 21 21 21 21 21 21 =264
33244 00 00 C1 C9 DD 73 01 DD =952	34044 01 00 18 ED B0 21 00 58 =559	34844 20 41 53 54 45 52 4F 49 =567
33252 72 02 DD 6E 03 DD 66 04 =777	34052 E5 D1 13 01 00 03 36 0F =530	34852 44 53 20 21 21 21 21 21 21 =348
33260 ED 5F CB 4F 28 04 01 0A =669	34060 ED B0 C9 21 17 B7 34 21 = 890	34860 21 21 21 21 21 21 21 21 21 =264
33268 00 09 CD F5 83 C1 C9 DD =1205	34068 29 87 7E FE 39 38 05 36 =728	34868 21 21 21 20 41 53 54 45 =432
33276 21 73 89 06 0F DD 7E 00 =653	34076 30 2B 18 F6 3C 77 21 22 =607	34876 52 4F 49 44 53 20 21 21 =483
33284 CB 7F 28 08 11 05 00 DD =621	34084 87 11 EC 50 06 0E C5 E5 =914	34884 21 21 21 21 21 21 01 20 =231
33292 19 10 F2 C9 DD 36 00 84 =891	34092 D5 7E 6F 26 00 29 29 29 =611	34892 54 48 45 20 53 41 55 53 =573
33300 16 40 ED SF SF CD 4C 84 =926	34100 11 00 3C 19 D1 D5 0E 07 =545	34900 45 52 53 20 41 54 54 41 =564
33308 FE ØF 20 F4 DD 73 01 DD =1103	34108 CD C8 84 D1 1C E1 23 C1 =1227	34908 43 4B 2E 20 01 20 54 52 =419
33316 72 02 21 B7 86 DD 75 03 =807	34116 10 E4 C9 06 0A DD 21 CB =915	34916 59 20 48 41 52 44 45 52 =559
33324 DD 74 04 4E CD C8 84 C9 =1157	34124 89 DD 7E 00 FE 05 30 0A =801	
33332 DD 21 73 89 06 0F DD 7E =874	34132 D5 11 03 00 DD 19 D1 10 =704	
33340 00 CB 7F 28 0A D5 11 05 =615	34140 F0 C9 DD 36 00 04 DD 73 =1056	Carrier Contract of the second second
33348 00 DD 19 D1 10 F0 C9 DD =1133	34148 01 DD 72 02 C9 DD 21 C8 =993	Contraction of the second second
33356 36 00 84 DD 73 01 DD 72 =858		
33364 02 21 29 86 DD 75 03 DD =772	34156 B9 06 0A DD 7E 00 FE 05 =759	
	34164 DC 7F 85 11 03 00 DD 19 =746	
33372 74 04 CD C7 B1 C9 AF 21 =1062	34172 10 F1 C9 C5 6F 3D DD 77 =1167	
33380 00 58 77 11 01 58 01 DF =537	34180 00 26 00 29 29 29 11 DD #399	and the set of the set
33388 02 ED 80 3D 20 F1 3E 1A =837	34188 86 19 DD 5E 01 DD 56 02 =784	and the second sec
33396 32 A2 FE CD E8 FD 3A 07 =1221	34196 ØE ØF CD C8 84 C1 C9 2A =1002	and the second second second
33404 87 3D 32 07 87 FE 00 C8 =842	34204 20 87 22 ED 85 3E FF 32 =938	the state of the state of an order of the
33412 C3 2F 7E 3A 9E 86 FE 00 =972	34212 12 87 CD BF 85 3A 12 87 =893	
33420 CB 3A 1D 87 FE 00 CB 3D =937	34220 FE 00 CB 18 F5 21 12 87 =909	
33428 32 1D 87 FE ØA CC FB 81 =1062	34228 36 00 FE 01 C8 2A 20 87 =718	and the second
33436 06 05 C5 60 11 01 00 CD =527	34236 22 ED 85 FF 3A 05 5C FE =1068	State & Marine Marine
33444 B5 03 C1 10 F5 AF 32 9E =1021	34244 00 CØ 2A ED 85 23 22 ED =910	
33452 86 ED 58 0D 87 ED 53 0F =945	34252 85 7E FE 02 38 DF 2A 36 =890	A STANDARD CONTRACTOR
33460 87 21 21 86 ØE ØF CD AD =742	34260 5C 01 08 00 09 3D 20 FC =455	- The strand of the strand of the
33468 84 3A 9E 86 FE 00 C0 ED =1165	34268 11 DF 50 ED A0 18 14 79 =885	and the second se
33476 5B ØF B7 CD 4C 84 FE ØF =923	34276 FE 00 20 F7 CD EF 85 18 =1134	
33484 20 3A D5 21 21 86 ØE ØF =532	34284 D2 B4 B7 3E 08 F5 06 04 =850	A CONTRACTOR OF A CONTRACTOR O
33492 CD AD 84 D1 06 02 CD 38 =988	34292 C5 06 FF 10 FE C1 10 FB =1185	
33500 84 FE 0F 20 27 ED 53 0F #807	34300 21 DF 58 E5 0E 08 06 20 =633	
33508 87 21 21 86 ØE ØF D5 CD =782	34308 E1 25 E5 B7 CB 16 2B 10 =958	The same of the second s
33516 AD 84 D1 78 E6 EØ FE ØØ =1345	34316 FB 0D 20 F2 E1 F1 3D 20 =1097	
33524 CØ 7A FE 40 CØ 3E 10 32 =952	34324 DC 21 32 00 11 0A 00 CD =535	AND THE REAL PROPERTY AND
33532 9E 86 21 D3 86 4E 23 23 =818	34332 B5 03 C9 0F 01 00 10 08 =425	A REAL PROPERTY AND A REAL PROPERTY AND
33540 CD C8 84 C9 ED 53 0F 87 =1208	34340 10 08 10 08 00 0E 01 00 =63	
		A REAL PROPERTY AND A REAL
33548 3A 14 87 47 21 92 88 C5 =796	34348 00 20 50 50 20 20 00 0E =270	A CONTRACTOR OF THE PROPERTY O
33556 7E CB 7F 2B 12 23 4E 23 =662	34356 01 00 04 0E 0E 04 04 00 =41	A STATE OF A
33564 46 23 7A BB 28 ØE C1 10 =674	34364 00 4C 02 00 43 33 3D 1F =288	A CONTRACT OF A CONTRACT OF A CONTRACT
33572 EE 3E 10 32 9E 86 C9 23 =894	34372 04 0C 00 00 C2 CC BC F8 =850	A MARTIN AND A MARTINA AND A
33580 23 23 18 F2 78 B9 28 11 =701	34380 20 30 00 4D 02 00 03 03 =165	APPENDING SALE SALES
33588 C5 D1 E5 CD 93 84 E1 D5 =1557	34388 0D 3F 72 42 00 00 C0 C0 =640	S. Harris and the second s
33596 C1 ED 5B ØF 87 7B B9 20 =1011	34396 BØ FB 4E 42 00 00 00 4D =645	A Company of the second s
33604 DD 28 56 28 5E 28 36 00 =584	34404 02 00 00 1F 37 44 44 44 =292	A Comment of the second of the
33612 CD 47 85 C1 E5 DD E1 CD =1482	34412 00 00 00 F8 EC 22 22 22 =586	
33620 17 84 3A 1E 87 32 A2 FE =844	34420 00 4E 02 00 00 1F 39 3F =231	
33628 CD E8 FD 3E 10 32 9E 86 =1110	34428 ØF ØD 19 00 00 FB 9C FC =709	
33636 CD ØF 85 3A 1C 87 3D 32 =685	34436 FØ BØ 98 4D Ø1 18 18 7E =820	
33644 1C 87 3A ØA 87 FE Ø6 38 =682	34444 E7 B1 FF 7E 66 4C 01 00 =920	And a second
33652 02 D6 03 32 0A 87 C9 3A =673	34452 18 7E C3 99 81 7E 66 00 =855	
33660 14 87 47 DD 21 92 88 C5 =959	34460 00 00 10 10 38 FE C6 0E =554	
33668 DD 7E 00 CB 7F 28 52 CD =1004	34468 Ø1 2E 5D F7 3E 6D FB 3E =871	
33676 17 84 DD 46 00 CB 70 28 =801	34476 1A ØE Ø1 7A 7D 77 F6 6D =762	
33684 04 ED 5F A0 47 CD 38 84 =960	34484 FA 7E 5A 7A Ø1 FF 81 BD =1162	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
33692 DD 73 01 DD 72 02 2A 05 =721	34492 BD BD BD B1 FF 7A Ø1 3E =1136	
33700 B7 CD E1 B4 CB 47 28 13 =1030	34500 JE 30 JE JE 30 30 30 AA =548	
33708 D5 23 7E 28 C6 09 E6 1F =885	34508 AA AA AA AA AA AA AA AA ØF =1205	
33716 FE 0A 28 02 3E 12 5F 16 =503	34516 02 00 00 00 00 00 00 00 =2	
33724 00 19 D1 CD F5 83 3A 1E =903	34524 00 00 00 00 00 00 00 00 00 =0	

| 45 4<br>47 4<br>47 4<br>47 4<br>47 4<br>48 4<br>69 4<br>48 4<br>69 4<br>48 4<br>69 4<br>48 4<br>60 4<br>60 4<br>60 4<br>60 4<br>60 4<br>60 4<br>60 4<br>60   | 21 21<br>44 29<br>41 52<br>20 20<br>55 49<br>55 49<br>55 49<br>55 49<br>50 00<br>44 03<br>50 00<br>44 03<br>50 00<br>44 03<br>50 00<br>41 20<br>83<br>41 20<br>83<br>41 20<br>83<br>41 20<br>83<br>41 20<br>83<br>84<br>82<br>84<br>82<br>83<br>84<br>82<br>83<br>84<br>83<br>84<br>83<br>84<br>83<br>84<br>83<br>84<br>84<br>84<br>84<br>84<br>84<br>84<br>84<br>84<br>84<br>84<br>84<br>84   | 01<br>4C<br>54<br>2D<br>CC<br>40<br>50<br>50<br>50<br>50<br>50<br>50<br>50<br>50<br>50<br>50<br>50<br>50<br>50   | 2D<br>55<br>48<br>01<br>1F<br>CC<br>40<br>03<br>48<br>2C<br>48<br>24<br>83<br>31<br>44   | 2D<br>43<br>4C<br>40<br>37<br>53<br>80<br>4C<br>40<br>53<br>80<br>4C<br>43<br>80<br>4C<br>43<br>80<br>4C<br>43<br>80   
   
   
   | 20<br>48<br>49<br>31<br>CC<br>40<br>78<br>C5<br>48<br>76<br>00<br>81<br>4E   | =920<br>=747<br>=1272<br>=826<br>=411<br>=665<br>=412<br>=484  
   
  | 35316<br>35324<br>35332<br>35340<br>35340<br>35356<br>35364<br>35364<br>35364<br>35370<br>35380<br>35380<br>35380<br>35380<br>35396<br>35404<br>35412  
   
   | 00<br>18<br>06<br>38<br>05<br>05<br>05<br>05  
   
  | 30<br>70<br>E4<br>18<br>60<br>06<br>BF<br>02<br>F2   | 38<br>E0<br>CC<br>18<br>F0<br>9C<br>BC<br>C2<br>C4  
   
   | 10<br>80<br>78<br>30<br>18<br>70<br>84<br>30   | 88<br>88<br>88<br>88<br>88<br>88<br>88<br>88<br>88<br>88<br>88<br>88<br>88  | 06<br>3C<br>1C<br>7C<br>7C<br>40<br>7E<br>0E   | ØC<br>4E<br>3C<br>C6<br>Ø6<br>41<br>CØ   | 08<br>9A<br>0C<br>0E<br>32<br>48<br>FØ   
  | =146<br>=780<br>=866<br>=456<br>=682<br>=489   | 35708<br>35716<br>35724<br>35732<br>35740<br>35748<br>35756<br>35764  
   | 1E<br>01<br>00<br>FF<br>23<br>FF  
   | 00<br>03<br>00<br>01<br>EA<br>21<br>FF  | ØE<br>FF<br>50<br>01<br>01<br>FF<br>1E  | 0E<br>01<br>03<br>04<br>00<br>FF   | FF<br>50<br>02<br>10<br>01<br>00<br>00   
  | 80<br>FF<br>21<br>00<br>05<br>01<br>00   | FF<br>5A<br>FF<br>85<br>79<br>5D   | 00<br>FF<br>FA<br>B5<br>28<br>0E<br>40   
  | =757<br>=940<br>=623<br>=687<br>=321<br>=679<br>=019  |
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| 41 45 47 2 67 67 67 67 67 67 67 67 67 67 67 67 67  | 44 20<br>41 52<br>20 20<br>55 40<br>55 40<br>55 40<br>55 40<br>50 11<br>50 00<br>44 03<br>96 80<br>44 03<br>96 80<br>41 20<br>83 41<br>00 97<br>45 20  | 4C<br>54<br>2D<br>CC<br>40<br>50<br>50<br>50<br>50<br>50<br>50<br>50<br>50<br>50<br>50<br>50<br>50<br>50   | 55<br>48<br>01<br>1F<br>CC<br>40<br>03<br>00<br>48<br>2C<br>48<br>2C<br>48<br>31<br>44   | 43<br>40<br>40<br>37<br>55<br>40<br>53<br>80<br>40<br>43<br>40<br>43<br>40<br>43<br>40<br>43<br>40<br>40<br>40<br>40<br>40<br>40<br>40<br>40<br>53<br>80<br>40<br>40<br>40<br>53<br>80<br>40<br>40<br>40<br>53<br>80<br>40<br>40<br>53<br>80<br>40<br>53<br>80<br>40<br>53<br>80<br>54<br>54<br>54<br>54<br>54<br>54<br>54<br>54<br>54<br>54<br>54<br>54<br>54   
   
   
   | 48<br>49<br>31<br>CC<br>40<br>78<br>C5<br>40<br>76<br>00<br>81<br>40<br>40<br>81   | =534<br>=553<br>=517<br>=920<br>=747<br>=1272<br>=826<br>=411<br>=665<br>=412<br>=484  
   
  | 35332<br>35340<br>35348<br>35356<br>35364<br>35372<br>35380<br>35380<br>35380<br>35380<br>35380<br>35396<br>35404  
   
   | 18<br>06<br>38<br>05<br>08<br>00<br>00<br>00<br>00<br>00  
   
  | 70<br>E4<br>18<br>60<br>06<br>8F<br>02<br>F2   | EØ<br>CC<br>18<br>FØ<br>9C<br>8C<br>C2<br>C4  
   
   | 80<br>78<br>30<br>1E<br>70<br>E4<br>30   | 88<br>88<br>88<br>88<br>88<br>88<br>88<br>88<br>88<br>88<br>88<br>88<br>88  | 3C<br>1C<br>7C<br>7C<br>40<br>7E<br>0E   | 4E<br>3C<br>06<br>41<br>CØ   | 9A<br>ØC<br>ØE<br>32<br>48<br>FØ   
  | =780<br>=866<br>=456<br>=682<br>=489   | 35724<br>35732<br>35740<br>35748<br>35756   
   | 01<br>00<br>FF<br>23<br>FF  
   | 03<br>00<br>01<br>EA<br>21<br>FF  | FF<br>50<br>01<br>01<br>FF<br>1E  | 01<br>03<br>04<br>00<br>FF   | 50<br>02<br>10<br>01<br>00<br>00   
  | FF<br>21<br>00<br>05<br>01<br>00   | 5A<br>FF<br>85<br>79<br>5D   | FF<br>FA<br>B5<br>28<br>ØE<br>4D   
  | =940<br>=623<br>=687<br>=321<br>=679<br>=810  |
| 45 4<br>47 2<br>40 0<br>40 0<br>40 0<br>40 0<br>40 4<br>40 4<br>40 4<br>45 4<br>60 4<br>45 4<br>60 4<br>45 4<br>60 4<br>45 4<br>60 4<br>45 4<br>60 4<br>45 4<br>60 4<br>60 4<br>60 4<br>60 4<br>60 4<br>60 4<br>60 4<br>60   | 41 52<br>20 20<br>55 40<br>CC 39<br>40 CC<br>CA 46<br>20 11<br>50 20<br>44 03<br>96 80<br>41 20<br>03 41<br>20<br>03 41<br>20<br>03 41<br>20<br>03 41<br>20<br>03 21<br>20<br>20<br>20<br>20<br>20<br>20<br>20<br>20<br>20<br>20<br>20<br>20<br>20   | 54<br>2D<br>CC<br>48<br>DF<br>50<br>50<br>50<br>50<br>50<br>50<br>50<br>50<br>50<br>50<br>50<br>50<br>50   | 48<br>01<br>1F<br>CC<br>40<br>03<br>00<br>48<br>2C<br>48<br>2C<br>48<br>31<br>44   | 4C<br>C4<br>40<br>37<br>C5<br>40<br>53<br>80<br>4C<br>43<br>41<br>80   
   
   
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  | 35340<br>35348<br>35356<br>35364<br>35372<br>35380<br>35380<br>35388<br>35386<br>35396<br>35404  
   
   | D6<br>ØC<br>38<br>ØE<br>C8<br>ØC<br>CC<br>Ø8  
   
  | E4<br>18<br>60<br>86<br>8F<br>02<br>F2   | CC<br>18<br>FØ<br>9C<br>8C<br>C2<br>C4  
   
   | 78<br>3C<br>1E<br>70<br>E4<br>3C   | 88<br>88<br>88<br>88<br>88<br>88<br>88  | 1C<br>7C<br>7C<br>40<br>7E<br>ØE   | 3C<br>C6<br>Ø6<br>41<br>CØ   | 0C<br>0E<br>32<br>40<br>F0   
  | =866<br>=456<br>=682<br>=489   | 35732<br>35740<br>35748<br>35756  
   | 00<br>FF<br>23<br>FF  
   | 00<br>01<br>EA<br>21<br>FF  | 50<br>01<br>01<br>FF<br>1E  | 03<br>04<br>00<br>00<br>FF   | 82<br>18<br>81<br>80<br>80   
  | 21<br>00<br>05<br>01<br>00   | FF<br>E5<br>Ø5<br>79<br>5D   | FA<br>B5<br>28<br>ØE<br>4D   
  | =623<br>=687<br>=321<br>=679<br>=818  |
| 47 2<br>CC 2<br>40 0<br>C9 4<br>80 0<br>48 4<br>80 0<br>80 0<br>80 0<br>80 0<br>80 0<br>80   | 20 20<br>55 40<br>55 40<br>55 40<br>60<br>60<br>11<br>50 80<br>44 83<br>80 83<br>41 20<br>83 41<br>80 97<br>45 20  | 2D<br>CC<br>40<br>DF<br>00<br>50<br>03<br>41<br>47<br>02<br>33<br>44<br>00   | 01<br>1F<br>CC<br>40<br>D3<br>00<br>48<br>2C<br>48<br>2C<br>48<br>31<br>44   | C4<br>40<br>37<br>C5<br>40<br>53<br>80<br>40<br>40<br>40<br>40<br>41<br>80   
   
   
   | 31<br>CC<br>40<br>78<br>C5<br>48<br>76<br>00<br>01<br>4E   | =517<br>=920<br>=747<br>=1272<br>=826<br>=411<br>=665<br>=412<br>=484  
   
  | 35348<br>35356<br>35364<br>35372<br>35388<br>35388<br>35388<br>35386<br>35396<br>35484   
   
   | 0C<br>0C<br>0C<br>0C<br>0C<br>0C<br>0C<br>0C<br>0C  
   
  | 18<br>60<br>06<br>8F<br>02<br>F2   | 18<br>FØ<br>9C<br>8C<br>C2<br>C4  
   
   | 3C<br>1E<br>7Ø<br>E4<br>3C   | 88<br>88<br>88<br>88<br>88  | 7C<br>7C<br>40<br>7E<br>0E   | C6<br>Ø6<br>41<br>CØ   | 0E<br>32<br>48<br>FØ   
  | =456<br>=682<br>=489   | 35740<br>35748<br>35756   
   | FF<br>23<br>FF  
   | Ø1<br>EA<br>21<br>FF  | 01<br>01<br>FF<br>1E  | 04<br>00<br>00<br>FF   | 10<br>01<br>00   
  | 00<br>05<br>01<br>00   | E5<br>05<br>79<br>5D   | 85<br>28<br>ØE<br>40   
  | =687<br>=321<br>=679<br>=818  |
| CC 3<br>40 0<br>C9 4<br>80 0<br>48 4<br>88 3<br>4C 4<br>70 0<br>80 4<br>45 4<br>83 3<br>80 4<br>83 3<br>80 4   | 55 48<br>50 39<br>40 CC<br>CA 48<br>20 11<br>50 20<br>44 23<br>20 83<br>96 88<br>41 20<br>23 41<br>20 3 41<br>20 48<br>20 5<br>20 5 | CC<br>48<br>DF<br>50<br>50<br>50<br>50<br>50<br>50<br>50<br>50<br>50<br>50<br>50<br>50<br>50   | 1F<br>CC<br>40<br>03<br>00<br>48<br>2C<br>48<br>2C<br>48<br>31<br>44   | 40<br>37<br>C5<br>40<br>53<br>00<br>4C<br>43<br>41<br>00  
   
  | CC<br>40<br>7B<br>C5<br>48<br>76<br>00<br>01<br>4E   | =920<br>=747<br>=1272<br>=826<br>=411<br>=665<br>=412<br>=484   
   
   | 35356<br>35364<br>35372<br>35380<br>35380<br>35388<br>35396<br>35404  
   
   
  | 38<br>80<br>00<br>00<br>00<br>00<br>00<br>00<br>00<br>00<br>00   
   | 60<br>06<br>8F<br>02<br>F2  
  | FØ<br>9C<br>8C<br>C2<br>C4   
  | 1E<br>70<br>E4<br>3C   | 00<br>00<br>00  
   | 7C<br>40<br>7E<br>0E   | Ø6<br>41<br>CØ   | 32<br>48<br>FØ  
   | =602<br>=489   | 35748<br>35756   
  | 23<br>FF  | EA<br>21<br>FF  | 01<br>FF<br>1E  | 00<br>00<br>FF   
   | 01<br>00<br>00  
   | 05<br>01<br>00   | 05<br>79<br>5D   | 28<br>ØE<br>40  | =321<br>=679<br>=818  |
| 40 0<br>C9 4<br>80 0<br>48 6<br>88 5<br>40 0<br>80 6<br>80 7<br>80 6<br>80 7<br>80 7 | CC 39<br>440 CC<br>CA 48<br>00 11<br>50 00<br>44 03<br>00 03<br>96 88<br>41 20<br>03 41<br>00 97<br>45 20  | 40<br>DF<br>00<br>50<br>03<br>41<br>49<br>03<br>33<br>44<br>00   | CC<br>40<br>D3<br>00<br>48<br>2C<br>4E<br>03<br>31<br>44   | 37<br>C5<br>40<br>53<br>80<br>40<br>40<br>40<br>40<br>41<br>80   
   
   | 40<br>78<br>C5<br>48<br>76<br>00<br>81<br>4E   | =747<br>=1272<br>=826<br>=411<br>=665<br>=412<br>=484  
   
  | 35364<br>35372<br>35380<br>35388<br>35388<br>35396<br>35404  
   
   
   | 0E<br>C8<br>0C<br>CC<br>08  
  | 06<br>8F<br>02<br>F2   
   | 9C<br>BC<br>C2<br>C4  
   | 70<br>E4<br>30   | 00<br>00  |
40<br>7E<br>0E   | 41<br>CØ   | 48<br>FØ   
  | =489   | 35756   
   | FF  | 21<br>FF  | FF<br>1E  | 00<br>FF  
  | 00<br>00   
  | 01<br>00   | 79<br>5D   | ØE<br>4D  | =679  |
| C9 4<br>80 0<br>48 4<br>88 5<br>4C 4<br>70 6<br>80 9<br>45 6<br>83 5<br>80 5   | 40 CC<br>CA 48<br>20 11<br>50 00<br>44 03<br>20 03<br>96 88<br>41 20<br>03 41<br>20 97<br>45 20  | DF<br>90<br>50<br>03<br>41<br>49<br>02<br>33<br>44<br>00   | 40<br>D3<br>00<br>48<br>20<br>48<br>20<br>48<br>31<br>44   | C5<br>40<br>53<br>00<br>4C<br>43<br>41<br>00   
   
   
   | 78<br>C5<br>48<br>76<br>00<br>91<br>4E   | =1272<br>=826<br>=411<br>=665<br>=412<br>=484  
   
  | 35372<br>35380<br>35388<br>35396<br>35404  
   
   | 00<br>00<br>00<br>08  
   
  | 8F<br>Ø2<br>F2   | BC<br>C2<br>C4  
   
   | E4<br>3C   | 88<br>88  | 7E<br>ØE   | CØ   | FØ   
  |  |   
   |   
   | FF  | 1E  | FF   | 88   
  | 00   | 5D   | 4D   
  | =814  |
| 00 0<br>48 4<br>88 5<br>4C 4<br>70 0<br>00 9<br>04 4<br>03 4<br>03 5<br>00 1   | CA 48<br>200 11<br>50 200<br>44 20<br>200 23<br>96 88<br>41 20<br>203 41<br>202 97<br>45 20  | 00<br>50<br>03<br>41<br>47<br>00<br>33<br>44<br>00   | D3<br>00<br>48<br>2C<br>4E<br>03<br>31<br>44   | 40<br>53<br>00<br>4C<br>43<br>41<br>00   
   
   
   | C5<br>48<br>76<br>00<br>01<br>4E   | =826<br>=411<br>=665<br>=412<br>=484   
   
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   | 0C<br>CC<br>08  
   
  | Ø2<br>F2   | C2<br>C4  
   
   | 30   | 00  | ØE   |  |  
  | =1317  | 35764   
   | 64  
   |   | 1.2.2.1   |  |  
  |  |  |  
  |   |
| 48 4<br>88 5<br>4C 4<br>70 0<br>00 9<br>04 4<br>00 9<br>03 5<br>00 1<br>00 1 | 200 11<br>50 200<br>44 20<br>200 23<br>96 82<br>41 20<br>203 41<br>200 97<br>45 20   | 50<br>D3<br>41<br>49<br>00<br>33<br>44<br>00   | 00<br>48<br>2C<br>4E<br>03<br>31<br>44   | 53<br>00<br>4C<br>43<br>41<br>00   
   
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  | 35388<br>35396<br>35404  
   
   
   | CC<br>Ø8  
  | F2   
   | C4  
   |  | 1000  | 1000               
   | 38   | 5.00   
  | the second s   |   
   |   |   |   | All and a second  
  | -   | Ch/26  
   | 00   | 05  | =50   |
| BB 5<br>4C 4<br>70 0<br>04 4<br>03 4<br>03 5<br>00 1   | 50 00<br>44 03<br>96 80<br>41 20<br>03 41<br>00 97<br>45 20  | 03<br>41<br>49<br>02<br>33<br>44<br>00   | 48<br>2C<br>4E<br>03<br>31<br>44   | 00<br>4C<br>43<br>41<br>00   
   
   
   | 76<br>00<br>01<br>4E   | =665<br>=412<br>=484   
   
  | 35396<br>35404   
   
   | 08  
   
  |  |   
   
   | 30   | ChON  |  |  |  
  | and the second sec | 35772   
   | 03  | ØA  | E1  
   | 05   | P.P.   
  | 00   | -  |   |   |
| 4C 4<br>70 0<br>00 9<br>04 4<br>00 4<br>45 0<br>03 4<br>03 5<br>00 0   | 44 03<br>00 03<br>96 88<br>41 20<br>03 41<br>00 97<br>45 20  | 41<br>49<br>02<br>33<br>44<br>00   | 2C<br>4E<br>Ø3<br>31<br>44   | 4C<br>43<br>41<br>00   
   
   
   | 00<br>01<br>4E   | =412<br>=484   
   
  | 35404  
   
   | 10000   
   
  | 18   | 4.00  
   
   |  | 10.00   | 36   | C4   | ØC   
  | =97Ø   | 35780   
   | 7E  
   | ØD  | SA.   | A2   | 00   
  | AA   | 00   | 00   
  | =56   |
| 70 0<br>00 9<br>04 4<br>00 0<br>45 0<br>03 4<br>03 5<br>00 0   | 00 03<br>96 88<br>41 20<br>03 41<br>00 97<br>45 20   | 49<br>02<br>33<br>44<br>00   | 4E<br>Ø3<br>31<br>44   | 43<br>41<br>00   
   
   
   | 01<br>4E   | =484   
   
  |  
   
   | F4  
   
  |  | 140   
   
   | 10   | 00  | 70   | C4   | 38   
  | =440   | 35788   
   | F2  
   | BB  | 83  | 6E   | F5   
  | 4B   | FF   | 01   
  | =11   |
| 00 9<br>04 4<br>00 4<br>45 9<br>03 4<br>03 5<br>00 9   | 96 80<br>41 20<br>83 41<br>88 97<br>45 20  | 00<br>33<br>44<br>00   | Ø3<br>31<br>44   | 41<br>00   
   
   
   | 4E   | 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1  
   
  | 35412  
   
   |   
   
  | 82   | E2  
   
   | 3C   | 60  | 70   | 9E   | 82   
  | =1Ø44  | 35796   
   | 01  
   | 5F  | 02  | 01   | FF   
  | FF   | FF   | FF   
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   | EØ   | 00  | 00   | 38   | 70   
  | =558   | 35804   
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  | 3A   | A2   | FE   
  | =47   |
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   | 40   | 00  | 00   | 18   | 30   
  | =328   | 35812   
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   | 21  | E3  | FC   | 01   
  | 09   | 88   | 89   
  | =59   |
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   | 70   | =431   
   
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  | 18   | 88  
   
   | 10   | 88  | 02   | 3E   | EØ   
  | =336   | 35820   
   | 3D  
   | 20  | FC  | C3   | AE   
  | FE   | 00   | 00   
  | =96   |
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   | 41   | =416   
   
  | 35436  
   
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  | 60   | 38  
   
   | ØC   | 00  | FØ   | FE   | ØE   
  | =736   | 35828   
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   | 00  | 03  | FE   | 00   
  | 88   | F5   | C5   
  | =69   |
| 00 i   |  | 41   |  | 02   
   
   
   | 4C   | =342   
   
  | 35444  
   
   | CØ  
   
  | 70   | 7E  
   
   | ØE   | 00  | 60   | 70   | 18   
  | =676   | 35836   
   | D5  
   | E5  | CD  | BF   | 82   
  | 2A   | A5   | FE   
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   | 10   | =416   
   
  | 35452  
   
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   | 60   | 00  | 10   | E6   | C2   
  | =824   | 35844   
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| 00000.000  |  |  | 100000   |  
   
   
   |  | =389   
   
  | 35460  
   
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  | 38   | 00  
   
   | 70   | 00  | 78   | CC   | 84   
  | =686   | 35852   
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   | COLOR OF STREET   |   | 10000  |  
  | 100000   |  | 1.7.1.7.1  
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| 00000.000  | 88 88  | 00   | 97   | 30   
   
   
   | 84   | =235   
   
  | 35468  
   
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  | BA   | C6  
   
   | 30   | 88  | 60   | 38   | 4C   
  | =830   | 35860   
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   | 10000  | =448   
   
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  | =960   | 35868   
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   | 32  | 36  | FE  
   | 23   | 7E   
  | 32   | 54   | FE  | =96   |
| 1.00   | TT 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.  |  |  |  
   
   
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   | 10000  | 1000  | 20.00  | 1.2.2  |  
  | Sale Contractor Contractor   | 36036   
   | 23  
   | 7E  | 32  | 56   | FE   
  | 23   | 7E   | 87   
  | =8  |
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  |  | 36844   
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   | 04  | FD  | CB   | 47   
  | C6   | 23   | 7E   
  | =93   |
| 1000120000   | 111111111111111  | 1.000  | 1000   | 0.0000000  
   
   
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  | 0.000  |   
   
   | 1.00000  | 10.000  | 10000  | 1000   |  
  | Contraction of the second  | 36052   
   | B7  
   | 28  | 84  | FD   | CB   
  | 47   | CE   | 23   
  | =99   |
|  |  | 1.1.1  |  |  
   
   
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   | 1000-100   |   |  |  |  
  |  | 36060   
   | 7E  
   | B7  | 20  | 02   | 3E   
  | 05   | 32   | 14   
  | =48   |
| C. C. C. L. L. L.  | C  |  | 10000  | 1000   
   
   
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  | 0.00   | 10000   
   
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  |  | 36068   
   | FE  
   | 32  | 28  | FE   | 3E   
  | FD   | ED   | 47   
  | =12   |
| 30 :   | 5C 94  | 00   | 88   | 18   
   
   
   | 9A   | =720   
   
  | 35684  
   
   | FF  
   
  | 70   | FF  
   
   | 01   | 01  | 84   | 86   | 01   
  | =775   |   
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| FE :   | 30 78  | 8 00   | 00   | 00   
   
   
   | 00   | =676   
   
  | 35692  
   
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  | FF   | 8D  
   
   | FF   | 88  | 01   | BØ   | <b>B4</b>  
  | =1029  |   
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| 18 4   | 08 30  | 00   | 00   | 00   
   
   
   | EØ   | =332   
   
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  | ØA   | FF  
   
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  | =521   | STOP  
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|  | 31<br>42<br>002<br>97<br>43<br>002<br>97<br>43<br>000<br>000<br>000<br>000<br>000<br>000<br>000<br>000<br>000  | 31       31       31         42       00       97         03       45       20         02       4C       44         97       80       00         02       4C       44         97       80       00         03       44       45         03       44       45         03       44       45         03       44       45         04       2C       33       31         2C       33       31       60         91       FB       01       00         00       00       00       00         30       00       00       00         50       60       00       00         50       60       00       00         60       00       00       00         30       30       10       00         000       10       30       10         000       50       50       94         7E       30       7E       30 | 31       31       31       30         42       00       97       60         03       45       2C       41         02       4C       44       03         97       80       00       03       41         02       4C       34       45       43         03       44       45       43         03       44       45       43         04       00       03       41         2C       33       31       00         04       00       03       41         2C       33       31       00         04       00       03       41         2C       33       31       00         04       00       00       00       00         01       FB       01       7F         02       00       00       00       00         02       00       00       00       00         02       00       00       00       00         03       30       1C       00       00         04       00       00       00       < | 31       31       30       30         42       00       97       60       00         03       45       2C       41       00         02       4C       44       03       41         97       80       00       03       41         97       80       00       03       41         97       80       00       03       41         97       80       00       03       41         97       80       00       03       41         97       80       00       03       41         90       00       03       41       45         90       00       03       41       45         90       00       03       41       45         91       FB       01       7F       03         90       00       00       00       20         90       00       00       00       20         90       00       00       00       20         90       00       00       00       20         90       00       00       00 <td< td=""><td>31       31       30       30       30         42       00       97       60       00       02         03       45       2C       41       00       97         02       4C       44       03       41       2C         97       80       00       03       41       4E         41       2C       33       31       00       97         03       44       45       43       01       41         2C       33       31       00       91       18         20       93       81       00       21       88         91       FB       01       7F       03       84         90       00       00       00       22       84         90       00       00       00       32       54         9</td><td>31       31       30       30       30       30         42       00       97       60       00       02       4C         03       45       2C       41       00       97       70         02       4C       44       03       41       2C       4C         97       80       00       03       41       4E       44         41       2C       33       31       00       97       90         03       44       45       43       01       41       00         00       00       03       41       4E       44         2C       33       31       00       91       44         2C       33       31       00       92       10       44         2C       33       31       00       21       88       97         91       FB       01       7F       03       4D       98       00         00       00       10       00       18       18       18       18       18       18       18       18       18       18       18       18       18       18<td>00       03       41       4E       44       0B       41       =370         31       31       31       30       30       30       30       30       =383         42       00       97       60       00       02       4C       =439         03       45       2C       41       00       97       70       =512         02       4C       44       03       41       2C       4C       =334         97       80       00       03       41       4E       44
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    F6       66         97       80       00       03       41       4E       44       =493       35540       38       30         41       2C       33       31       00       97       90       =508       35548       18       9C         03       44       45       43       01       41       00       =273       35564       68       62         03       04       45       43       01       84       509       35572       BA       A2         2C       33       100       98       108       84       =509       35578       CA       4E         91       FB       01       7F       <td< td=""><td>31       31       30       30       30       30       30       35508       30       28       62         42       00       97       60       00       02       4C       =439       35516       78       28       20         03       45       2C       41       00       97       70       =512       35524       DC       46       7C         02       4C       44       03       41       2C       4C       =334       35532       F6       66       66         97       80       00       03       41       4E       44       =493       35540       38       30       30         41       2C       33       31       00       97       90       =508       35548       18       9C       8C       62         03       44       45       43       01       41       00       =273       35556       F8       62       36         2C       33       31       00       91       84       =509       35572       BA       42       86         91       7F       03       ED       B0       =632       35580</td><td>31       31       30       30       30       30       355/86       30       28</td><td>31       31       30       30       30       =383       35508       30       28       20       92       92       92       92       92       92       92       92       92       92       90       92       42       943       35516       78       28       20       70       90         03       45       2C       41       90       97       70       =512       35524       DC       46       7C       38       90         92       4C       44       93       41       2C       4C       =334       35532       F6       66       66       64       90         97       80       90       93       41       4E       44       =493       35540       38       30       30       DC       90         97       80       90       93       41       90       =273       35556       F8       6C       62       62       92       92       92         90       90       91       14       90       =273       35560       CA       4E       66       84       90       92       35       90       92       36       70</td><td>31       31       30       30       30       30       30       35508       30       28       62       BE       00       FC         42       00       97       60       00       02       4C       =439       35516       78       28       20       70       00       7A         03       45       2C       41       00       97       70       =512       35524       DC       46       7C       38       00       44         02       4C       44       03       41       2C       4C       =334       35532       F6       66       66       64       00       1E         97       80       00       03       41       4E       44       =493       35532       F6       66       66       64       00       1E         97       80       00       03       41       4E       44       =493       35548       18       9C       6C       7B       02       C6         03       44       45       43       01       41       90       =273       35546       6B       32       36       7C       00       6C</td><td>31       31       30       30       30       30       35528       30       28       28       28       28       28       20       70       00       7A       8E         42       00       97       60       00       02       4C       =439       35516       7B       28       20       70       00       7A       8E         03       45       2C       41       00       97       70       =512       35524       DC       46       7C       38       00       44       C6         02       4C       44       03       41       2C       4C       =334       35532       F6       66       66       64       00       1E       F8         97       80       03       41       42       44       =493       35532       F6       66       66       64       00       1E       F8         41       2C       33       31       00       91       84       =509       35572       BA       26       62       00       C6       F2         2C       33       31       00       21       B8       92       6577       <td< td=""><td>31       31       30       30       30       30       30       30       30       35508       30       28       62       BE       00       FC       42       48         42       00       97       60       00       02       4C       =439       35516       78       28       20       70       00       7A       BE       82         03       45       2C       41       00       97       70       =512       35524       DC       46       7C       38       00       44       C6       DE         02       4C       44       03       41       4C       =334       35532       F6       66       66       64       00       1E       F8       18         97       80       00       03       41       42       #4       =493       35548       18       9C       60       62       62       00       1E       F8       18         97       80       00       97       90       =508       35556       F8       6C       62       62       00       C6       62       00       C6       62       00       66       62</td><td>31       31       30       30       30       30       35508       30       28       62       BE       00       FC       42       48       =766         42       00       97       60       00       02       4C       =439       35516       78       28       20       70       00       74       BE       82       =678         33       45       2C       41       00       97       70       =512       35524       DC       46       7C       36       00       44       C6       DE       =958         24       C       44       03       41       2C       4C       =334       35532       F6  
    66       66       64       40       1E       F8       18       =852         27       35       35       35548       18       9C       BC       78       92       C6       CC       CE       #104       #108       #1272         33       31       00       92       10       84       =509       35572       BA       A2       86       84       00       C6       F2       DA       =1272         40       00<!--</td--><td>31       31       31       30       30       30       30       30       30       30       35508       30       28       62       9E       00       7C       42       48       <math>=766</math>       35908         42       00       97       60       00       02       4C       <math>=439</math>       35516       7B       2B       20       70       00       7A       BE       82       <math>=698</math>       35908         33       45       2C       41       00       97       70       <math>=512</math>       35524       DC       46       7C       38       00       44       C6       DE       <math>=958</math>       35948         32       4C       44       03       41       2C       4C       <math>=333</math>       35548       18       9C       8C       C6       C6       CC       CE       <math>=1044</math>       35948         33       44       45       43       01       41       00       <math>=273</math>       35554       FB       6C       62       62       00       60       60       <math>=976</math>       35948       35948       35948       30       7C       60       66       62       <math>=1027</math>       35946&lt;</td><td>31       31       31       30       30       30       30       30       35508       30       28       62       BE       00       FC       42       48       <math>=766</math>       35908       35         42       00       97       60       00       02       4C       <math>=439</math>       35516       78       28       20       70       00       7A       BE       82       <math>=698</math>       35908       35         03       45       2C       41       00       97       70       <math>=512</math>       35524       DC       46       7C       36       00       44       C6       DE       <math>=9786</math>       35908       CC         02       4C       44       03       41       2C       C       <math>=334</math>       35536       38       30       30       CC       CC       CB       <math>=10844</math>       35948       BA       35948       BA       32       36       7C       80       40       40       <math>=35923</math>       35948       BA       36       7C       80       6</td><td>31       31       31       30       30       30       30       30       30       30       35508       30       28       62       BE       00       FC       42       48       =766       35900       35       FC       BE       00       FC       42       48       =766       35900       35       FC       BE       00       74       BE       B2       =6698       35900       GC       B4         41       00       97       70       =512       35524       DC       46       76       00       74       BE       B2       =698       35920       35924       27       77       78       00       341       44       =4493       35540       38       30       DC       60       35       F8       18       =766       35920       35932       35       78       78       00       35       44       44       44       =44       35540       38       30       DC       60       32       26       CC       CE       8       85932       35948       BA       EB       85932       35948       BA       EB       20       20       20       20       20       20</td><td>31       31       30       <td< td=""><td>31       31       30       30       30       30       30       30       35528       30       28       62       BE       00       FC       42       48       =766       355900       3F       CB       53       F6         42       00       97       60       00       02       4C       =439       35516       78       28       20       70       00       7A       BE       82       =6698       35900       3F       CB       83       93       30       27       44       44       44       44       35532       F6       66       66       64       00       14       E6       18       =9763       35940       SF       CB       35942       2F       47       3A       48         70       80       00       43       41       2C       42       35354       18       90       80       25       F6       66       64       00       16       F6       18       =736       35948       35948       55       F6       57       25       66       20       20       C0       C6       CC       B       =363       35948       BA       EB       22<!--</td--><td>31       31       30       20       70       80       70       80       70       80       70       80       70       80       70       80       70       80       70       80       70       80       70       80       70       80       70       80       70       80       70       80       70       <td< td=""><td>31       31       30       30       30       30       30       30       30       30       30       30       30       35508       30       28       62       BE       00       FC       42       48       =766       35940       3F       CB       53       F6       18       ED         42       00       97       60       00       4C       =439       35516       78       28       00       70       BE       35940       3F       CB       35940       3F       CB       35940       3F       CB       35940       3F       CB       35940       AF       18       ED       35940       AF       ED       35940       AF       ED       79       20         41       2C       33       11       41       20       -508       35548       18       9C       8C       2C       2C       CC       CC       28       40       40       45       43       14       20       -557       3556       6C       22       20       CC       2C       CC       20       4C       20       20       4C       20       20       4C       20       20       4C</td><td>31       31       30       20       00       07       00       70       70       <td< td=""><td>31       31       30       <td< td=""></td<></td></td<></td></td<></td></td></td<></td></td></td<></td></td<></td></td<></td></td<></td></td></td<> | 31       31       30       30       30         42       00       97       60       00       02         03       45       2C       41       00       97    
    02       4C       44       03       41       2C         97       80       00       03       41       4E         41       2C       33       31       00       97         03       44       45       43       01       41         2C       33       31       00       91       18         20       93       81       00       21       88         91       FB       01       7F       03       84         90       00       00       00       22       84         90       00       00       00       32       54         9 | 31       31       30       30       30       30         42       00       97       60       00       02       4C         03       45       2C       41       00       97       70         02       4C       44       03       41       2C       4C         97       80       00       03       41       4E       44         41       2C       33       31       00       97       90         03       44       45       43       01       41       00         00       00       03       41       4E       44         2C       33       31       00       91       44         2C       33       31       00       92       10       44         2C       33       31       00       21       88       97         91       FB       01       7F       03       4D       98       00         00       00       10       00       18       18       18       18       18       18       18       18       18       18       18       18       18       18 <td>00       03       41       4E       44       0B       41       =370         31       31       31       30       30       30       30       30       =383         42       00       97       60       00       02       4C       =439         03       45       2C       41       00       97       70       =512         02       4C       44       03       41       2C       4C       =334         97       80       00       03       41       4E       44       =493         41       2C       33       31       00       97       90       =508         03       44       45       43       01       41       00       =273         04       00       03       41       44       44       =370         02       03       41       44       44       =370         03       44       45       43       01       41       00       =273         04       00       03       41       44       64       =370         04       04       04       04       18       <td< td=""><td>31       31       30       30       30       30       30       30       30       30       30       30       30       30       35       <td< td=""><td>31       31       30       30       30       30       383       355/88       30         42       00       97       60       00       02       4C       =439       35516       78         03       45       2C       41       00       97       70       =512       35524       DC         02       4C       44       03       41       2C       42       =334       35532       F6         97       80       00       03       41       4E       44       =493       35540       38         41       2C       33       31       00       97       90       =508       35546       18         03       44       45       43       01       41       00       =273       35564       60         04       04       93       14       44       64       =379       35572       B4         02       33       31       00       91       10       84       =509       35572       B4         04       29       60       02       18       89       =632       35580       CA         04       90</td><td>31       31       30       30       30       30       383       35508       30       28         42       00       97       60       00       02       4C       =439       35516       78       28         03       45       2C       41       00       97       70       =512       35524       DC       46         02       4C       44       03       41       2C       4C       =334       35532       F6       66         97       80       00       03       41       4E       44       =493       35540       38       30         41       2C       33       31       00       97       90       =508       35548       18       9C         03       44       45       43       01       41       00       =273       35564       68       62         03       04       45       43       01       84       509       35572       BA       A2         2C       33       100       98       108       84       =509       35578       CA       4E         91       FB       01       7F       <td< td=""><td>31       31       30       30       30       30       30       35508       30       28       62         42       00       97       60       00       02       4C       =439       35516       78       28       20         03       45       2C       41       00       97       70       =512       35524       DC       46       7C         02       4C       44       03       41       2C       4C       =334       35532       F6       66       66         97       80       00       03       41       4E       44       =493       35540       38       30       30         41       2C       33       31       00       97       90       =508       35548       18       9C       8C       62         03       44       45       43       01       41       00       =273       35556       F8       62       36         2C       33       31       00       91       84       =509       35572       BA       42       86         91       7F       03       ED       B0       =632       35580</td><td>31       31       30       30       30       30       355/86       30       28</td><td>31       31       30       30       30       =383       35508       30       28       20       92       92       92       92       92       92       92       92       92       92       90       92       42       943       35516       78       28       20       70       90         03       45       2C       41       90       97       70       =512       35524       DC       46       7C       38       90         92       4C       44       93       41       2C       4C       =334       35532       F6       66       66       64       90         97       80       90       93       41       4E       44       =493       35540       38       30       30       DC       90         97       80       90       93       41       90       =273       35556       F8       6C       62       62       92       92       92         90       90       91       14       90       =273       35560       CA       4E       66       84       90       92       35       90       92       36       70</td><td>31       31       30       30       30       30       30       35508       30       28       62       BE       00       FC         42       00       97       60       00       02       4C       =439       35516       78       28       20       70       00       7A         03       45       2C       41       00       97       70       =512       35524       DC       46       7C       38       00       44         02       4C       44       03       41       2C       4C       =334       35532       F6       66       66       64       00       1E         97       80       00       03       41       4E       44       =493       35532       F6       66       66       64       00       1E         97       80       00       03       41       4E       44       =493       35548       18       9C       6C       7B       02       C6         03       44       45       43       01       41       90       =273       35546       6B       32       36       7C       00       6C</td><td>31       31       30       30       30       30       35528       30       28       28       28       28       28       20       70       00       7A       8E         42       00       97       60       00       02       4C       =439       35516       7B       28       20       70       00       7A       8E         03       45       2C       41       00       97       70       =512       35524       DC       46       7C       38       00       44       C6         02       4C       44       03       41       2C       4C       =334       35532       F6       66       66       64       00       1E       F8         97       80       03       41       42       44       =493      
35532       F6       66       66       64       00       1E       F8         41       2C       33       31       00       91       84       =509       35572       BA       26       62       00       C6       F2         2C       33       31       00       21       B8       92       6577       <td< td=""><td>31       31       30       30       30       30       30       30       30       35508       30       28       62       BE       00       FC       42       48         42       00       97       60       00       02       4C       =439       35516       78       28       20       70       00       7A       BE       82         03       45       2C       41       00       97       70       =512       35524       DC       46       7C       38       00       44       C6       DE         02       4C       44       03       41       4C       =334       35532       F6       66       66       64       00       1E       F8       18         97       80       00       03       41       42       #4       =493       35548       18       9C       60       62       62       00       1E       F8       18         97       80       00       97       90       =508       35556       F8       6C       62       62       00       C6       62       00       C6       62       00       66       62</td><td>31       31       30       30       30       30       35508       30       28       62       BE       00       FC       42       48       =766         42       00       97       60       00       02       4C       =439       35516       78       28       20       70       00       74       BE       82       =678         33       45       2C       41       00       97       70       =512       35524       DC       46       7C       36       00       44       C6       DE       =958         24       C       44       03       41       2C       4C       =334       35532       F6       66       66       64       40       1E       F8       18       =852         27       35       35       35548       18       9C       BC       78       92       C6       CC       CE       #104       #108       #1272         33       31       00       92       10       84       =509       35572       BA       A2       86       84       00       C6       F2       DA       =1272         40       00<!--</td--><td>31       31       31       30       30       30       30       30       30       30       35508       30       28       62       9E       00       7C       42       48       <math>=766</math>       35908         42       00       97       60       00       02       4C       <math>=439</math>       35516       7B       2B       20       70       00       7A       BE       82       <math>=698</math>       35908         33       45       2C       41       00       97       70       <math>=512</math>       35524       DC       46       7C       38       00       44       C6       DE       <math>=958</math>       35948         32       4C       44       03       41       2C       4C       <math>=333</math>       35548       18       9C       8C       C6       C6       CC       CE       <math>=1044</math>       35948         33       44       45       43       01       41       00       <math>=273</math>       35554       FB       6C       62       62       00       60       60       <math>=976</math>       35948       35948       35948       30       7C       60       66       62       <math>=1027</math>       35946&lt;</td><td>31       31       31       30       30       30       30       30       35508       30       28       62       BE       00       FC       42       48       <math>=766</math>       35908       35         42       00       97       60       00       02       4C       <math>=439</math>       35516       78       28       20       70       00       7A       BE       82       <math>=698</math>       35908       35         03       45       2C       41       00       97       70       <math>=512</math>       35524       DC       46       7C       36       00       44       C6       DE       <math>=9786</math>       35908       CC         02       4C       44       03       41       2C       C       <math>=334</math>       35536       38       30       30       CC       CC       CB       <math>=10844</math>       35948       BA       35948       BA       32       36       7C       80       40       40       <math>=35923</math>       35948       BA       36       7C       80       6</td><td>31       31       31       30       30       30       30       30       30       30       35508       30       28       62       BE       00       FC       42       48       =766       35900       35       FC       BE       00       FC       42       48       =766       35900       35       FC       BE       00       74       BE       B2       =6698       35900       GC       B4         41       00       97       70       =512       35524       DC       46       76       00       74       BE       B2       =698       35920       35924       27       77       78       00       341       44       =4493       35540       38       30       DC       60       35       F8       18       =766       35920       35932       35       78       78       00       35       44       44       44       =44       35540       38       30       DC       60       32       26       CC       CE       8       85932       35948       BA       EB       85932       35948       BA       EB       20       20       20       20       20       20</td><td>31       31       30       <td< td=""><td>31       31       30       30       30       30       30       30       35528       30       28       62       BE       00       FC       42       48       =766       355900       3F       CB       53       F6         42       00       97       60       00       02       4C       =439       35516       78       28       20       70       00       7A       BE       82       =6698       35900       3F       CB       83       93       30       27       44       44       44       44       35532       F6       66       66       64       00       14       E6       18       =9763       35940       SF       CB       35942       2F       47       3A       48         70       80       00       43       41       2C       42       35354       18       90       80       25       F6       66       64       00       16       F6       18       =736       35948       35948       55       F6       57       25       66       20       20       C0       C6       CC       B       =363       35948       BA       EB       22<!--</td--><td>31       31       30       20       70       80       70       80       70       80       70       80       70       80       70       80       70       80       70       80       70       80       70       80       70       80       70       80       70       80       70       80       70       <td< td=""><td>31       31       30       30       30       30       30       30       30       30       30       30       30       35508       30       28       62       BE       00       FC       42       48       =766       35940       3F       CB       53       F6       18       ED         42       00       97       60       00       4C       =439       35516       78       28       00       70       BE       35940       3F       CB       35940       3F       CB       35940       3F       CB       35940       3F       CB       35940       AF       18       ED       35940       AF       ED       35940       AF       ED       79       20         41       2C       33       11       41       20       -508       35548       18       9C       8C       2C       2C       CC       CC       28       40       40       45       43       14       20       -557       3556       6C       22       20       CC       2C       CC       20       4C       20       20       4C       20       20       4C       20       20       4C</td><td>31       31       30       20       00       07       00       70       00       70       00       70      
00       70       70       <td< td=""><td>31       31       30       <td< td=""></td<></td></td<></td></td<></td></td></td<></td></td></td<></td></td<></td></td<></td></td<></td> | 00       03       41       4E       44       0B       41       =370         31       31       31       30       30       30       30       30       =383         42       00       97       60       00       02       4C       =439         03       45       2C       41       00       97       70       =512         02       4C       44       03       41       2C       4C       =334         97       80       00       03       41       4E       44       =493         41       2C       33       31       00       97       90       =508         03       44       45       43       01       41       00       =273         04       00       03       41       44       44       =370         02       03       41       44       44       =370         03       44       45       43       01       41       00       =273         04       00       03       41       44       64       =370         04       04       04       04       18 <td< td=""><td>31       31       30       30       30       30       30       30       30       30       30       30       30       30       35       <td< td=""><td>31       31       30       30       30       30       383       355/88       30         42       00       97       60       00       02       4C       =439       35516       78         03       45       2C       41       00       97       70       =512       35524       DC         02       4C       44       03       41       2C       42       =334       35532       F6         97       80       00       03       41       4E       44       =493       35540       38         41       2C       33       31       00       97       90       =508       35546       18         03       44       45       43       01       41       00       =273       35564       60         04       04       93       14       44       64       =379       35572       B4         02       33       31       00       91       10       84       =509       35572       B4         04       29       60       02       18       89       =632       35580       CA         04       90</td><td>31       31       30       30       30       30       383       35508       30       28         42       00       97       60       00       02       4C       =439       35516       78       28         03       45       2C       41       00       97       70       =512       35524       DC       46         02       4C       44       03       41       2C       4C       =334       35532       F6       66         97       80       00       03       41       4E       44       =493       35540       38       30         41       2C       33       31       00       97       90       =508       35548       18       9C         03       44       45       43       01       41       00       =273       35564       68       62         03       04       45       43       01       84       509       35572       BA       A2         2C       33       100       98       108       84       =509       35578       CA       4E         91       FB       01       7F       <td< td=""><td>31       31       30       30       30       30       30       35508       30       28       62         42       00       97       60       00       02       4C       =439       35516       78       28       20         03       45       2C       41       00       97       70       =512       35524       DC       46       7C         02       4C       44       03       41       2C       4C       =334       35532       F6       66       66         97       80       00       03       41       4E       44       =493       35540       38       30       30         41       2C       33       31       00       97       90       =508       35548       18       9C       8C       62         03       44       45       43       01       41       00       =273       35556       F8       62       36         2C       33       31       00       91       84       =509       35572       BA       42       86         91       7F       03       ED       B0       =632       35580</td><td>31       31       30       30       30       30       355/86       30       28</td><td>31       31       30       30       30       =383       35508       30       28       20       92       92       92       92       92       92       92       92       92       92       90       92       42       943       35516       78       28       20       70       90         03       45       2C       41       90       97       70       =512       35524       DC       46       7C       38       90         92       4C       44       93       41       2C       4C       =334       35532       F6       66       66       64       90         97       80       90       93       41       4E       44       =493       35540       38       30       30       DC       90         97       80       90       93       41       90       =273       35556       F8       6C       62       62       92       92       92         90       90       91       14       90       =273       35560       CA       4E       66       84       90       92       35       90       92       36       70</td><td>31       31       30       30       30       30       30       35508       30       28       62       BE       00       FC         42       00       97       60       00       02       4C       =439       35516       78       28       20       70       00       7A         03       45       2C       41       00       97       70       =512       35524       DC       46       7C       38       00       44         02       4C       44       03       41       2C       4C       =334       35532       F6       66       66       64       00       1E         97       80       00       03       41       4E       44       =493       35532       F6       66       66       64       00       1E         97       80       00       03       41       4E       44       =493       35548       18       9C       6C       7B       02       C6         03       44       45       43       01       41       90       =273       35546       6B       32       36       7C       00       6C</td><td>31       31       30       30       30       30       35528       30       28       28       28       28       28       20       70       00       7A       8E         42       00       97       60       00       02       4C       =439       35516       7B       28       20       70       00       7A       8E         03       45       2C       41       00       97       70       =512       35524       DC   
   46       7C       38       00       44       C6         02       4C       44       03       41       2C       4C       =334       35532       F6       66       66       64       00       1E       F8         97       80       03       41       42       44       =493       35532       F6       66       66       64       00       1E       F8         41       2C       33       31       00       91       84       =509       35572       BA       26       62       00       C6       F2         2C       33       31       00       21       B8       92       6577       <td< td=""><td>31       31       30       30       30       30       30       30       30       35508       30       28       62       BE       00       FC       42       48         42       00       97       60       00       02       4C       =439       35516       78       28       20       70       00       7A       BE       82         03       45       2C       41       00       97       70       =512       35524       DC       46       7C       38       00       44       C6       DE         02       4C       44       03       41       4C       =334       35532       F6       66       66       64       00       1E       F8       18         97       80       00       03       41       42       #4       =493       35548       18       9C       60       62       62       00       1E       F8       18         97       80       00       97       90       =508       35556       F8       6C       62       62       00       C6       62       00       C6       62       00       66       62</td><td>31       31       30       30       30       30       35508       30       28       62       BE       00       FC       42       48       =766         42       00       97       60       00       02       4C       =439       35516       78       28       20       70       00       74       BE       82       =678         33       45       2C       41       00       97       70       =512       35524       DC       46       7C       36       00       44       C6       DE       =958         24       C       44       03       41       2C       4C       =334       35532       F6       66       66       64       40       1E       F8       18       =852         27       35       35       35548       18       9C       BC       78       92       C6       CC       CE       #104       #108       #1272         33       31       00       92       10       84       =509       35572       BA       A2       86       84       00       C6       F2       DA       =1272         40       00<!--</td--><td>31       31       31       30       30       30       30       30       30       30       35508       30       28       62       9E       00       7C       42       48       <math>=766</math>       35908         42       00       97       60       00       02       4C       <math>=439</math>       35516       7B       2B       20       70       00       7A       BE       82       <math>=698</math>       35908         33       45       2C       41       00       97       70       <math>=512</math>       35524       DC       46       7C       38       00       44       C6       DE       <math>=958</math>       35948         32       4C       44       03       41       2C       4C       <math>=333</math>       35548       18       9C       8C       C6       C6       CC       CE       <math>=1044</math>       35948         33       44       45       43       01       41       00       <math>=273</math>       35554       FB       6C       62       62       00       60       60       <math>=976</math>       35948       35948       35948       30       7C       60       66       62       <math>=1027</math>       35946&lt;</td><td>31       31       31       30       30       30       30       30       35508       30       28       62       BE       00       FC       42       48       <math>=766</math>       35908       35         42       00       97       60       00       02       4C       <math>=439</math>       35516       78       28       20       70       00       7A       BE       82       <math>=698</math>       35908       35         03       45       2C       41       00       97       70       <math>=512</math>       35524       DC       46       7C       36       00       44       C6       DE       <math>=9786</math>       35908       CC         02       4C       44       03       41       2C       C       <math>=334</math>       35536       38       30       30       CC       CC       CB       <math>=10844</math>       35948       BA       35948       BA       32       36       7C       80       40       40       <math>=35923</math>       35948       BA       36       7C       80       6</td><td>31       31       31       30       30       30       30       30       30       30       35508       30       28       62       BE       00       FC       42       48       =766       35900       35       FC       BE       00       FC       42       48       =766       35900       35       FC       BE       00       74       BE       B2       =6698       35900       GC       B4         41       00       97       70       =512       35524       DC       46       76       00       74       BE       B2       =698       35920       35924       27       77       78       00       341       44       =4493       35540       38       30       DC       60       35       F8       18       =766       35920       35932       35       78       78       00       35       44       44       44       =44       35540       38       30       DC       60       32       26       CC       CE       8       85932       35948       BA       EB       85932       35948       BA       EB       20       20       20       20       20       20</td><td>31       31       30       <td< td=""><td>31       31       30       30       30       30       30       30       35528       30       28       62       BE       00       FC       42       48       =766       355900       3F       CB       53       F6         42       00       97       60       00       02       4C       =439       35516       78       28       20       70       00       7A       BE       82       =6698       35900       3F       CB       83       93       30       27       44       44       44       44       35532       F6       66       66       64       00       14       E6       18       =9763       35940       SF       CB       35942       2F       47       3A       48         70       80       00       43       41       2C       42       35354       18       90       80       25       F6       66       64       00       16       F6       18       =736       35948       35948       55       F6       57       25       66       20       20       C0       C6       CC       B       =363       35948       BA       EB       22<!--</td--><td>31       31       30       20       70       80       70       80       70       80       70       80       70       80       70       80       70       80       70       80       70       80       70       80       70       80       70       80       70       80       70       80       70       <td< td=""><td>31       31       30       30       30       30       30       30       30       30       30       30       30       35508       30       28       62       BE       00       FC       42       48       =766       35940       3F       CB       53       F6       18       ED         42       00       97       60       00       4C       =439       35516       78       28       00       70       BE       35940       3F       CB       35940       3F       CB       35940       3F       CB       35940       3F       CB       35940       AF       18       ED       35940       AF       ED       35940       AF       ED       79       20         41       2C       33       11       41       20       -508       35548       18       9C       8C       2C       2C       CC       CC       28       40       40       45       43       14       20       -557       3556       6C       22       20       CC       2C       CC       20       4C       20       20       4C       20       20       4C       20       20       4C</td><td>31       31       30       30       30       30       30       30       30       30       30       30       30       30       30       30       30  
    30       20       00       07       00       70       70       <td< td=""><td>31       31       30       <td< td=""></td<></td></td<></td></td<></td></td></td<></td></td></td<></td></td<></td></td<></td></td<> | 31       31       30       30       30       30       30       30       30       30       30       30       30       30       35 <td< td=""><td>31       31       30       30       30       30       383       355/88       30         42       00       97       60       00       02       4C       =439       35516       78         03       45       2C       41       00       97       70       =512       35524       DC         02       4C       44       03       41       2C       42       =334       35532       F6         97       80       00       03       41       4E       44       =493       35540       38         41       2C       33       31       00       97       90       =508       35546       18         03       44       45       43       01       41       00       =273       35564       60         04       04       93       14       44       64       =379       35572       B4         02       33       31       00       91       10       84       =509       35572       B4         04       29       60       02       18       89       =632       35580       CA         04       90</td><td>31       31       30       30       30       30       383       35508       30       28         42       00       97       60       00       02       4C       =439       35516       78       28         03       45       2C       41       00       97       70       =512       35524       DC       46         02       4C       44       03       41       2C       4C       =334       35532       F6       66         97       80       00       03       41       4E       44       =493       35540       38       30         41       2C       33       31       00       97       90       =508       35548       18       9C         03       44       45       43       01       41       00       =273       35564       68       62         03       04       45       43       01       84       509       35572       BA       A2         2C       33       100       98       108       84       =509       35578       CA       4E         91       FB       01       7F       <td< td=""><td>31       31       30       30       30       30       30       35508       30       28       62         42       00       97       60       00       02       4C       =439       35516       78       28       20         03       45       2C       41       00       97       70       =512       35524       DC       46       7C         02       4C       44       03       41       2C       4C       =334       35532       F6       66       66         97       80       00       03       41       4E       44       =493       35540       38       30       30         41       2C       33       31       00       97       90       =508       35548       18       9C       8C       62         03       44       45       43       01       41       00       =273       35556       F8       62       36         2C       33       31       00       91       84       =509       35572       BA       42       86         91       7F       03       ED       B0       =632       35580</td><td>31       31       30       30       30       30       355/86       30       28</td><td>31       31       30       30       30       =383       35508       30       28       20       92       92       92       92       92       92       92       92       92       92       90       92       42       943       35516       78       28       20       70       90         03       45       2C       41       90       97       70       =512       35524       DC       46       7C       38       90         92       4C       44       93       41       2C       4C       =334       35532       F6       66       66       64       90         97       80       90       93       41       4E       44       =493       35540       38       30       30       DC       90         97       80       90       93       41       90       =273       35556       F8       6C       62       62       92       92       92         90       90       91       14       90       =273       35560       CA       4E       66       84       90       92       35       90       92       36       70</td><td>31       31       30       30       30       30       30       35508       30       28       62       BE       00       FC         42       00       97       60       00       02       4C       =439       35516       78       28       20       70       00       7A         03       45       2C       41       00       97       70       =512       35524       DC       46       7C       38       00       44         02       4C       44       03       41       2C       4C       =334       35532       F6       66       66       64       00       1E         97       80       00       03       41       4E       44       =493       35532       F6       66       66       64       00       1E         97       80       00       03       41       4E       44       =493       35548       18       9C       6C       7B       02       C6         03       44       45       43       01       41       90       =273       35546       6B       32       36       7C       00       6C</td><td>31       31       30       30       30       30       35528       30       28       28       28       28       28       20       70       00       7A       8E         42       00       97       60       00       02       4C       =439       35516       7B       28       20       70       00       7A       8E         03       45       2C       41       00       97       70       =512       35524       DC       46       7C       38       00       44       C6         02       4C       44       03       41       2C       4C       =334       35532       F6       66       66       64       00       1E       F8         97       80       03       41       42       44       =493       35532       F6       66       66       64       00       1E       F8         41       2C       33       31       00       91       84       =509       35572       BA       26       62       00       C6       F2         2C       33       31       00       21       B8       92       6577       <td< td=""><td>31       31       30       30       30       30       30       30       30       35508      
30       28       62       BE       00       FC       42       48         42       00       97       60       00       02       4C       =439       35516       78       28       20       70       00       7A       BE       82         03       45       2C       41       00       97       70       =512       35524       DC       46       7C       38       00       44       C6       DE         02       4C       44       03       41       4C       =334       35532       F6       66       66       64       00       1E       F8       18         97       80       00       03       41       42       #4       =493       35548       18       9C       60       62       62       00       1E       F8       18         97       80       00       97       90       =508       35556       F8       6C       62       62       00       C6       62       00       C6       62       00       66       62</td><td>31       31       30       30       30       30       35508       30       28       62       BE       00       FC       42       48       =766         42       00       97       60       00       02       4C       =439       35516       78       28       20       70       00       74       BE       82       =678         33       45       2C       41       00       97       70       =512       35524       DC       46       7C       36       00       44       C6       DE       =958         24       C       44       03       41       2C       4C       =334       35532       F6       66       66       64       40       1E       F8       18       =852         27       35       35       35548       18       9C       BC       78       92       C6       CC       CE       #104       #108       #1272         33       31       00       92       10       84       =509       35572       BA       A2       86       84       00       C6       F2       DA       =1272         40       00<!--</td--><td>31       31       31       30       30       30       30       30       30       30       35508       30       28       62       9E       00       7C       42       48       <math>=766</math>       35908         42       00       97       60       00       02       4C       <math>=439</math>       35516       7B       2B       20       70       00       7A       BE       82       <math>=698</math>       35908         33       45       2C       41       00       97       70       <math>=512</math>       35524       DC       46       7C       38       00       44       C6       DE       <math>=958</math>       35948         32       4C       44       03       41       2C       4C       <math>=333</math>       35548       18       9C       8C       C6       C6       CC       CE       <math>=1044</math>       35948         33       44       45       43       01       41       00       <math>=273</math>       35554       FB       6C       62       62       00       60       60       <math>=976</math>       35948       35948       35948       30       7C       60       66       62       <math>=1027</math>       35946&lt;</td><td>31       31       31       30       30       30       30       30       35508       30       28       62       BE       00       FC       42       48       <math>=766</math>       35908       35         42       00       97       60       00       02       4C       <math>=439</math>       35516       78       28       20       70       00       7A       BE       82       <math>=698</math>       35908       35         03       45       2C       41       00       97       70       <math>=512</math>       35524       DC       46       7C       36       00       44       C6       DE       <math>=9786</math>       35908       CC         02       4C       44       03       41       2C       C       <math>=334</math>       35536       38       30       30       CC       CC       CB       <math>=10844</math>       35948       BA       35948       BA       32       36       7C       80       40       40       <math>=35923</math>       35948       BA       36       7C       80       6</td><td>31       31       31       30       30       30       30       30       30       30       35508       30       28       62       BE       00       FC       42       48       =766       35900       35       FC       BE       00       FC       42       48       =766       35900       35       FC       BE       00       74       BE       B2       =6698       35900       GC       B4         41       00       97       70       =512       35524       DC       46       76       00       74       BE       B2       =698       35920       35924       27       77       78       00       341       44       =4493       35540       38       30       DC       60       35       F8       18       =766       35920       35932       35       78       78       00       35       44       44       44       =44       35540       38       30       DC       60       32       26       CC       CE       8       85932       35948       BA       EB       85932       35948       BA       EB       20       20       20       20       20       20</td><td>31       31       30       <td< td=""><td>31       31       30       30       30       30       30       30       35528       30       28       62       BE       00       FC       42       48       =766       355900       3F       CB       53       F6         42       00       97       60       00       02       4C       =439       35516       78       28       20       70       00       7A       BE       82       =6698       35900       3F       CB       83       93       30       27       44       44       44       44       35532       F6       66       66       64       00       14       E6       18       =9763       35940       SF       CB       35942       2F       47       3A       48         70       80       00       43       41       2C       42       35354       18       90       80       25       F6       66       64       00       16       F6       18       =736       35948       35948       55       F6       57       25       66       20       20       C0       C6       CC       B       =363       35948       BA       EB       22<!--</td--><td>31       31       30       20       70       80       70       80       70       80       70       80       70       80       70       80       70       80       70       80       70       80       70       80       70       80       70       80       70       80       70       80       70       <td< td=""><td>31       31       30       30       30       30       30       30       30       30       30       30       30       35508       30       28       62       BE       00       FC       42       48       =766       35940       3F       CB       53       F6       18       ED         42       00       97       60       00       4C       =439       35516       78       28       00       70       BE       35940       3F       CB       35940       3F       CB       35940       3F       CB       35940       3F       CB       35940       AF       18       ED       35940       AF       ED       35940       AF       ED       79       20         41       2C       33       11       41       20       -508       35548       18       9C       8C       2C       2C       CC       CC       28       40       40       45       43       14       20       -557       3556       6C       22       20       CC       2C       CC       20       4C       20       20       4C       20       20       4C       20       20       4C</td><td>31       31       30       20       00       07       00       70       70       70       70       70       70   
   70       <td< td=""><td>31       31       30       <td< td=""></td<></td></td<></td></td<></td></td></td<></td></td></td<></td></td<></td></td<> | 31       31       30       30       30       30       383       355/88       30         42       00       97       60       00       02       4C       =439       35516       78         03       45       2C       41       00       97       70       =512       35524       DC         02       4C       44       03       41       2C       42       =334       35532       F6         97       80       00       03       41       4E       44       =493       35540       38         41       2C       33       31       00       97       90       =508       35546       18         03       44       45       43       01       41       00       =273       35564       60         04       04       93       14       44       64       =379       35572       B4         02       33       31       00       91       10       84       =509       35572       B4         04       29       60       02       18       89       =632       35580       CA         04       90 | 31       31       30       30       30       30       383       35508       30       28         42       00       97       60       00       02       4C       =439       35516       78       28         03       45       2C       41       00       97       70       =512       35524       DC       46         02       4C       44       03       41       2C       4C       =334       35532       F6       66         97       80       00       03       41       4E       44       =493       35540       38       30         41       2C       33       31       00       97       90       =508       35548       18       9C         03       44       45       43       01       41       00       =273       35564       68       62         03       04       45       43       01       84       509       35572       BA       A2         2C       33       100       98       108       84       =509       35578       CA       4E         91       FB       01       7F <td< td=""><td>31       31       30       30       30       30       30       35508       30       28       62         42       00       97       60       00       02       4C       =439       35516       78       28       20         03       45       2C       41       00       97       70       =512       35524       DC       46       7C         02       4C       44       03       41       2C       4C       =334       35532       F6       66       66         97       80       00       03       41       4E       44       =493       35540       38       30       30         41       2C       33       31       00       97       90       =508       35548       18       9C       8C       62         03       44       45       43       01       41       00       =273       35556       F8       62       36         2C       33       31       00       91       84       =509       35572       BA       42       86         91       7F       03       ED       B0       =632       35580</td><td>31       31       30       30       30       30       355/86       30       28</td><td>31       31       30       30       30       =383       35508       30       28       20       92       92       92       92       92       92       92       92       92       92       90       92       42       943       35516       78       28       20       70       90         03       45       2C       41       90       97       70       =512       35524       DC       46       7C       38       90         92       4C       44       93       41       2C       4C       =334       35532       F6       66       66       64       90         97       80       90       93       41       4E       44       =493       35540       38       30       30       DC       90         97       80       90       93       41       90       =273       35556       F8       6C       62       62       92       92       92         90       90       91       14       90       =273       35560       CA       4E       66       84       90       92       35       90       92       36       70</td><td>31       31       30       30       30       30       30       35508       30       28       62       BE       00       FC         42       00       97       60       00       02       4C       =439       35516       78       28       20       70       00       7A         03       45       2C       41       00       97       70       =512       35524       DC       46       7C       38       00       44         02       4C       44       03       41       2C       4C       =334       35532       F6       66       66       64       00       1E         97       80       00       03       41       4E       44       =493       35532       F6       66       66       64       00       1E         97       80       00       03       41       4E       44       =493       35548       18       9C       6C       7B       02       C6         03       44       45       43       01       41       90       =273       35546       6B       32       36       7C       00       6C</td><td>31       31       30       30       30       30       35528       30       28       28       28       28       28       20       70       00       7A       8E         42       00       97       60       00       02       4C       =439       35516       7B       28       20       70       00       7A       8E         03       45       2C       41       00       97       70       =512       35524       DC       46       7C       38       00       44       C6         02       4C       44       03       41       2C       4C       =334       35532       F6       66       66       64       00       1E       F8         97       80       03       41       42       44       =493       35532       F6       66       66       64       00       1E       F8         41       2C       33       31       00       91       84       =509       35572       BA       26       62       00       C6       F2         2C       33       31       00       21       B8       92       6577       <td< td=""><td>31       31       30       30       30       30       30       30       30       35508       30       28       62       BE       00       FC       42       48         42       00       97       60       00       02       4C       =439       35516       78       28       20       70       00       7A       BE       82         03       45       2C       41       00       97       70       =512       35524       DC       46       7C       38       00       44       C6       DE         02       4C       44       03       41       4C       =334       35532       F6       66       66       64       00       1E       F8       18         97       80       00       03       41       42       #4       =493       35548       18       9C       60       62       62       00       1E       F8       18         97       80       00       97       90       =508       35556       F8       6C       62       62       00       C6       62       00       C6       62       00       66       62</td><td>31       31       30       30       30       30       35508       30       28       62       BE       00       FC       42       48       =766         42       00       97       60       00       02       4C       =439       35516       78       28       20       70       00       74       BE       82       =678         33       45       2C       41       00       97       70       =512       35524       DC       46       7C       36       00       44       C6       DE       =958         24       C       44       03       41       2C       4C       =334       35532       F6       66       66       64       40       1E       F8       18       =852         27       35       35       35548       18       9C       BC       78       92       C6       CC       CE       #104       #108       #1272         33  
    31       00       92       10       84       =509       35572       BA       A2       86       84       00       C6       F2       DA       =1272         40       00<!--</td--><td>31       31       31       30       30       30       30       30       30       30       35508       30       28       62       9E       00       7C       42       48       <math>=766</math>       35908         42       00       97       60       00       02       4C       <math>=439</math>       35516       7B       2B       20       70       00       7A       BE       82       <math>=698</math>       35908         33       45       2C       41       00       97       70       <math>=512</math>       35524       DC       46       7C       38       00       44       C6       DE       <math>=958</math>       35948         32       4C       44       03       41       2C       4C       <math>=333</math>       35548       18       9C       8C       C6       C6       CC       CE       <math>=1044</math>       35948         33       44       45       43       01       41       00       <math>=273</math>       35554       FB       6C       62       62       00       60       60       <math>=976</math>       35948       35948       35948       30       7C       60       66       62       <math>=1027</math>       35946&lt;</td><td>31       31       31       30       30       30       30       30       35508       30       28       62       BE       00       FC       42       48       <math>=766</math>       35908       35         42       00       97       60       00       02       4C       <math>=439</math>       35516       78       28       20       70       00       7A       BE       82       <math>=698</math>       35908       35         03       45       2C       41       00       97       70       <math>=512</math>       35524       DC       46       7C       36       00       44       C6       DE       <math>=9786</math>       35908       CC         02       4C       44       03       41       2C       C       <math>=334</math>       35536       38       30       30       CC       CC       CB       <math>=10844</math>       35948       BA       35948       BA       32       36       7C       80       40       40       <math>=35923</math>       35948       BA       36       7C       80       6</td><td>31       31       31       30       30       30       30       30       30       30       35508       30       28       62       BE       00       FC       42       48       =766       35900       35       FC       BE       00       FC       42       48       =766       35900       35       FC       BE       00       74       BE       B2       =6698       35900       GC       B4         41       00       97       70       =512       35524       DC       46       76       00       74       BE       B2       =698       35920       35924       27       77       78       00       341       44       =4493       35540       38       30       DC       60       35       F8       18       =766       35920       35932       35       78       78       00       35       44       44       44       =44       35540       38       30       DC       60       32       26       CC       CE       8       85932       35948       BA       EB       85932       35948       BA       EB       20       20       20       20       20       20</td><td>31       31       30       <td< td=""><td>31       31       30       30       30       30       30       30       35528       30       28       62       BE       00       FC       42       48       =766       355900       3F       CB       53       F6         42       00       97       60       00       02       4C       =439       35516       78       28       20       70       00       7A       BE       82       =6698       35900       3F       CB       83       93       30       27       44       44       44       44       35532       F6       66       66       64       00       14       E6       18       =9763       35940       SF       CB       35942       2F       47       3A       48         70       80       00       43       41       2C       42       35354       18       90       80       25       F6       66       64       00       16       F6       18       =736       35948       35948       55       F6       57       25       66       20       20       C0       C6       CC       B       =363       35948       BA       EB       22<!--</td--><td>31       31       30       20       70       80       70       80       70       80       70       80       70       80       70       80       70       80       70       80       70       80       70       80       70       80       70       80       70       80       70       80       70       <td< td=""><td>31       31       30       30       30       30       30       30       30       30       30       30       30       35508       30       28       62       BE       00       FC       42       48       =766       35940       3F       CB       53       F6       18       ED         42       00       97       60       00       4C       =439       35516       78       28       00       70       BE       35940       3F       CB       35940       3F       CB       35940       3F       CB       35940       3F       CB       35940       AF       18       ED       35940       AF       ED       35940       AF       ED       79       20         41       2C       33       11       41       20       -508       35548       18       9C       8C       2C       2C       CC       CC       28       40       40       45       43       14       20       -557       3556       6C       22       20       CC       2C       CC       20       4C       20       20       4C       20       20       4C       20       20       4C</td><td>31       31       30       20       00       07       00       70       70       <td< td=""><td>31       31       30       <td< td=""></td<></td></td<></td></td<></td></td></td<></td></td></td<></td></td<> | 31       31       30       30       30       30       30       35508       30       28       62         42       00       97       60       00       02       4C       =439       35516       78       28       20         03       45       2C       41       00       97       70       =512       35524       DC       46       7C         02       4C       44       03       41       2C       4C       =334       35532       F6  
    66       66         97       80       00       03       41       4E       44       =493       35540       38       30       30         41       2C       33       31       00       97       90       =508       35548       18       9C       8C       62         03       44       45       43       01       41       00       =273       35556       F8       62       36         2C       33       31       00       91       84       =509       35572       BA       42       86         91       7F       03       ED       B0       =632       35580 | 31       31       30       30       30       30       355/86       30       28 | 31       31       30       30       30       =383       35508       30       28       20       92       92       92       92       92       92       92       92       92       92       90       92       42       943       35516       78       28       20       70       90         03       45       2C       41       90       97       70       =512       35524       DC       46       7C       38       90         92       4C       44       93       41       2C       4C       =334       35532       F6       66       66       64       90         97       80       90       93       41       4E       44       =493       35540       38       30       30       DC       90         97       80       90       93       41       90       =273       35556       F8       6C       62       62       92       92       92         90       90       91       14       90       =273       35560       CA       4E       66       84       90       92       35       90       92       36       70 | 31       31       30       30       30       30       30       35508       30       28       62       BE       00       FC         42       00       97       60       00       02       4C       =439       35516       78       28       20       70       00       7A         03       45       2C       41       00       97       70       =512       35524       DC       46       7C       38       00       44         02       4C       44       03       41       2C       4C       =334       35532       F6       66       66       64       00       1E         97       80       00       03       41       4E       44       =493       35532       F6       66       66       64       00       1E         97       80       00       03       41       4E       44       =493       35548       18       9C       6C       7B       02       C6         03       44       45       43       01       41       90       =273       35546       6B       32       36       7C       00       6C | 31       31       30       30       30       30       35528       30       28       28       28       28       28       20       70       00       7A       8E         42       00       97       60       00       02       4C       =439       35516       7B       28       20       70       00       7A       8E         03       45       2C       41       00       97       70       =512       35524       DC       46       7C       38       00       44       C6         02       4C       44       03       41       2C       4C       =334       35532       F6       66       66       64       00       1E       F8         97       80       03       41       42       44       =493       35532       F6       66       66       64       00       1E       F8         41       2C       33       31       00       91       84       =509       35572       BA       26       62       00       C6       F2         2C       33       31       00       21       B8       92       6577 <td< td=""><td>31       31       30       30       30       30       30       30       30       35508       30       28       62       BE       00       FC       42       48         42       00       97       60       00       02       4C       =439       35516       78       28       20       70       00       7A       BE       82         03       45       2C       41       00       97       70       =512       35524       DC       46       7C       38       00       44       C6       DE         02       4C       44       03       41       4C       =334       35532       F6       66       66       64       00       1E       F8       18         97       80       00       03       41       42       #4       =493       35548       18       9C       60       62       62       00       1E       F8       18         97       80       00       97       90       =508       35556       F8       6C       62       62       00       C6       62       00       C6       62       00       66       62</td><td>31       31       30       30       30       30       35508       30       28       62       BE       00       FC       42       48       =766         42       00       97       60       00       02       4C       =439       35516       78       28       20       70       00       74       BE       82       =678         33       45       2C       41       00       97       70       =512       35524       DC       46       7C       36       00       44       C6       DE       =958         24       C       44       03       41       2C       4C       =334       35532       F6       66       66       64       40       1E       F8       18       =852         27       35       35       35548       18       9C       BC       78       92       C6       CC       CE       #104       #108       #1272         33       31       00       92       10       84       =509       35572       BA       A2       86       84       00       C6       F2       DA       =1272         40       00<!--</td--><td>31       31       31       30       30       30       30       30       30       30       35508       30       28       62       9E       00       7C       42       48       <math>=766</math>       35908         42       00       97       60       00       02       4C       <math>=439</math>       35516       7B       2B       20       70       00       7A       BE       82       <math>=698</math>       35908         33       45       2C       41       00       97       70       <math>=512</math>       35524       DC       46       7C       38       00       44       C6       DE       <math>=958</math>       35948         32       4C       44       03       41       2C       4C       <math>=333</math>       35548       18       9C       8C       C6       C6       CC       CE       <math>=1044</math>       35948         33       44       45       43       01       41       00       <math>=273</math>       35554       FB       6C       62       62       00       60       60       <math>=976</math>       35948       35948       35948       30       7C       60       66       62       <math>=1027</math>       35946&lt;</td><td>31       31       31       30       30       30       30       30       35508       30       28       62       BE       00       FC       42       48       <math>=766</math>       35908       35         42       00       97       60       00       02       4C       <math>=439</math>       35516       78       28       20       70       00       7A       BE       82       <math>=698</math>       35908       35         03       45       2C       41       00       97       70       <math>=512</math>       35524       DC       46       7C       36       00       44       C6       DE       <math>=9786</math>       35908       CC         02       4C       44       03       41       2C       C       <math>=334</math>       35536       38       30       30       CC       CC       CB       <math>=10844</math>       35948       BA       35948       BA       32       36       7C       80       40       40       <math>=35923</math>       35948       BA       36       7C       80       6</td><td>31       31       31       30       30       30       30       30       30       30       35508       30       28       62       BE       00       FC       42       48       =766       35900       35       FC       BE       00       FC       42       48       =766       35900       35       FC       BE       00       74       BE       B2       =6698       35900       GC       B4         41       00       97       70       =512       35524       DC       46       76       00       74       BE       B2       =698       35920       35924       27       77       78       00       341       44       =4493       35540       38       30       DC       60       35       F8       18       =766       35920       35932       35       78       78       00       35       44       44       44       =44       35540       38       30       DC       60       32       26       CC       CE       8       85932       35948       BA       EB       85932       35948       BA       EB       20       20       20       20       20       20</td><td>31       31       30      
30       <td< td=""><td>31       31       30       30       30       30       30       30       35528       30       28       62       BE       00       FC       42       48       =766       355900       3F       CB       53       F6         42       00       97       60       00       02       4C       =439       35516       78       28       20       70       00       7A       BE       82       =6698       35900       3F       CB       83       93       30       27       44       44       44       44       35532       F6       66       66       64       00       14       E6       18       =9763       35940       SF       CB       35942       2F       47       3A       48         70       80       00       43       41       2C       42       35354       18       90       80       25       F6       66       64       00       16       F6       18       =736       35948       35948       55       F6       57       25       66       20       20       C0       C6       CC       B       =363       35948       BA       EB       22<!--</td--><td>31       31       30       20       70       80       70       80       70       80       70       80       70       80       70       80       70       80       70       80       70       80       70       80       70       80       70       80       70       80       70       80       70       <td< td=""><td>31       31       30       30       30       30       30       30       30       30       30       30       30       35508       30       28       62       BE       00       FC       42       48       =766       35940       3F       CB       53       F6       18       ED         42       00       97       60       00       4C       =439       35516       78       28       00       70       BE       35940       3F       CB       35940       3F       CB       35940       3F       CB       35940       3F       CB       35940       AF       18       ED       35940       AF       ED       35940       AF       ED       79       20         41       2C       33       11       41       20       -508       35548       18       9C       8C       2C       2C       CC       CC       28       40       40       45       43       14       20       -557       3556       6C       22       20       CC       2C       CC       20       4C       20       20       4C       20       20       4C       20       20       4C</td><td>31       31       30       20       00       07       00       70       70       <td< td=""><td>31       31       30       <td< td=""></td<></td></td<></td></td<></td></td></td<></td></td></td<> | 31       31       30       30       30       30       30       30       30       35508       30       28       62       BE       00       FC       42       48         42       00       97       60       00       02       4C       =439       35516       78       28       20       70       00       7A       BE       82         03       45       2C       41       00       97       70       =512       35524       DC       46       7C       38       00       44       C6       DE         02       4C       44       03       41       4C       =334       35532       F6       66       66       64       00       1E       F8       18         97       80       00       03       41       42       #4       =493       35548       18       9C       60       62       62       00       1E       F8       18         97       80       00       97       90       =508       35556       F8       6C       62       62       00       C6       62       00       C6       62       00       66       62  | 31       31       30       30       30       30       35508       30       28       62       BE       00       FC       42       48       =766         42       00       97       60       00       02       4C       =439       35516       78       28       20       70       00       74       BE       82       =678         33       45       2C       41       00       97       70       =512       35524       DC       46       7C       36       00       44       C6       DE       =958         24       C       44       03       41       2C       4C       =334       35532       F6       66       66       64       40       1E       F8       18       =852         27       35       35       35548       18       9C       BC       78       92       C6       CC       CE       #104       #108       #1272         33       31       00       92       10       84       =509       35572       BA       A2       86       84       00       C6       F2       DA       =1272         40       00 </td <td>31       31       31       30       30       30       30       30       30       30       35508       30       28       62       9E       00       7C       42       48       <math>=766</math>       35908         42       00       97       60       00       02       4C       <math>=439</math>       35516       7B       2B       20       70       00       7A       BE       82       <math>=698</math>       35908         33       45       2C       41       00       97       70       <math>=512</math>       35524       DC       46       7C       38       00       44       C6       DE       <math>=958</math>       35948         32       4C       44       03       41       2C       4C       <math>=333</math>       35548       18       9C       8C       C6       C6       CC       CE       <math>=1044</math>       35948         33       44       45       43       01       41       00       <math>=273</math>       35554       FB       6C       62       62       00       60       60       <math>=976</math>       35948       35948       35948       30       7C       60       66       62       <math>=1027</math>       35946&lt;</td> <td>31       31       31       30       30       30       30       30       35508       30       28       62       BE       00       FC       42       48      
<math>=766</math>       35908       35         42       00       97       60       00       02       4C       <math>=439</math>       35516       78       28       20       70       00       7A       BE       82       <math>=698</math>       35908       35         03       45       2C       41       00       97       70       <math>=512</math>       35524       DC       46       7C       36       00       44       C6       DE       <math>=9786</math>       35908       CC         02       4C       44       03       41       2C       C       <math>=334</math>       35536       38       30       30       CC       CC       CB       <math>=10844</math>       35948       BA       35948       BA       32       36       7C       80       40       40       <math>=35923</math>       35948       BA       36       7C       80       6</td> <td>31       31       31       30       30       30       30       30       30       30       35508       30       28       62       BE       00       FC       42       48       =766       35900       35       FC       BE       00       FC       42       48       =766       35900       35       FC       BE       00       74       BE       B2       =6698       35900       GC       B4         41       00       97       70       =512       35524       DC       46       76       00       74       BE       B2       =698       35920       35924       27       77       78       00       341       44       =4493       35540       38       30       DC       60       35       F8       18       =766       35920       35932       35       78       78       00       35       44       44       44       =44       35540       38       30       DC       60       32       26       CC       CE       8       85932       35948       BA       EB       85932       35948       BA       EB       20       20       20       20       20       20</td> <td>31       31       30       <td< td=""><td>31       31       30       30       30       30       30       30       35528       30       28       62       BE       00       FC       42       48       =766       355900       3F       CB       53       F6         42       00       97       60       00       02       4C       =439       35516       78       28       20       70       00       7A       BE       82       =6698       35900       3F       CB       83       93       30       27       44       44       44       44       35532       F6       66       66       64       00       14       E6       18       =9763       35940       SF       CB       35942       2F       47       3A       48         70       80       00       43       41       2C       42       35354       18       90       80       25       F6       66       64       00       16       F6       18       =736       35948       35948       55       F6       57       25       66       20       20       C0       C6       CC       B       =363       35948       BA       EB       22<!--</td--><td>31       31       30       20       70       80       70       80       70       80       70       80       70       80       70       80       70       80       70       80       70       80       70       80       70       80       70       80       70       80       70       80       70       <td< td=""><td>31       31       30       30       30       30       30       30       30       30       30       30       30       35508       30       28       62       BE       00       FC       42       48       =766       35940       3F       CB       53       F6       18       ED         42       00       97       60       00       4C       =439       35516       78       28       00       70       BE       35940       3F       CB       35940       3F       CB       35940       3F       CB       35940       3F       CB       35940       AF       18       ED       35940       AF       ED       35940       AF       ED       79       20         41       2C       33       11       41       20       -508       35548       18       9C       8C       2C       2C       CC       CC       28       40       40       45       43       14       20       -557       3556       6C       22       20       CC       2C       CC       20       4C       20       20       4C       20       20       4C       20       20       4C</td><td>31       31       30       20       00       07       00       70       70       <td< td=""><td>31       31       30       <td< td=""></td<></td></td<></td></td<></td></td></td<></td> | 31       31       31       30       30       30       30       30       30       30       35508       30       28       62       9E       00       7C       42       48 $=766$ 35908         42       00       97       60       00       02       4C $=439$ 35516       7B       2B       20       70       00       7A       BE       82 $=698$ 35908         33       45       2C       41       00       97       70 $=512$ 35524       DC       46       7C       38       00       44       C6       DE $=958$ 35948         32       4C       44       03       41       2C       4C $=333$ 35548       18       9C       8C       C6       C6       CC       CE $=1044$ 35948         33       44       45       43       01       41       00 $=273$ 35554       FB       6C       62       62       00       60       60 $=976$ 35948       35948       35948       30       7C       60       66       62 $=1027$ 35946< | 31       31       31       30       30       30       30       30       35508       30       28       62       BE       00       FC       42       48 $=766$ 35908       35         42       00       97       60       00       02       4C $=439$ 35516       78       28       20       70       00       7A       BE       82 $=698$ 35908       35         03       45       2C       41       00       97       70 $=512$ 35524       DC       46       7C       36       00       44       C6       DE $=9786$ 35908       CC         02       4C       44       03       41       2C       C $=334$ 35536       38       30       30       CC       CC       CB $=10844$ 35948       BA       35948       BA       32       36       7C       80       40       40 $=35923$ 35948       BA       36       7C       80       6 | 31       31       31       30       30       30       30       30       30       30       35508       30       28       62       BE       00       FC       42       48       =766       35900       35       FC      
BE       00       FC       42       48       =766       35900       35       FC       BE       00       74       BE       B2       =6698       35900       GC       B4         41       00       97       70       =512       35524       DC       46       76       00       74       BE       B2       =698       35920       35924       27       77       78       00       341       44       =4493       35540       38       30       DC       60       35       F8       18       =766       35920       35932       35       78       78       00       35       44       44       44       =44       35540       38       30       DC       60       32       26       CC       CE       8       85932       35948       BA       EB       85932       35948       BA       EB       20       20       20       20       20       20 | 31       31       30 <td< td=""><td>31       31       30       30       30       30       30       30       35528       30       28       62       BE       00       FC       42       48       =766       355900       3F       CB       53       F6         42       00       97       60       00       02       4C       =439       35516       78       28       20       70       00       7A       BE       82       =6698       35900       3F       CB       83       93       30       27       44       44       44       44       35532       F6       66       66       64       00       14       E6       18       =9763       35940       SF       CB       35942       2F       47       3A       48         70       80       00       43       41       2C       42       35354       18       90       80       25       F6       66       64       00       16       F6       18       =736       35948       35948       55       F6       57       25       66       20       20       C0       C6       CC       B       =363       35948       BA       EB       22<!--</td--><td>31       31       30       20       70       80       70       80       70       80       70       80       70       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Why wait weeks for the return of your sick computer, send it to the finest Spectrum hospital today — or phone Pete on (0842) 65897 and I will help all I can.

How d'you go about choosing a joystick? We're all guilty of believing that a joystick is a joystick is a joystick - so why not plump for the cheapest. After all, they all work in the same way, don't they? No, they jolly well don't. Even leaving aside an obvious novelty like the Suncom Joysensor, you'll find that each 'stick has its own feel, almost its own personality. (What's yours called? Ed). There are big 'uns and little 'uns, some with flexible shafts, others stiff. You'll come across some real neat ones and some that are just plain ugly.

And, to make things even more complicated, you'll soon suss out that a joystick that hits the heights on one game is of no earthly use on another. In an ideal world, you'd have a different joystick for every game in your collection - but then in an ideal world we'd be picking pound notes off the pavement! So, if you play more than one game, you're now faced with a very tricky bit of decision making. Do you pick a joystick that'll allow you to excel on your fave rave but only lets you plod along with pedestrian scores on the rest - or do you choose an all-rounder that'll give you better than average scores on a variety of games? But then you'll have to resign yourself to the fact that you may never receive the ultimate accolade of being chosen as one of Hex's Heroes.

Of course, for most of us, our mind's are made up by the weight of our wallets. (What's a wallet? Ed). But whichever way you want to choose a joystick, you'll find all the information you need in our comprehensive review of the top ten. Each 'stick; has been thoroughly put through its paces by three great games players who've been hand picked from Hex's Heroes. And then they did the rough stuff on three very different types of game - a platform, Monty On The Run, a hand-to-hand combat, Way Of The Exploding Fist and a joystick waggler, Daley Thompson's Supertest.

So, if you're in the market for a new 'stick, turn the page and get stuck into the full reviews from our team of joyriders.

#### GIVE 'EM STICK

Talk about too much of a good thing! Even with all the reviews in front of you, it's still tricky choosing the right one for you. One way is to add up all the scores, of course. But if you're really clever, you'll use Chris Somerville's program, Second Opinion that appeared in YS 19. We tried it and came up with some very interesting results. Le Stick got into the quarter finals before being toppled and the Quickshot II and Formula II tied until reaching the final. Just take a look at our top five raves after they'd come through the mincer.

1st	Command Control Wico/CGL Formula II Kempston
	Quickshot Spectravideo
Ath	Le Stick Lightwave Leisure

5th Micro Stick Datex

# IT'S A STICK UP!

Are you still scraping by using a keyboard on the latest arcade games - and scraping the skin off the ends of your fingers into the bargain? What you need's a 'stick to bring the joy back to your gamesplaying. To help you choose the right one for the job, we asked three YS readers to take a grip of themselves and review the top ten. Peter Shaw joined them and came in for some stick!



Yikes - here's the poor YS readers who're in for some stick. There's Martin Covill, a 15year-old self-confessed Madonna fan (OK you can turn the tap off and take the matchsticks out now) who hails from Canterbury. In the middle is Darren Stephens who's 13 and brought his whole family plus pets to see the YS office. Finally, meet Noel Wallace who lives a 55p bus ride away - so, we made him walk home , and before you tell us, we know that Noel sometimes gets hold of the wrong end of the stick. After all, anyone who needs two hands to pull on a Quickshot and can injure himself on a Joysensor is brilliant enough to replace Troubleshootin' Pete!

10 2 CZ LIN	GET	TING SOME STICK
Joystick name	Price	Manufacturers name and phone number
Quickshot II	£10.95	Spectravideo Ltd. 01-330 0101
Gunshot I Kraft	£7.95 From £12.95	Vulcan Electronics. 01-203 6366
Formula I Formula II	£16.95 £11.95	Kempston Micro. 0234 856633
Micro Stick	£	Datex Ltd.
The Champion Command Control	£11.99 £27.95	CGL Ltd. 01-508 5600
LeStick	£12.99	Lightwave Leisure. No number available.
Joysensor	£19.95	Consumer Electronics. 061-682 2339



$\oplus$	*	*	$\oplus$	$\oplus$	*		$\oplus$	*	$\oplus$		$\oplus$	*	-	-	$\oplus$	-	
Martin Reactions are quick enough but the shaft's too small. You won't find me buying one. On the stickometer	Darren Pretty good — it responds well with this game. I like the four-way, eight-way feature.	Noel Shock, horror — it reacts quite well with Fist. You wouldn't think it was the same joystick. On the stickometer	Martin Don't like it a great deal, it's a bit too stiff. You get massacred using this one for <i>Fist.</i> <b>4/10 0n the stickometer </b>	Darren Oh dear maybe the fire button has actually packed up. Not a good mark in my book. 0n the stickometer	Noel Quite a good joystick ( <i>The fire button must still have been working! Ed</i> ). Good response. 7/10 On the stickometer	Martin It's a pretty design but being left handed I find it quite awkward to use. On the stickometer	Darren Another one of the joysticks has packed up on me this time the directional controls are up the spout! On the stickometer	Noel It's got quite good reactions and responsive diagonal controis. Good joystick. On the stickometer	Martin Terrible! Very hard to judge where it is and diagonals are nigh-on impossible to achieve. 2/10 On the stickometer	Darren I think it's quite good but if you get too excited then you might lose track of where you are. On the stickometer	Noel Very slow reacting — I reckon it's a miss for <i>Fist</i> (More, Adrian Mole poetry huh? Ed.) On the stickometer	Martin A good stick with an easy-to-handle shaft but the choice of either top or bottom fire button is naff. On the stickometer	Darren The buttons are good although I'd have preferred to use both. Works well with <i>Fist</i> though. On the stickometer	Noel You can really kick the proverbial out of the other player with this stick. Very responsive! On the stickometer	Martin It's not really very practical. As joysticks go, this one's more of a novelty than anything.	Darren Seems to work better with <i>Fist</i> than with any of the other games. Ouite a good score with this one. On the stickometer	Noel Reacts really well. I've just beaten my all-time high score. I might even buy one! On the stickometer
$\oplus$	*	$\oplus$	$\oplus$	$\oplus$	*	$\oplus$	$\oplus$		$\oplus$	$\oplus$	$\oplus$	*	*	*	$\oplus$	*	$\oplus$
Martin I don't rate this joystick at all. The response is OK but I find it too fragile for the game. 2/10	Darren It's a good joystick. I like this design more than most and the shaft's very comfortable. <b>10/10</b> On the stickometer	Noel Oh, it's horrible — <i>Monty</i> , just doesn't work with it. I'd get more response from a garden gnome. On the stickometer	Martin It's too stiff, very slow and unresponsive. But the design is quite good so I'll be gentle.	Darren Better in this game, possibly because everything doesn't go so fast. Still not impressed. On the stickometer	Noel it's quite good. It's got fast action and a good grip design. I like it even if they don't.	Martin It's very pretty but I don't think much of the overall effect. The controls seem a bit dodgy. 0n the stickometer	Darren It's a smooth joystick, but I don't reckon it workstoo well with this game.On the stickometerOn the stickometer	Noel It's the best designed joystick of the pack and to top that the reaction speed is fast too. On the stickometer	Martin It's a lot of hard work stopping Monty running into things when you haven't got a leg to stand on. On the stickometer	Darren It's much too awkward to use in this game - you really can't control what's happening.           On the stickometer         5/10	Noel Ooops — no good for Monty as he keeps running off the end of all the platforms. 3/10	Martin Directional control on this joystick is quite good. Unfortunately the top button lets it down. On the stickometer	Darren The shaft's the right size, it's the right shape and offers good control. Just right for platforms. On the stickometer	Noel Well apart from getting a little too sweaty in my paw, this one works really well. On the stickometer	Martin Even worse than with <i>Supertest</i> . The movement control is absolutely tosh. Double ugh! On the stickometer	Darren It's not quite right for platforms somehow, but it was great fun trying! On the stickometer	Noel It's useless with platforms as you can't change direction accurately enough. On the stickometer
$\oplus$	-	*	$\oplus$	$\oplus$		$\oplus$	*	-		*	*		$\oplus$		$\oplus$	$\oplus$	$\oplus$
Martin Don't think much of this one. The design's too fragile and it just ain't good with <i>Supertest</i> . 3/10	Darren I reckon it's good. I prefer the small 'sticks as long as the control's still in there. On the stickometer	Noel This joystick is just right for <i>Supertest</i> . A short shaft means less work for me and it's tough enough. On the stickometer	Martin Not much cop for this sort of game. The rotation of the shaft makes it pretty awkward to use. 5/10	Darren Don't really like this one — the fire button is much too stiff to be of any use in this game. On the stickometer	Noel Well it's very nice but it fires your arm out after only a few waggles of the shaft. 7/10 On the stickometer	Martin it's got nice fire buttons and a good reaction but it doesn't seem to work with <i>Supertest</i> too well. 5/10	Darren Well it's easy to grip and easy to fire. I quite like the stylish design too. On the stickometer	Noel It's got very quick reactions and an excellent grip. I'll go for this one any day. On the stickometer	Martin Oh it's so easy to win on Supertest — you only have to shake the joystick vigorously!         Jon the stickometer         Jon the stickometer <thjon stickometer<="" th="" the=""> <thjon stickometer<="" th="" the=""></thjon></thjon>	Darren Excellent joystick to use with <i>Supertest</i> – I've got my best score ever on nearly all the games	Noel Ideal for this game, you only need to wiggle the joystick — it's that simple! On the stickometer	Martin Well it's a good joystick and it's got a decent sized base to grab hold of. Bigger is better, eh? On the stickometer	Darren I don't think the vigorous action of <i>Supertest</i> is going to do this one any favours! On the stickometer	Noel Brilliant joystick to use with <i>Supertest</i> — very sturdy and reactions are fast. On the stickometer	Martin Ugh, it's terrible. Too much like using a ZX81 keyboard. There's no real control at all. 1/10 On the stickometer	Darren It's really useless for this game — how can you do left/right quickly on a membrane? On the stickometer	Noel it reacted well but took the skin off the end of me finger while rubbing. On the stickometer
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**This Spectrum has YS** MegaBasic with ... **50 New Commands Named Procedures On-Screen Windows 64 Column Text Full Screen Editor Smooth Moving Sprites Programmable Function Keys Machine Code Monitor Multi-tasking Subroutines Background Sound Line Number Tracing AUTO Line Numbering REPEAT...UNTIL Loops DELETE Line Range Full Machine Code CALLs Double-Length POKE Break Key Control Three Fonts User-Defined Character Sizes Downwards Printing Character Stipples Attribute SWAP, FADE and CHANGE** Window PAN, SCROLL and INVERT **Improved Line Editor** ...And 22K User Memory and of course everything that's in ZX Basic! **PLUS FREE Sprite Designer** 

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Transported to the 21st century, Peter Shaw braved the icy wastelands of Carpenters Road, Stratford. There he stole the storyboard for CRL's new megagame, Blade Rumer.

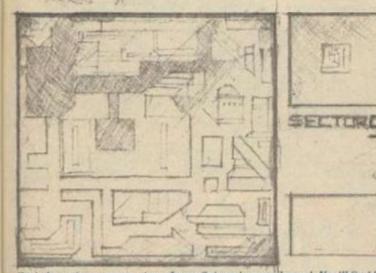
> Los Angeles, Sector 5. The match spurted to life, orient illuminating the interior of my Spinner. I drew deeply on the Mariboro. This was gonna be tough - tougher than the Fats Cox Caper. Outside the rain slank down. A night to rust any replicoids circuits. If only it was that easy to air out those more than human robots ... Somewhere in the dark four droids were out to eliminate their creators, the cyberneers. It was my job to 'retire' them before the deed was done. It would be a dirty business. But then, for me, Deckard, killer, cop and bladerunner, dirt was my business. I was a bin man.



It'd be a messy mission. I was all ready to cash my chips for an early retirement when the Reps alarm sounded. And now they'd called me up for just one hit more before I could draw my pension. If I wasn't successful with this then they wouldn't let me hang up my retros.

SECTOR

BOUNTY - PURSUITSOUNDR BONUS

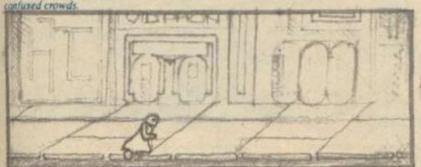


Here's the main on-screen view of your Spinner's control panel. You'll find here your own location and that of the reps and cyberneers.

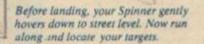
There's nine sectors to this hell hole of a town. Of all the sectors, of all the cities in all the cosmos the Reps have to hang out there. The monitor in my Spinner will locate them, but only if I'm in their sector ... I gotta go ... there's one now ...

Down on the sidewalks you have to avoid the oncoming Spinners and pedestrians. Over the years as cop and killer there's not a lot you don't pick up on the streets. Savy? Your best bet is to run along the gutter. They don't teach green horns that at the Academy. The Reps will usually run into your firing line through pure lanorance.

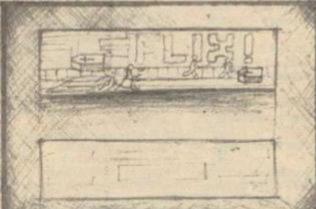
The city streets are full of danger. Avoid other Spinners and being trampled by the



And another one bites the dust. The Reps go down on Nexus 1 faster than Bacall does on Bogart in The Big Sleep. But to reach my retirement salary, I have to pass Nexus 6. Blade Running is really bounty hunting with a fancy name. I give Replidroids a taste of paradise.



I pulled up the Spinner here. On this level the Reps are pretty dumb... pretty, but dumb...like the blonde I met down at Rick's place...heh, now where's my wallet? These Reps get very confused at corners — so catching up with one is as easy as taking candy from a baby.



建臣

The Nexus 1 Replidroids are really slow — so slow it takes fifty of 'em to change a light globe — you don't need me to tell you why. On level 4 they start firing back. She was good, real good — but then you don't need me to tell you why. On top level, Nexus 6, you've got to be the best of Bladerunners to get any of them.

TE-PLOT

All the info a Bladerunner needs appears at the bottom of the screen — most importantly the bounty that he'll earn on a



Deckard fought bravely through the six levels of Nexus Replidroids. He sustained injuries that could've proved fatal. But once he'd reached that retirement figure he slipped aboard his Spinner to level the city for the last time. Excop, ex-killer, ex-bladerunner... until the next time.

Screenplay Research, Best Boy and Grip Camera Continuity Gaffer

Rick Robson Pete Shaw Martin Dixon Teresa Maughan The Ed

#### **Hey guys!** This is really heavy man — I dreamt I was put into a computer game. Oh wow, technofear! YS girlie **Teresa Maughan gets into** the groove, man!

Rick "Hi there kids. It's me Uncle Rick just itching to tell you about The Young Ones game that's gonna be out on the Spectrum soon!"

Neil "Yeah, heavy man. Seems, like, we've gotta race out of the house with all our things and the first one out wins.

Mike "Steer clear you guys - you've got the choice of controlling any of us but take it from me Mikle's the coolest!" Vyvyan "Shut up pizza-face! Those

complete-and-utter-bastards are trying to get out before me. You'd better get me out first or I'll cut both your legs off and then you'd be 'armless. Ha Ha!"

Neil "It's a real bummer 'cos I've been dumped on with the wheelbarrow to put my things in. What happened to peace and

unity, man?" Rick "That's 'cos you're a stupid hippie-pants and you smell. Ha Ha Ha eh you nerdies?"

Mike "Cool it guys, just cool it!"

Vyvyan "Well I'd just like to say if anybody moves out of this house before me I'll kill him. Yes and then I'll mash up his brains and feed them to SPG!"

Rick "Crikey I think I'm going to be sick!" Vyvyan "Shut-up you girly-face pervert!" Neil "Oh wow! We can talk to each other, like, with speech bubbles. Heavy - this is communication man."

Rick "Why would I want to talk to you farty breath? Ha! This is brilliant - I can open nearly everything and see what's inside. Right mateys?"

Mike "Ugh! Like a pair of your soiled underpants. The idea is to stay cool and

grab what you need." Vyvyan "Scumbags! I know what I need, a drink!"

Mike "Mike the cool person would just like to say we've got to complete eight or nine tasks in order to get all the objects we need."

Neil "Wow there's everything in this game, my lentils, bogies, a telephone, kitty and

yeah Rick's anarchy badge." Rick "I can try and get your stuff too, that would be a pretty anarchic thing to do eh nerdies?"

Vyvyan "You girly. You wouldn't know if your belongings came and farted in your face.

Neil "Yeah, he would. This game is full of clues and the poster gives hints too. Wow!"

Mike "But you've gotta be cool to spot them. I need the loud tie.

Rick "And I need the girly dress."

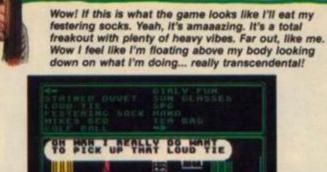
Neil "Heavy, heavy, heavy.

Vyvyan "Well I would like the bomb to kill

ryone with. Berilliant!"

Rick "Nob-face! What did you set it off

for?..aaaaaarrrrgggggghhh!



Each screen is split into two with one room on the top and one on the bottom. Here's Mike's room and the lounge. Neil is wandering around looking for objects to put into his wheelbarrow. The speech bubble tells you what he's thinking. These will provide clues throughout the game.

Wow! This is Narnia, a truly beautiful place – the only way to get in here is – the wardrobe. You'll find all sorts of interesting objects like the Ankh for example.

It's totally anarchic in Rick's bedroom. There's a piggy bank, guitar and girly dress amongst other things. The dress'll come in handy if you're a transvestite - crikey!

ARNIA

Fantastic, a record player. If you don't fancy the musical accompaniment just turn it off. Rick will keep turning it on again so you'll just have to smash it to pieces. Serve that girly right!

Rick's bed - pooh! If you've got a strong stomach try opening it." Bet you wish you hadn't now — it's a pair of filthy underpants — sick!

These guys are so mad they don't care what they do! They've got an animal - SPG even though the lease says 'no pets' Maybe he'll come in handy for one of the tenants.

Switch on the TV for a clue as to what to do. The adverts are often more interesting than the programmes and give you

Life is for living 100 percent Feed your cat don't pay the rent

He will love our frozen peas

It'll open the sluices and

kill the fleas. This ad gives you a bird's eye view on what to do with the peas.

Each character needs the right container to carry all his belongings out of the house. Vyvyan uses the bin liner for his junk. Maybe he could get rid of **Rick, Mike and Neil too!** 

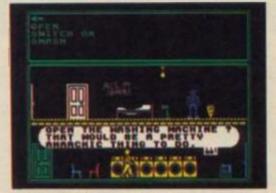
**VICK DAVIES** 

This room certainly looks pretty lived in - more like died in really. Oooh a sofa, lamp, walkman and television.

Hahl The video recorder. Berilliant – now Vyvyan can watch video nasties al day long. Really, gruesome, sick, bloody ones - yum.

c

Berilliant! That's my bedroom... and that's my bed. Where's the chainsaw? Great! I can smash it up into little pieces and stuff it down hippy-pant's throat. That girly-face Rick thinks he can open the washing machine. Ha. that's what he thinks!



This is Vyvyan's bedroom and the laundrette, not that The Young Ones wash their clothes. At the very top of the screen there's an icon box that'll show you what you can do to each particular object. It'll also show you where you can walk to and enable you to make your character speak.

Look out guys! It's the Special Branch! Quick you'd better hide that joint and I don't mean meat! The tree is the only way out.

HHH

He looks really cool! Mr Snowman is full of surprises — just open him up and you'll find a kebab of all things. Crazy!

> The smallest room in the house, and the dirtiest, is the bathroom — fully fitted too! You'll find all manner of foreign bodies in here. There are 16 different rooms in the game.

> Ugh! It's the bog! Open it and you'll find a very peculiar sight — a golf ball. Wacky!

> Something fishy's going on here! Or maybe it isn't? There's a fish bowl but no goldfish — that can be found in a most unusual place. There's also a pair of headphones, a cassette and a toilet roll.

Heavy! A crash heimet in the bathroom? Vyvyan needs this in order to complete one of his tasks. Open it and you'll find a pickaxe, what else?

Cor it's freezing! Open the fridge and you'll find a yoghurt, vegeburger, apple and some frozen peas. The peas'll come in very useful — there's a clue in the TV commercial.

Hey, this is the room where Neil sows the seed and produces all sorts of lentil delights. You'll find a cooker, sink, fridge and cupboards — all mod cons! But just look at that washing up!

12

n

s all

What next? You can even open the sink — heavy! Blimey, there's a tap and a goldfish inside. Berilliant!

fla

7

61/3

Crikey it's a bomb! Probably one of Vyvyans — you'd better watch your step! There's a radio in the kitchen too — this might come in handy. 

#### FAX BOX Game The Young Ones Publisher Orpheus Price £7.95

61

# Amongst 300 worlds lie 30 Sentinel Bases. Legend has, they are impossible to reach ...

n lechnique

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Are your routines just a little too routine? Are your listings feeling listless? Task Force, the programmer's noticeboard, can aid your recovery.

ne of the great things about YS readers is that you can never refuse a challenge! Last month I asked you to show off your great programming skills and wow!

First past the post was **Renato Campos** from Portugal. He's sent in a snippet that'll blow the minds of all those brainboxes who say you can't have recursive functions in Basic — that is, a function that'll calculate the factorial of any number. And what's a factorial? Well, type it in and work it out for yourself! It's only one line.

10 DEF FN f(n)=n=VAL (( "1" AND n<=1)+("FN f(n=1) " AND n>1))+(n=0)

And you'll be chuffed to know that this is one in the eye for "@!" owners, 'cos their Basic can't do that! Renato also asks why DEF FN f(n)=n\*((n:=1)+ VAL ("FN f(n-1)" AND n·1)) won't work. Well I don't know? Have you any ideas? Oh yes, and one last question from Renato has anybody *ever* found a use for VAL\$?

Next comes Paul Brain

in search of a favour — does anybody have a short mc routine to do graphics dumps via Interface 1 to an Epsontype printer. So, all you other brains out there, what about it? To give you all a start, here's a short program from **Philip Barton** of Camberley. It'll do a hi-res screen dump to a Brother HR5 printer from Basic! I guess it'll work just as well with an Epson or Epsoncompatible printer, though you find it a little bit on the slow side — so come on all you machine code freaks...

second
10 OPEN J31"b"
20 LET op=224961 LET op
p=20480
30 LET nop=20448: LET n
opp=18432
40 LET 100=18400: LET 1
opp=16384
50 FOR ##0 TO 31
60 LPRINT CHR# 271 "A"IC
HR# BICHR# 10
70 LPRINT CHR# 271 "K";C
HR# 192; CHR# 0
BO LET propi LET ppropp
90 FOR 6=0 TO 7
100 FOR c=p TO pp STEP -
256
110 LET N=PEEK C
120 LPRINT CHR# nj 130 NEXT c
140 LET DET TOTALET DET
140 LET p=p-321 LET pp=p
150 NEXT 6
160 LET np=nopi LET npp=
napp
170 FOR 5=0 TO 7
180 FOR canp TO npp STEP
-256
190 LET NOPEEK C
200 LPRINT CHR# nj
210 NEXT C
220 LET np=np-321 LET np
p=npp-32
230 NEXT b
240 LET 1p=lop: LET 1pp=
lopp
250 FOR 5=0 TO 7 260 FOR c=p TO pp STEP -
256
270 LET n=PEEK c
280 LPRINT CHR# ni
290 NEXT C
300 LET p=p-32: LET pp=p
p-32
310 NEXT b
320 LET op=op+1: LET opp
*opp+1
330 LET nop=nop+1: LET n
opp=nopp+1
340 LET lop=lop+1: LET 1
opp=lopp+1
350 NEXT a
360 LPRINT CHR4 131CHR4
101
370 CLOBE J3 380 STOP
SUO BIOP

Right, hands up all those who've noticed that the above program can be shortened a bit by using a GOSUB ? You haven't? Well look at lines 90 to 150; 170 to 230 and 250 to 310. The only problem is that c is initialised to different variables. If Philip had recast his program only slightly, you could have saved yourself a bit of typing. Try this.

BO LET p=op: LET pp=opp
100 BD SUB 1000
110 LET penopi LET ppeno
PP
120 BO SUB 1000
130 LET p=lops LET pp=lo
pp
140 BD SUB 1000
150 LET op=op+1: LET opp
=opp+1
160 REM stc
1000 FOR 6=0 TO 7
1010 REM same as lines 90
-150
1060 NEXT b
1070 RETURN

Next comes a couple of readers with the same problem — they both want to save the whole screen. David Crawford from Edinburgh had a great idea for a way to save the whole program as mc with the screen. So here goes:

1 prepare screen and save as SCREEN\$

2 load Basic prog. and add a line 9999 SAVE "name" CODE 16384,8500: GOTO n (start line no) 3 load SCREEN\$ then GOTO 9999.

The only trouble is, it won't work if you have the Interface 1 connected or if the program's longer than about 1100 bytes! Why? Well 16384+8500 = 24884. And Basic starts at 23755 and that's without Interface 1. It'll also get into a tangle with Interface 1 connected, since it creates special system variables, and they would confuse an unexpanded Spectrum. Still, if the Speccy were expanded, you wouldn't need it anyway, would you?

Jim Grimwood has a similar idea. He wants to save the screen (including the bottom two lines) without getting into a tangle with the "Press any Key" message. He's written some machine code to do it.

If we combine the two ideas, we can get a piece of code that'll save a whole program to tape as machine code, including the whole of the screen without overriding the bottom two lines.

0010		ORG	40000
0020	START	LD	HL.LEN-START
0030		ADD	HL.BC
0040		EX	HL, DE
0050		LD	HL.SPARE
0.400		LD	(HLY,E
0070		INC	HL
0000		LD	(HL).0
0090		LD	HL, HDR-START
0100		ADD	HLIDC
0110		PUSH	HL
0120		POP	18
0130		LOR	A
0140		LD	DE, (ELINE)
0150		LD	HL, 16384
0160		EX	HL .DE
0110		AND	A
0180		SPC	HL.DE
0190		EX.	HL .DE
0200		L.D	HL. (SPARE)
0210		LD	(HL),E
0220		INC	HL
0230.		LD	CHEVY . D
0249		LD	DE.17
0250		CALL	SAVE2
0260		LD	B.50
0270	MAIT	HALT	
0280		DINZ	MAIT
0290		LD	18,16304
0300		LD.	A.255
0310		CALL	BAVE2
0320		RET	
0330	HDR	DEFB	3.
0340		DEFS	10
0350	LEN	DEFM	00
0360		DEFH	16384
0370		DEFH	0
0380	ELINE	EQU	236-43
0390	SAVE2	COU	1218
0400	SPARE	EQU	23720
State 1 100		of the lot of	

I've changed Jim's program slightly so that it's totally relocatable. And now it'll save the whole Basic program including the variables. To use the machine code, type in: 9000 INPUT "what name ?"; f# 9010 LET mc=(code locatio n)+58 9020 LET len=LEN f#; IF 1 >len OR len>10 THEN PRIN T J0;AT 1,0; FLASH 1;"Inv alid filename - No save"; PAUSE 0: GD TO 9000 9030 FOR a=1 TO len: POKE mc+a,CODE f#(a); NEXT a 9040 FOR a=a TD 10; POKE mc+a,32; NEXT a 9040 FOR a=a TD 10; POKE mc+a,32; NEXT a 9050 LOAD ""SCREEN# ; PAU SE 0 9060 RANDOMIZE USR (code location) 9070 GO TD start of progr

As Jim says in his letter, we hope your minds are suitably boggled! If you're wondering why you save the program as if it were code. It's simple — it can't be Merged and that makes it just a bit harder to hack into.

Before you use it, position a tape with the required screen and when the border starts flashing for a Load, start the tape. Once it's loaded, the program will wait for a keypress, without a prompt, and as soon as a keypress is given, Save the lot — so be sure you've started the tape in Record mode before pressing a key.

Peter Craik from St

Andrews sent in a crafty little snippet but I found an interesting little bug in it. See if you can find it and then send me in your corrections.

10 LET ad=60160 . 20 LET as="The fastest BASIC scroll around!" 30 FOR b=1 TO LEN as: L ET c=ad+(b=16)=16: LET e=
CODE ##(b): LET #=15616+(
##8)-256; FOR d=1 TO 8: P OKE d+c-1,PEEK (#+d-1): N EXT d
40 NEXT b 50 PDKE 23607, (ad/256)-
1 60 LET b\$="": LET c\$="" 70 FDR a=32 TO 32+(LEN
60 LET bs=bs+CHRs at LE
T c#=c#+CHR# (a+1): NEXT
90 LET c#=c#( TD 32) 100 FOR a=20 TD 0 STEP -
1: REM 20*start position, O= finish
110 FOR b=1 TO 8 120 POKE 23606,b
130 PRINT AT a, OICSIAT a +1.0105
140 NEXT bi NEXT a 150 POKE 23606,01 POKE 2
3607,60

Hmmm, a very nifty way of doing the impossible in Basic!

Now, let's see if any of you can improve on this month's routines — or add some of your own. By the way, some of the programs are still a bit long, so try and keep 'em short and interesting.

Send your programs to lan Hoare, Task Force, Your Sinclair, 14 Rathbone Place, London W1P 1DE.



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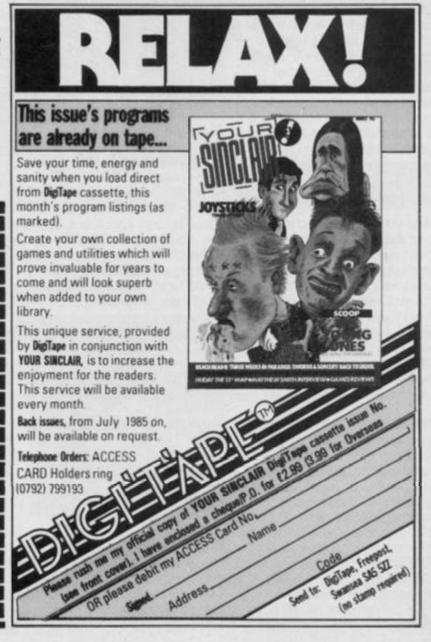
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Are you a better bladerunner than Harrison Ford? You'll need a steady hand and a sharp eye if you're to spot all the robots in the picture and win one of the great prizes on offer from CRL.



I pulled up my Spinner at the diner. The name's Shovel. Sam Shovel. Private dick and amateur bladerunner. I took a draught of root beer. All night now I'd wandered the city sidewalks in search of a Master Set. Then I could build my own robot, complete with four motors. Worth a hundred bucks of anybody's money. But I'd had no luck — I'd just have to win it in the YS compo based on CRL's new game *Bladerunner*. I might even walk off with one of the thirty copies of the game on offer to the runners-up.

All I had to do was be a bladerunner — right up my street. I'd just take a look at the picture and identify how many different robots are tucked away in it — not just the whole ones 'cos they're a piece of cake but also the sneaky devils that try to disguise themselves. You can have a go too — put a ring round each robot you spot then clip the page and send it to Bladerunner Compo, Your Sinclair, 14 Rathbone Place, London W1P 1DE. There are plenty of prizes for everyone — just so long as I take off with the main one, mind. I'll show that Harrison Ford!

Now was that a replidroid mugging that little old lady? I took another bite of pastrami. Hell fire, a bladerunner's never off duty, I raised my mega-magnum. "Make my day droid." "Aren't you in the wrong film?" it squealed. But I still blew it away. Hell, no one likes a smartass. And dead droids tell no tales.

#### **Replidroid Rules OK**

Entries must reach us by February the...em...ur...thirty days has September..er, ah...yes — the 28th. All entries must include the number of droids you've spotted ringed on the piccy and that number should be on the back of the envelope.

The Ed won't enter into any correspondence about the competition. Robots can't write!

I've spotted droids in the piccy and anyway I'm a lot hunkier than Harrison Ford.
Name
Address
Postcode
Now cut the page (or a photocopy) and send it to the Bladerunner Compo, Your Sinclair, 14 Rathbone Place, London W1P 1DE. And remember to write the number of robots on the back of the envelope.



All prices include postage, packing and VAT. Please order stating, 1) Program Required, 2) Amount Enclosed, 3) Name and Address. 4) Type of computer. European Orders — no extra cost (VAT=Delivery). Worldwide orders — £1 extra per tape. Credit card order please state exp. date.



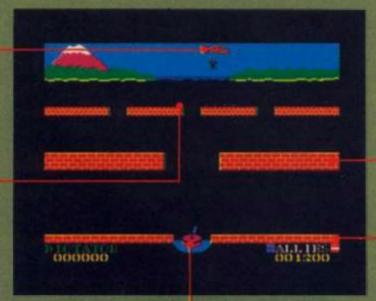
### ATTACK

Okay you guys, go get 'em — hit 'em fast, hit 'em hard and give 'em hell. And for chrissakes, don't muss your hair up — CBS T.V. is here



Fly high and your men will be vulnerable — too low and their chutes won't open — or you might be tated to a forced landing. Press fire to drop your men — and change direction to confuse the machine gunner.

Once your men are established, watch for the lights — when they're on you can make a dash for ill from here. You can only choose your direction once sprinting you can't change your mind — so don't run into the rain of death.



The pill box — mum always said to keep away from these! Just one gun, but it's not the soft underbelly of the dictator's defences. When on the enemy side it rotates and elevates automatically.

U

Eh, cara mia and caramba — why don't these gringos leave me alone to chew my cheroot and cause chaos in the cosmos!

E

S

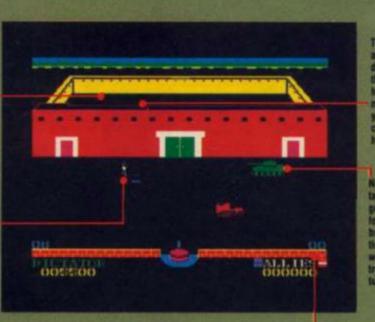
C

We gotta get our boys out before they forget the taste of Budweiser and stop loving Minnie Mouse.



Unfortunately the fortrass takes up a big chunk of screen. Looks pretty but it's realty a waste of space — just like watching Arsenal, everything takes place on one half of the

Your men, nine of 'em, have to be rescued but presumably they're blindfolded, and deaf as they can only walk in a straight line across the screen. It's your job to blast away the obstacle: — tanks, tunnellers and mines.



The extra line doesn't tell you who's winning the Superbowl. But it does let you know how many of your good buddles have made it to the other side. Can you make it to the next screen?

Santa Maria, Ardiles and Villa - will they never forget the Alamo?

Having get to this wall your men will either go round it directly — they can hurl grenades and manoeuvre but they're also very vulnerable — or scramble over the flanks. Most of these soldiers will make it to safety, but they can't attack the gun. Now select your strategy ...

Each soldier you land scores 200 points, each one to the second wall 2000, and if you make it to the last wall, notch up another 1,000. Blowing up the pill box gains you 4000 — but at what cost to your own men? Dare you take the risk?



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US Gold came with the classic, Beach Head, saw it was a winner and now it's set to conquer the world with Beach Head II. Rick Robson rallies his reinforcements and prepares to

fight .... he evil Dictator from Beach Head is back

again — but this time there's not a beach in sight. Even if he can't kick sand in the faces of

can't kick sand in the faces of the weak and defenceless it'll take all your Stallone skills to overcome him in his new jungle setting. This final battle takes place

This final battle takes place over four screens. First you must parachute your troops behind enemy lines from a helicopter. Just take care to avoid the raking fire of the dictator's pill box. Desperately your men take cover behind the first rampart. Mustering your forces you make a dash for the second wall. Beleaguered by the blitz of lead you must then combine bravery with brains, guts with guile. Some of your men will act as decoys, others will make futile suicide dashes, a brave few will succeed in bombing the machine gun only to die in the rapid rattle of lead.

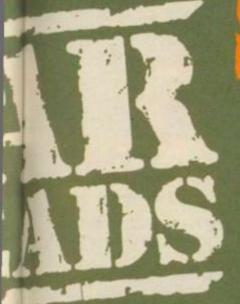
But once under your command, you can turn the pill box against the dictator's jungle fortress. Use it to give covering fire against tanks,

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## EADI



land mines, tunnellers and even masonry dropped from the fortifications. In this way you can rescue your longmprisoned comrades. And now it's time to pursue

B

9

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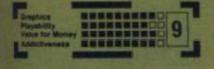
3

And now it's time to pursue the fleeing forces of evil. Back in your whirring attack chopper you hug the contours of the jungle escarpment, evading the natural hazards and missing the missiles. Success in this phase will take you to the end.

phase will take you to the end. And as in all great battles – Vader vs Obi-wan Kenobi, Holmes vs Moriarty, Border vs Botham — the climax is a head to head, an eyeball to eyeball confrontation, just you and the dictator, glaring across a cavernous guich, your only weapons knives, your wits and your will to win between you the raging torrent roars, soon to claim its

victim, you . . . or the dictator. Of course if there's a touch of evil within you, there's no reason why you can't be the dictator. You can even use the game's fine one-to-one

facility for a duel to the death. Technically it's hard to find fault with a game forged as formidably as any of US Gold's armoury. I found the final screen a bit wet (in more ways than one) after the furious hardware of the previous screens. But if you've got this far on all three levels of difficulty maybe you need the rest. And perhaps the fairly average graphics don't quite match up to the game play. But now I'm splitting hairs where most people'll just want to get in there and start splitting heads.



### BATTLE

Remember, no \*/1%\*/ won a war by laying down his life for his country but by killing the \*/&\$?% on the other side.

icattered over the jungle re various hazards. Iadio towers need mashing, bangars warassing, cars pranging. Iad don't get too carried way -- tree too bandings

Don't let your chopper cop it! Your aim is threefold. Stay alive, blast the dictator's installations and get those hostages abroad.

You crazeeee Anglo-Saxons — what's with this Day of Death? All zap, zap, Zapata! Jus' jump in your Fiesta an' come over for tequila an' a siesta.



ESCAPE

. Well, it's just you and me, kid. This screen ain't big enough for the two of us, and the only way out is down.

raphics are more Alpine han Andes. They make a retty backdrop though, s you struggle not to rop back into the guich i death

our man has movement long the platform. He can also duck and leap his opponent's weapons. At he 'sasy' level this is a foddle — but it's a touch of the old hot shoe shuffle on the hard stage.

The two score boxes let you know whether you're winning the battle but losing the war. Each hit is notched up here but the important thing is to win most of the five rounds.

You teenk you can catch Sancho with his Panza down? You must teenk I'm Caracas.

boomerangs but they never come back. And no will you — 'cos if you're hit enough times it's a real pain in the neck and then it's the early bath for you!

The platform limits your manosuvrability — no backward steps allowed. At least the dastardly dictator can't stab you in the back!



The screen scrolls convincingly but with no radar, terror comes literally out of the blue. But there's still time to evade the dictator's missiles and fire off a few

> obstacle. Du your Airwalf acrobatics and ity through the arches for maximum offect. It's not exactly Cyclone but you could get blown away with this phase of the act'on.

> > 73



With over four years experience of providing practical software solutions for business and home applications, Gemini have put together their entire range of famous titles for the Spectrum and Spectrum Plus in ONE special pack, at a VERY SPECIAL price. Whether you're a cassette or microdrive user, this super value pack contains all the serious application software you're ever likely to need for your Spectrum, from home accounts and database management to a complete professional business accounting system. Gemini's OFFICE MASTER is here-put that computer to WORK!

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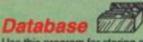
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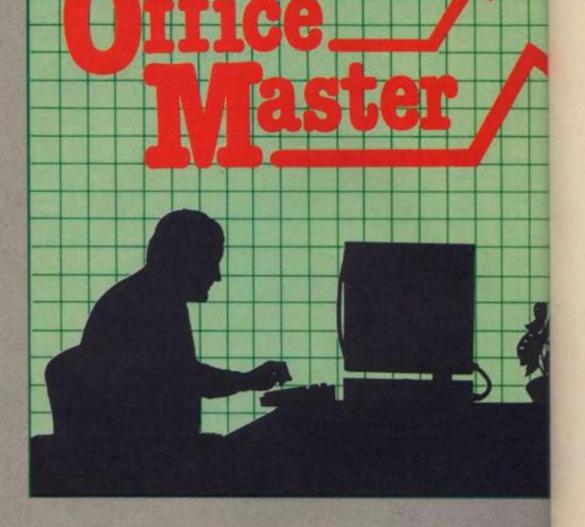
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Easiledger creation of any type of financial ledger system. Its usefulness lies in its ability to produce account balances instantly for debtors and creditors together with an audit trail of all entered transactions, with dates and references A year-to-date summary is included of sales, purchases, receipts and payments over a 12 month period, and most importantly, a completely interactive bank account database is featured.

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Your



More joke POKEs and hack cracks from the man with the POKEst, Chris Wood.

Okay, so you're bulging with Christmas pud, turkey and trifle and don't feel like moving. Well, get out your Speccy and those new games you got for Chrissy 'cos they're dying for a POKE and you need a bit of mental exercise too.

### HALL OF THINGS

This little routine for Hall Of Things has been around for quite a while. Andy attempted to publish it in Your Spectrum 17 but failed and I must confess I took a little while to get around to it. Still, **Bruce Phipps** from Chadbury sent in the routiine again so here it is:

10 LOAD ""CODE 61263
20 FDR X=61441 TD 61454
I POKE X,OI NEXT X
30 POKE 61440,2011 POKE
61650,249
40 POKE 61724,271 POKE
61725,241
50 POKE 61549,64: POKE
61550,148
60 RANDOMIZE USR 61441
70 FOR X=61440 TO 61451
I READ ZI POKE X, AI NEXT
X
BO DATA 17,0,96,33,64,1
56,1,0,64,237,176,201
90 RANDOMIZE USR 61440

After you've finished this, POKE 32717,0 for no wounds or infinite energy or you can POKE 35923 with your starting magic. RANDOMIZE USR 24567 will start the game.

### MANIC MINER

Ooops! Even the greatest make mistakes and I'm afraid there's one in Your Spectrum 20. **Maxwell Clark** sent in a revised POKE for confusing the aliens in Bug Byte's *Manic Miner*, accusing me of getting the original wrong. Well, that certainly confused me 'cos when I looked out his letter I found it was all his fault. The POKE should've been:

### POKE 65132,0

Sigh at least it shows who's still the greatest. On with the POKEs...

### NODES OF YESOD

Yes, I know it's knocking on a bit but the programmers did include a message 'YS keep out' in the loading sequence, so how could I resist? Well, we did it, so there! **Pete Smith** of Burton, **Phil Nosirnayme** from Hartlepool and **Lee Bathgate** from Fife all sent in routines and here's the one I chose entirely at random:

10 LET 5=30000: LET N=2
1: GO SUB 20: RANDOMIZE U
SR 30000
15 LET 8=63218: LET N=7
I GO SUB 201 RANDOMIZE US
R 63201
20 FOR X=8 TO S+N-1: RE
AD YI POKE X. YI NEXT XI R
ETURN
30 DATA 17,17,0,175,205
,60,117,17,250,2,62,255,2
21,33
40 DATA 188,244,55,205,
84 5 201 175 50 149 127 1

86,5,201,175,50,149,127, 95,0,226

### WAY OF THE EXPLODING FIST Lee Griffiths from

Merseyside sent in this snippet of a program to give you 255 time units instead of 30 in The Way Of The Exploding Fist:

	10 LOAD	D "	"SCR	EEN# I	LDA
D	""CODE		POKE	44793	,255
	RANDOM	IZE	USR	39982	

Funny but my copy has a RAND USR address of 34816. Could there be as many different versions of this as there are of *Starion*?

### PUD PUD

Yes it's a game and not a Christmas left-over — or at least according to **Andrew Jones** from Cheshire and just to prove it he's sent in a POKE for infinite Pud-Puds

 POKE 49287,0. Andrew reckons he's a fifteen year old geriatric — is hacking bad for your health? Cough, cough!

### **ABU SIMBEL PROFANATION**

Unos trios paranoias di Portugalos! Well, three blokes from Spain namely Fausto Carvalho, Luis Pereira and Carlos

Vieira who've sent in a few POKEs for Abu Simbel Profanation.

POKE 49290,x where x=' to 255 POKE 47684,0 for eternal madness and boiling nerves

POKE 45877,201 to transform objects POKE 47656,0 to trans-

form yourself What you transform yourself

or the objects into is anybody's guess but those who've played the game should know.

### ALIEN 8

Robert Brown from

Gloucester has been having a few problems with my Alien 8 program Your Spectrum 14. Well, as far as I know there's only one version of this game on the market so it's possible you could've made two errors in the DATA that cancelled each other out. That way the checksum could've missed them — for example, 24,35,6 instead of 6,24,35. I have found that the program only loads one out of five times and it can be cured by adjusting the volume.

Finally, if you finally got Sprite High, Your Spectrum 19, to work you may still find problems. I really am sorry. I forgot to mention that you should load the main SPRITE CODE before anything else when you're testing your sprite movement etc. This is because the first 14 bytes of the SPRITE CODE contain data for a dummy sprite which will overwrite your first one. You could resave it with:

SAVE "SPR CODE" CODE 57270+14, 584-14.

Persevere and the results will be worth it...

### AD ASTRA

Another mega-hack from a lady keep 'em coming girls! This one's from **Mrs J Brown** from Cheshire for Ad Astra:

POKE 29907,0: POKE 29908,0: POKE 29909,0: alters the formation of the aliens

POKE 28591,0: POKE 28592,0: POKE 28593,0: gives you better fire power

POKE 28793,0: POKE 28794,0: POKE 28795,0: ships that need multiple hits will now only need one

POKE 380847,0: POKE 30848,0: POKE 30849,0: one ship comes across the screen instead of four POKE 35852,0: POKE 35853,0: POKE 35854,0: infinite lives

To get all these in simply type:

CLEAR 24000:LOAD "A" CODE: LOAD "B" CODE



Computer Bytes. It'll be published by Blandford Press on March 24th, price £1.95. Type in the POKEs you want and then RANDOMIZE USR 3,3000 to start the game.

### EVERYONE'S A WALLY

Still having mega problems with Everyone's A Wally? You must have infinite endurance already! There's a POKE to make all the characters stand still so they don't nick all the objects you want.

As if that wasn't enough you can change to another character even when it's not on the same screen. Don't type in any data lines you don't want:

100 CLEAR 29999; MERGE " ": POKE PEEK 23627+256\*PE EK 23628+33,33 110 FOR 2\*65313 TO 1E9; READ X: 1F X<999 THEN PO KE Z,X: NEXT Z 120 BO TO 0 130 DATA 24,2,0,199,205, 128,91 140 DATA 62,201,50,67,22 7: REM INDESTRUCTABLE 150 DATA 62,201,50,67,23 11 REM CHANGE TO ANY CHAR ACTER ANYWHERE 160 DATA 62,201,50,44,16 9: REM STOP OTHER CHARACT ERE MOVING 170 DATA 195,151,91,999; REM DATA END MARKER. IMP ORTANT.

These few POKEs are from a person who comes from the 'Wolbidoob', Lancashire. Hmmm. Merge in the loader and enter these POKEs before the USR call

POKE 28982,0: POKE 28983,0: POKE 28984,0 and continue loading. A small tip for budding hackers, if you're NOPing out a call routine, a RET at the actual call address saves on the typing and is neater.

### **GYROSCOPE**

Are you going potty playing Gyroscope, the Speccy version of Marble Madness? Well just enter this as a direct command:

### CLEAR 24063: LOAD ""SCREEN

and load it in. Then all you've gotta do is enter the POKEs you feel like. POKE 53922,0 for infinite lives, POKE 54033,201 to roam around the screen at will and POKE 54354,201 to walk through the wobbling nasties getting in your way.

If you're really feeling lazy you can use one POKE that does all three features and that is POKE 53887,201. When you manage to finish all the screens the surprise is

... ta dah... you can travel up the slopes instead of down them, wow! Oh an' a useless bit of info — the two voice sound routine in this game is the same as in *Fairlight*.

# MICRODRIVIN'

### Hey, is your microdrive making you miserable? Drop Andrew Pennell a line and he'll sort out your problems. Now we're motoring!

Hi, it's me. Yeah me, Andy. S'pose you've forgotton me 'cos I wasn't in last issue. Rather large oversight by the Ed. (Me? Ed) Anyway now I'm here let's kick off with a big thanks to all those who wrote in about the corrected version of the routine that allows you to see which Interface 1 ROM you have. Oops, sorry I know it was a corrected version but we (You! Ed) made another blunder. Line 40 should have read:

40 IF a=129 THEN LET z=1 Most of you who wrote said that PRINT z gave the result of 129 so you've all got version 1 of the ROM. One reader, however, got 128! Well, I'll look into that and give you more details next month.

And now on with all your problems — oh, I do so enjoy playing at agony aunt.

### I'm having a bit of bother with my Epson printer and Interface 1. Have you found the cure yet? Christopher Birkett, Solway

Yup! I have, thanks to Hugh Wilding who told me that Epson knows all about the problem and, better still, the cure. First set the Spectrum and Epson to 4800 baud (not 9600). You'll then have to get your soldering irons out and add a couple of components to the Interface 1 plug to get rid of all those glitches that cock up the printer. Connect a 1K, 1/4 watt resistor between pin 3 on the I/F 1 plug and the cable going to it. Next, connect a 2000pF capacitor between the cable end of the resistor and pin 7 on the plug. Easy innit?

### I've got a Brother HR5 that's Epson compatible. How can I use its features via the Interface 1? John Taylor, Grantham

Right, for straight text output OPEN #3,"T", then LPRINT, LLIST will work on the printer. In order to use the special features you'll have to send control codes, and you can only do this with a "B" type channel that can be created with a line like OPEN #4,"B". Then PRINT #4 statements for the extra features.

If you wanted to go into condensed mode, for example, you'd use PRINT #4, CHR\$(15):. More advanced features require Escape codes which use the ESC character. In the manual setting the perforation skip is described as ESC N·x·, so, to set it to ten lines you'd use the following command: PRINT #4; CHR\$(27);

"N";CHR\$(10); Another tip — it's useful to have both B and T type channels open simultaneously, B for control codes and T for text.

### What's all this about a dec/hex converter in my Interface 1 ROM? Paul Daamen, Netherlands

In version 1 of Interface 1 there were some subroutines for printing blocks of memory in hex that were used by the authors to debug it. When the Interface was finished they were left in and there they remained until version 2 came along. The hex routines were removed 'cos room was rather tight. You learn something new every day.

### Several disk drive interfaces claim 'Microdrive compatibility' but many items of software that make similar claims don't run on them — why's that?

### **David Saint, London**

The disk interfaces are usually compatible in the sense that they use the same syntax from Basic to use the extra features but the problems occur because from machine code none of them is compatible. Machine code software has two ways of calling the Interface 1 ROM via hook codes and directly. As yet there is no interface that has compatible hook codes and it would be impractical for one to have the same actual subroutines.

What's my problem? Well, I've got a Kempston Interface E but I can't load array data files from microdrive, though I can save them. Masterfile is the worst as I can't save anything to it. **R Dearden, Harlow** 

I don't have one of those interfaces but I think I know what the problem is. What a megabrain, eh? It has a ROM which is mapped out in the low 16K of the Basic ROM. It's also mapped out when the shadow ROM is in place but it normally doesn't obstruct it. Judging by the symptoms it appears that it's mapping into the Load array routine in the microdrive ROM that's obviously causing big trouble. Try contacting the guys at Kempston and see if they've got any ideas. If that brings no joy try using a different version of the Interface 1 ROM. Good Luck!

### How can I easily produce the error 'Hook code error' from the Interface 1? Keith Symonds, Essex

I can't think why you'd want to do that but each to their own I s'pose. Do an RST 8 followed by a byte from #33 (ROM1) or #34 (ROMs 2&3) to #FE inclusive. It produces the error because those byte values are neither Basic error messages or valid hook code calls.

### I've used the copier program supplied with the Expansion System to great effect but whatever I do I cannot get it to copy the games cartridge supplied with it. Why is this? Paul Daamen, Netherlands

Ahah! The reason is quite simple. When I wrote Copier, I was asked to write a protection routine so that the games cartridge couldn't be ripped off. Cartridges that have been duplicated using this special routine can't be copied with the official program, though other copiers will back them up with no problems. Copying should only be used for backing up and not to reproduce original software as this is illegal!

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Death speaking! Seems that a few of you mere mortals reckon you've overcome my deadly hand and have actually managed to complete some adventures. The worst offender is John 'El Supremo' (till proved otherwise) Wilson who claims he's finished more adventures than anybody else. "Yet another adventure has fallen foul to my ruthless adventuring ... Robin of Sherwood. Just so you wouldn't feel left out this month here are some megatips for all you namby pambies who can't complete it.

"To escape the dungeon you've gotta first have a look at the grating, talk to the prisoners, stand on their shoulders and examine the grating again. Wait until you hear footsteps above you and then grab the ankle, choke the guard, examine him, take his sword and examine the grating yet again. Then you've got to slide the bolt, open the grating and go to the door. Easy ain't it?

"I've got even more hints, there are a few general tips: go via Marion's bedroom window when escaping from the castle. You can try 'Go Bed' in any room and you'll be told 'No time for sleeping' except of course Marion's room where you're told 'Not allowed'. Some people are no fun!"

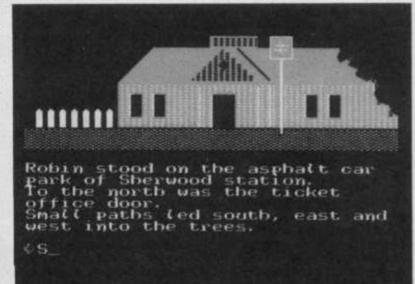
Even better! A poor soul who's come to a dead end and will hopefully come to an even deadlier one. Nuno Miranda from Portugal has been playing Fairlight by The Edge although he's having a few problems. "What do you do with the crown? I tried to put it on the throne but nothing happened. How do you open the southeast gate in the courtyard? In the dungeons there's something strange on the floor but I don't know what to do with it, the killer plants are giving me a few headaches too.

"Please, please, please help me or else l'll go mad!"

Well, I'm not so sure I should help you really — I am Death! Okay just this once. You must be wearing the crown in order to enter the tomb. As for the strange thing on the dungeon floor I think that's a red herring. No more hints from me as I'm feeling a bit tired, a bit like death warmed up really!

But if you need any more help have a look at the list of people offering hints and if you reckon you've got a few tips pass them on to the people who need them. And the fight is on to tell that John 'El Supremo' Wilson a thing or two. Mark Thomas from Plymouth reckons John Wilson wrote to him for help! Things are looking good - maybe you're gonna be the new 'El Supremo' Mark? A certain James Elliott reckons he is the 'El Supremo' just take a look at the Kings Of The Castle.

Stop sitting around, send those cries for help and claims to fame to Death Sentence, Your Sinclair, 14 Rathbone Place, London W1P 1DE.



### ROBIN OF SHERLOCK Silversoft/£7.95

Thou art Robin of Sherlock in yon Sherwood Forest — there thou shalt find a dead Doctor Watson, a pot of vaseline and Maid Marian's clothes! Go forth and solve the many mysteries that have brought chaos to this realm.

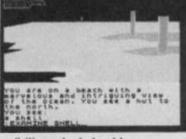
Yessir, it's a cracker! Well written, with some very neat touches (considering it was written with the Quill), excellent graphics, and a tremendous sense of humour. Authors Jester and Desperado have come up with a brilliantly funny game that extracts the Michael out of both

Sherlock and Robin of Sherwood. Here in Sherwood Forest you'll find your merry men, Maid Marian (who's always ready for a quick cuddle), Friar Gorbachetnik (who eats so much he explodes), and the Yellow Brick Road to the Emerald City of Huddersfield. And if that's not enough for you,

### MINDSHADOW Activision /£7.99

What a graphics adventure! Great pics, great puzzles — something for everyone!

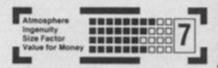
The program is in two parts, Mind 1 and Mind 2. Mind you, you can only play the second part if you've completed the first. And that's not easy. It all starts on a desert island. It's idyllic except for the fact that you haven't the faintest idea who you are, where you are, and what the hell you're doing there.



Still, you're helped by an excellent program. Although the location descriptions are quite there's even a Kentucky Fried Squirrel take-away, a railway station, and a portable phone. And it comes with brill sound – when did you last hear your Speccy chugging into a station.

As well as a dead Doctor Watson, the Smurphs are up to something dirty, and there's a hideous conspiracy involving candles and vaseline! There's also a hideous bug. Typing GO WINDOW – or BREAK WINDOW for that matter, get's the message SWEAR NOT followed by a system reset.

Robin of Sherlock's a hoot if you want something different. You can talk to the characters (unusual for a Quilled game), listen to them talking amongst themselves, and do a RAMsave if things look tricky. Go for it, and avoid the fried squirrels at all costs.



short, the detailed large-scale graphics do wonders for creating atmosphere. You'll soon be off and sailing the seas, visiting other islands until you make it to the mainland.

To help you work out what's happening, there's an unusual command — THINK. Use it at the right time and in the right place and it'll drop you hints as to what's going on. And as the game progresses you'll stumble across further clues — thinking about them will also reveal a little more.

As a bonus for novices, there's a special Tutorial file on the tape. This'll give you an excellent training in adventuring, making it an enjoyable splash-out for first-timers. Experienced adventurers may find the game limited in its locations, but even so the puzzles are fairly tricky.

### Atmosphere Ingenuity Size Factor Value for Money

### **KINGS OF THE CASTLE..**

Mountains Of Ket, Temple Of Vran, The Hobbit, Inca Curse, Ship Of Doom, Espionage Island, Urban Upstart, Lords Of Midnight, Hampstead and more. Nuno Miranda, Av. Emidio Navarro, 19-A, 1 2750 Cascais, Portugal.

Robin Of Sherwood and a load more. John 'El Supremo' Wilson, 26 Spotland Tops, Cutgate, Rochdale, Lancashire OL12 7WX.

Stop The Express, Oracles Cave, The Hobbit, Atic Atac and Sabre Wulf. Alan Saunders, 8 Marybell, Sedbergh, Cumbria LA10 5AR. Dungeon Adventure, Red Moon, Planet Of Death, Ship Of Doom, Ground Zero, Erik The Viking, Sherlock, Temple Of Vran, Denis, Emerald Isle and more. Mark Thomas, 47 Elford Cresent, Colebrook, Plymouth, Devon PL7 4BT.

Robin Of Sherwood, The Hulk, Spiderman, Heroes Of Karn, Valkyrie 17, Mountains Of Ket, System 15000 and more.

James 'El Supremo' Elliott, 266 Carseview, Tullibody, Alloa FK10 2SU.

### **ON THEIR DEATH BEDS.**

Espionage Island — How can 1 move the rock to enter the mine shaft or drive the tipper truck? Manor Of Doom — How do you get the motorbike started?

T Barnard, 44 Blackdown, Hilltop, Stony "Stratford, Milton Keynes.

The Ship Of Doom — How do you pick up the key once you've shot the glass cover in the key room? R Shepherd, 64 Rickards Avenue, Knoxfield, Victoria, Australia 3180.

The Fourth Protocol - Any help

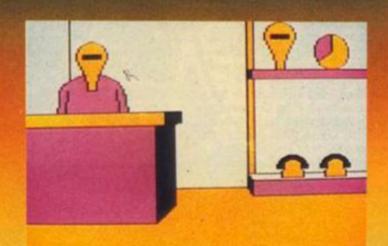
you've got. B Buck, 12 College Close, Portslade, Sussex BN4 2WT. Hampstead — When I get to Waterloo, why is my best course of action to board the train back to northwest Lon-

don? Marc Holliday, 7 Holland Road, Stamford, Pequisa.

Tir Na Nog — How do you get in doors with letters written on them and where are the four things? Harry Lynn, 11 Hillhead Crescent, Belfast, Northern Ireland BT11 9FS.

Valhalla – Help! Danial George, 2 Braeside Gardens, Acomb, York VO2 4E2.





### DESTINATION Capital Investment

You arrive in Eden, with the special Trans-Ident Soul-Swop facility, in the body of a typical Eden dweller who's drinking in the pleasure of Reveline's Dream Parlour - dreamy eh? Well not everything's as dreamy as Eden isn't always a paradise.

adise.
 Throw away your Eden-English, English-Eden pocket:
 dictionary for a start. These guve aren't Neanderthals —
 they speak a rather simplified standard Galactic English.
 Your Speecy Bio-Trans facility festures a thousand word vocabulary that If give you more rabial than a well-taxew Encloir supermarket chain.
 If you fitney a thill to one of Breech's encodiums you'll need the deminant contents only one. See Serry ast American Express Inter-Galactic Traveller's chapters we de more rabial than a fitness well.

1 cred
9 creds

In fact all's fine in Eden, 'cept of course, the fines. You may be offered a few things on the streets for free. That's 'cos they're illegal.

r N

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Yeah, it is the other way round on Earth. Fines, like the Space Patrol Group, can be heavy but don't worry there's always a way to recoup your losses in Eden.

### Fines

For being in debt	50 creds
Possession of an illegal object	9 creds
Theft	500 creds

### MONEY A wealth of health

Many travellers (ear the unknown, Will I be able to drink the vate? Do I meed vaccines? Relact The inhebitants of Eden have discovered the second of almost element. If — thanks to file transplant of dom-slit bodily organs. So it you have a filing in the Plassure Dome of you want of buy high (of pay of file) it could cost you and and a log — thereby I & ling'll bring it about 300 crade cost in-nated — thereby I & ling'll bring it about 300 crade cost in-tend. — thereby I & ling'll bring it about 300 crade cost in-

# AST OF EDEN Level 9's new adventure The Worm In Paradise is set on the far-

distant planet of Eden. But all is not well in the Garden. Join Death as he takes you on the trip of a lifetime — or rather several lifetimes. Nothing is impossible in Paradise...

### PEOPLE

See the natives in their local habitat! Eden's inhabitants are a friendly bunch. Many of them are robots who're going about their daily lives oblivious of the curious tourists around them — yes you! Fuzbots, the local constabulary, are on hand to keep you out of trouble. But if you do get up to naughties — buying illegal items, shoplifting, insolvency — the gates of Eden's gaol won't close on you, you'll only be fined.

### ROUND AND ABOUT IN EDEN

No great big red double decker turbo buses here — just the smooth sophistication of the pedway that connects each city district. Earthling's find it all a bit disortenting as the roundabouts are numerous and they all look the same! And with forty million colour-coded destinations don't blame it on us if you end up off the beaten pedway. The Michelin guides are a bit thin here so your best bet is to draw your-self a map. If all else fails Level 9 Tours can provide you with a simple program that'll enable you to get where you're going.

### STREET CRED

Part of our bumper package is a set of Trad-Clads — well we don't want you arrested for indecency do we? — and 100 creds. We also supply you with a personal designer tattoo, a device that'll tell you the time and also keep a check on your finances. Every Eden hour it'll buzz — like those quaint 20th Century ones that used to go off all over the chema when the film was just getting to a good bit. Should you succumb to the magic of Eden then you could have a spacemen's holiday — and do a job of work. But you't torget that you must be property registerent.

### TOURS Sites and sounds

Frankly, you start at the Pleasure Dome. If you really want some fun you can throw crap in the Casino, muse in the museums and visit/the pet shop. It'll cost you, but for a holiday like this it's worth going out on a timb even if you're left without a lease stand on.



# RAN

### **The Casino**

Great fun this! Just select a colour and pull the arm of the One-Armed-Bandit, watch his eyes light up and your credit balance drop! It's a scream and you might even win some money — there's a twenty cred jackpot waiting for some lucky tourist.

### **Reveline's Dream Dome**

Just the thing for the weary travellers! Enter your choice of chamber, don the visor, and enjoy a brief but invigorating sleep with a special pre-programmed nightmare! Eccekkk!

### The Bly Plane

A Athletie to sensions and bracksening, while a one location every tearsic stands to a original of the location of the visit line Manippel Science, and the Menomentice Calify Trans. Stat. allocation post-in-ready-in go territors allold, by the lines - Transport Realism.

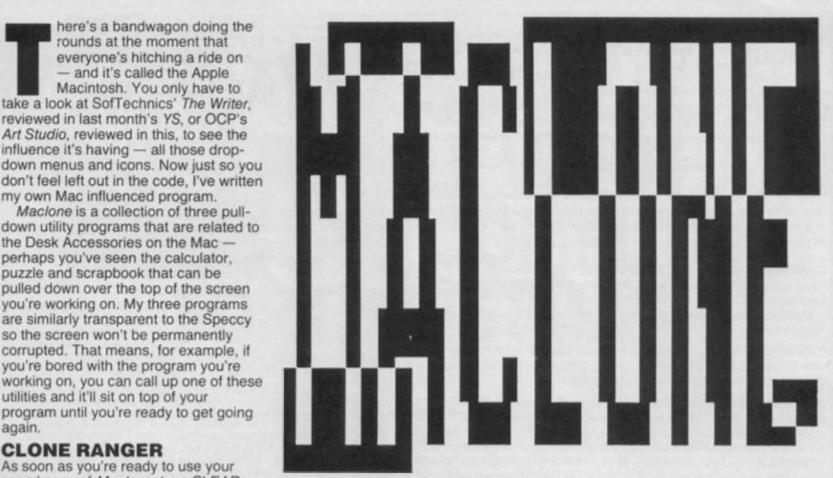


here's a bandwagon doing the rounds at the moment that everyone's hitching a ride on and it's called the Apple Macintosh. You only have to take a look at SofTechnics' The Writer, reviewed in last month's YS, or OCP's Art Studio, reviewed in this, to see the influence it's having - all those drop-

don't feel left out in the code, I've written my own Mac influenced program. Maclone is a collection of three pulldown utility programs that are related to the Desk Accessories on the Mac perhaps you've seen the calculator, puzzle and scrapbook that can be pulled down over the top of the screen you're working on. My three programs are similarly transparent to the Speccy so the screen won't be permanently corrupted. That means, for example, if you're bored with the program you're working on, you can call up one of these utilities and it'll sit on top of your program until you're ready to get going again.

### CLONE RANGER

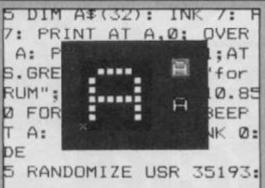
As soon as you're ready to use your saved copy of Maclone, type CLEAR 61950: LOAD "Maclone" CODE and start the tape. There are three main RAND USR calls to Maclone - 63256 sets the program up, 63278 switches it off and 63269 turns it back on again. You'll only need to set up Maclone after you've loaded it in or after NEW.



Nope, it's not the latest fast food fry-up from McDonalds — though that's how we sold the idea to Tony 'Slim' Samuels! Maclone's an amazing utility package that packs the power of the Macintosh into your Speccy.



THE LETTER SQUARE Imagine you're writing a program and inspiration has deserted you. You've made enough cups of coffee to keep Brazil in credit for the next ten years but still nothing'll come. Nope, there's nowt for it but drop everything and play a game — if only you weren't already using the Speccy. Well, now, at the press of a key, you can jiggle your brains with this letter square puzzle. Just use the keys Q,A,O and P to move the blank tile around the letter the blank tile around the letter square. As on as you get bored or spiration returns, just press Space and bingo, you're back into Basic.



### THE UDG EDITOR

Here's a real time-saver - well, you can make up all the time you've wasted playing the word square. It's a UDG editor that you can call up and use from within the Basic program you're writing. It lets you change any one of the Speccy's 21 UDGs just by moving the cursor round the UDG with the Q,A,O and P keys. You can flip it on or off with the M key and change a UDG using Enter. Once back in Basic (press Space), your UDGs'll appear just as you defined them in the Maclone routine. Save your data before you shut down with SAVE "udg data" CODE USR "a".21 \* 8.

### MAC MIMICRY

Here's a run-down of the three Macalike programs that mimic the desk accessories. Two grand computers - who needs 'em?

# ABCD??

### THE LOCK-UP

Phew, that megaprogram's nearly finished but you've just got to go out/sleep/eat/go for a pee. And what happens - Sod's law, that's what! Someone's dusted and well, my hand slipped, honest. Sorry just doesn't seem to say enough. Plus you've got to keep a constant vigil against all those industrial spies just waiting to rip off your programmig. Panic no more 'cos this pro gram provides the answer. Select option 3 and the screen will go black with just six question marks in the centre of the screen. Now type in your six letter password no repeats are allowed so if your name's Aardvaark, you'll have to find an alternative. When all six are in, press Enter and a message appears on the screen that should deter all intruders - DON'T TOUCH. Even if someone has a go, they'll find the Speccy completely locked up — and it'll stay that way without the password. Clever eh?

When you're ready to begin again, type in your password to take you back to Basic — But if you get it wrong you'll have to go right back to the beginning.

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1/2 price now only £19.95 CAMMAC 3 until 31 Jan 86 Incredibly more advanced version of Cammac 2 including a monitor-disassembler/debugger, mover-relocator, searcher and assembler.

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by far the most powerful developement package available" computer age....supplied with 62 page manual (£3.00 separately) are two 20k crashproof machine code versions, one for each end of memory.

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(and those who have had one for years)

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Name:

Address:

Please include a stamped, self-addressed envelope and make cheques/POs payable to ZX MICROFAIR.

The Hex Loader Is it a bird? Is it a plane? Nope, it's a Hex loader. Use it to type in the Hex data below. N GO TO 300 THEN GO TO 200 10 CLEAR 32768 15 LET cqsf=110 105 IF LEN H\$<>2 THEN GD TD 10 160 GO TO 100 200 INPUT "CHECKSUM >";CS 210 IF CS<>CQ THEN PRINT : PRI 0 20 LET #1=62451 40 LET A=10: LET B=11: LET C=1 110 LET H=0 120 LET H=H+16\*VAL H\$(1) 130 LET H=H+VAL H\$(2) NT "DATA ENTRY ERROR": LET s1=s1 2: LET D=13: LET E=14: LET F=15 -cqsf: GO TO 230 50 LET CO-0 60 LET T-0 98 LET nue-0 140 POKE SL, HI LET SL-SL+1 220 PRINT I PRINT "DATA DKAY" 145 LET CQ=CQ+H 230 LET t=0: PRINT : LET nue=0: LET cq=0: GO TO 100 300 PRINT "ALL DATA ENTERED": S 150 PRINT TAB (T) H#11 LET T=T+ 31 IF T=33 THEN LET T=01 PRINT 100 INPUT H\$ 3: IF T=33 THEN LET T=0: PRINT 101 IF h\$="END" OR h\$="end" THE 155 LET nue=nue+1: IF nue=cqsf TOP .

### The Hex Data

Type in the code one byte at a time and enter the checksum after each block. When it's all in, type END 'cos that's where you are. Now you've got 1980 bytes of machine code just sitting there in high memory — better save it using SAVE "Maclone" CODE 62451,1980. So, are you clonesome tonight?

F5 C5 D5	E5 DD E5 CD 05	5 F4 DD E1 11 EC	F4 21 05 F5	1A BE 20 1B 23	13 28 7C 85 20 FR	C1 10 ED CD 8E
F3 C0 3E	7F DB FE E6 03 22 B2 F4 2A B2	5 FE 00 C0 ED 52 2 F4 11 05 F1 C3	C5 E5 CD B5	03 F3 F1 C1 10	02 3A B1 F4 BB 28 FE 21 20 10 3A BF 02 3E 00 32 BF F8	CO 30 EE 15 20
F4 3E 02	BC CA 14 F4 CI	28 22 82 38 11 D BE 02 F3 E1 CD	4A FB C5 E5 09 F7 C1 10	01 08 00 ED BO	20 17 ED 58 80 F8	CD EE F7 3E 01
FE 1C CA	D2 F7 FE 14 CA	A CA 4D F4 07 C5 A C4 F9 C3 C1 10	01 08 00 ED F3 C9 11 0C	BO 01 18 00 07 48 06 38 21 40	C3 F2 F8 FE 20 CA	BD F9 FE 25 C2
22 B1 F5 CHECKSUM	21 84 F3 22 54	F7 11 91 F7 C1	10 F2 11 0C SUM >11614	ED BO D1 CD 03 59 06 07 C5 01	32 BE FB 21 90 FB 26 C2 95 F9 3A BE CHECKSUM >15770	35 C3 F2 F8 FE F8 3D FE FF CA
08 32 9E	CD 9A F7 06 05 F4 06 08 11 91	5 C5 78 C6 08 00 0 F4 CD 9A 10 F1	ED B0 01 18 C9 EB CD 09	F7 EB C9 24 3E	F2 F8 32 8E F8 21 F8 FE 1A C2 A9 F9	3A BD FB 3D FE
F7 21 EC	EE 06 08 11 A7 F4 11 05 F5 01	F4 CD 9A 07 A4	CO 7D C6 20 21 00 F2 11	6F DB 7C D6 0B 01 F2 01 00 01	FF CA F2 F8 32 80 22 C2 F2 F8 3A 8D	F8 C3 F2 F8 FE F8 3C FE 08 CA
23 23 23	F6 10 06 16 0E 23 24 16 00 00 23 16 0E 0C 25	23 20 20 FB C9	F3 ED 56 FB	C9 60 69 22 52	F2 F8 32 8D F8 C3 CD D8 F6 C9 21 00	58 11 4A FB 01
23 23 26	FF 00 00 00 00 00 03 0F 1F 3F	0 00 00 00 58 57	78 E6 07 OF	OF OF 81 6F 5F	00 03 ED B0 3E FF 2 75 2B 7C B5 C2 D7 4B C5 01 06 00 ED 1	F9 06 08 21 6D
00 00 00 CHECKSUM	00 00 00 00 00 >8391	OFF FF FF 30 00 CHECK	6F 26 00 29 SUM >12545	29 29 ED 58 54	C1 10 F3 CD 22 FA CHECKSUM >16434	C3 D9 FA 21 4A
FE FE /F	TF SF SF IF OF	03 00 FE 14 10	FA 7A OF OF	OF 3D E6 03 E6	FB 11 00 58 01 00 48 06 08 C5 01 06	03 ED BO 11 6D 00 ED BO 01 FA
45 46 47	48 49 4A 4B 40	42 43 44 58 57 AD 4E 4F 53 F7	2A 58 F7 1A 34 CB 6E 28	AD A4 AD 12 21 04 CB AF 28 34	00 EB 09 EB C1 10	F1 3A 48 5C CB
00 00 00	00 00 00 00 00	0 00 00 00 00 E5 C5 0 00 00 00 F7 D1	1A FE 20 DA	AD F7 D5 CD 5A	00 58 36 00 11 01 1 80 3E 00 D3 FE C9	06 14 C5 06 08
00 00 16	09 OD 11 1E F	5 06 01 CD BA F7 11 2A F5 EB 46	FE 10 CA C9	F7 C3 A8 F7 13	1A 13 C5 CB 27 30 F6 C1 10 EE C9 1C	61 26 70 12 91
CD 9A F7 CHECKSUM	C9 CD 21 F5 21	00 3C 22 C3 AB	F7 13 1A 13 SUM >14495	32 58 F7 C3 A8	A9 20 12 91 69 20 61 26 20 1C C9 32 CHECKSUM >10275	12 91 29 20 1C 48 09 29 4A 48
32 28 F5	06 05 3E 20 BE	3E OF 90 F7 CD CA 77 F5 47 04	AF F6 C3 41 3E 01 OF 10	F8 C5 CD AA 22	09 29 43 C8 09 29 48 21 61 58 11 49	4A 40 08 C6 32 FA OF 36 CD 34
E5 C5 CD	6F F5 3E 3A 32 5A F7 C1 E1 23	58 F7 7E 3E FF 3 10 E5 CD F8 D5	32 8C F8 18 CB 22 CB 22	05 3E 00 32 8C CB 23 CB 23 3E	FA 21 A0 59 11 50	FA OE 2D CD 34
C3 5D F5	10 D6 C9 3E 17 3E 00 32 58 F7 05 00 3A 83 F5	C3 50 F5 FF CA	5F 3E 49 82 24 F8 06 03	57 3A 8C F8 FE C5 D5 C1 CD D8	4A 55 37 34 52 46 33 45 44 58 FF 4C	43 4D 4B 49 38 4F 39 32 57 53
99 F5 3A	7F F5 FE 01 CE	3D 32 81 14 C1	10 EC D1 C9	CD D8 F7 OD OD D5 C1 CD D8 F7	5A FF FF 50 30 31 1 OD 10 3A 00 00 00 02 3E FF BB CA BB 1	00 00 00 CD BE
F5 FE 05 CHECKSUM	L8 3L 32 81 F3	C3 C7 F5 OD CD	DB F7 OC OC BUM >15107	05 05 CD D8 F7 0D	FA 19 7E FE FF CA	FA 16 00 21 88 BB FA 21 B1 F4
3D 32 82	BD F5 3A 80 F5 F5 C3 C7 F5 3A	FE 01 CB D1 C9	06 06 C5 3E	90 E7 C1 10 EE	BE CA BB FA 77 C9	PR DO 11 DO 20
	LU ZH /F FU LL	FO F5 EB 20 20	F8 16 0D 0C	10 00 20 20 20	06 08 CD 9A F7 06 E5 CD BB FA E1 77	06 21 85 FA C5
CD 36 F5	F1 12 2A 81 F5 21 D0 07 11 04	00 CD B5 F5 DC	C5 7E E5 06 EE F7 F1 1C	08 C5 A7 CB 07	06 08 CD 9A F7 E1	C1 10 EB CD BE
84 26 00	20 70 CB 27 CE 6F 11 05 F5 19 5F 6F 3A 78 50	C9 00 06 00 00	00 00 00 00	10 E4 C9 00 00 16 09 0D 10 OF	71 FA 06 06 21 B5	FA C5 E5 CD BB
25 7E E6 CHECKSUM	03 32 83 F5 CD	0 84 F5 C1 16 OB	0D 20 20 20 20 SUM >8840	20 16 0C 0D 20	31 FB CD F5 F9 C9 D0.07 11 64 00 CD CHECKSUM >15945	21 64 00 E5 21 B5 03 F3 E1 E5
10 E9 C9 FE FF CA	CD 36 F5 CD 88 1F F6 CD 02 F6	02 F3 7B 20 20 C3 85 F6 12 10	20 16 09 12		F3 E1 23 3E 6E BC 1	20 F7 C9 00 00
CD BE 02 F6 32 B1	F3 7B 21 B1 F4 F4 FE 25 C2 4E	BE CA 2C 00 22	8D F8 2A 7B	5C 3A 8F F8 C8	00 00 00 00 00 00 00 00 00 00 00 00 00	00 00 00 00 00
32 83 F5 C2 5E F6	CD 84 F5 C3 20 3E 02 32 83 F5	5 F6 FE 26 22 8A	F8 22 90 F8 F8 C6 41 32	11 92 FB 06 18 B5 FB CD 94 F7	00 00 00 00 00 00 00 00 00 00 00 00 00	00 00 00 00 00 00 00
83 F5 CD	84 F5 C3 2C F6	3E 01 32 CD 65 FE 22 C2 B6 FB F5 C3 2C FB CD	FB 2A 7B 5C 06 03 3A BF	25 22 54 F7 11 F8 C6 20 32 BB	00 00 00 00 00 00 00 00 00 00 00 00 00	00 00 00 00 00
F6 FE 20 CHECKSUM	C2 2C F6 C3 BD	F9 06 19 02 C5	9A F7 21 00 ED 5B 8D F8 SUM >11841	CD E7 F7 21 88	00 00 00 00 00 00 00 00 00 00 00 00 00 0	
		-			UNEUROUN 71343	1 States



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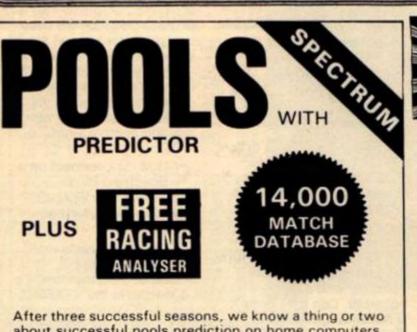
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BAGE H	ATI NONEDI	GUARANTEED SAME -DAY DESPATCH!!
L HOT II	HAL VAVEN:	
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P I've got a Kempston Centronics E printer interface and would like to produce a full width screen dump and get rid of all the blank lines between the text. Lawrence Owen, Brighton

Well, you can get rid of those nasty blank lines by using the CR (carriage return) setting on the printer, it's probably on LF (line feed) at the moment. Andrew Pennell's article Dumps Of Distinction, Your Spectrum 4, should help you with the full width problem.

When I connect up my Spectrum Plus, Currah MicroSpeech, ZX printer and Currah MicroSlot nothing works, though they work individually. Why? D. Piper, Blackwater

Sounds to me that you're experiencing what we in the trade call a power supply problem. Your best bet is to clean the contacts at the back of the ZX Spectrum and the MicroSlot.

I can't load Hyper Sports or Daley Thompson's Decathlon on my Spectrum version 2 although they load on my friend's Spectrum version 3. It's driving me potty. Simon Rabbell,

### Lancashire.

The games you mention use hyperload routines and the number that's read from the keyboard port is different on the version 3 Spectrum. Unfortunately the programmers haven't considered old users! There's only one answer — take the offending software back to the shop and ask for your money back.

### Where can I buy the add-ons mentioned in Bits And Pieces, Your Spectrum 18? R Reed, Somerset

Most of the peripherals in Bits And Pieces cannot be purchased through retailers but you should be able to get them on mail order from the firms that supply them.

### Canada and would like to use my Spectrum with a Canadian telly. Marco Nogueira, Canada.

Well, if the system used is NTSC, 525 lines your Spectrum will need a new VHF modulator and a different ULA to change the line frequency to 60HZ, 525 lines. I reckon you ought to get a second hand monitor or TV that works to British Standards (PAL,625 lines, 50HZ). I don't think Sinclair will Americanise it.

Do you know of any 300 Baud terminal program that I can use for my Interface 1's port. Jean-Pierre Gibbard, Yaraville, Australia.

As a matter of fact I do! Paul Griffiths, (13 Andrews Road, Gospel Oak, Tipton, West Midlands DY4 OAW) has a version for text only transfer and a Dutch company called Microsource (Postbus 1243, 8001 BE Zwolle, Netherlands) sell a Prestel type program for the Interface 1. Drop 'em a line for details.

I'm a keen songwriter and want to use my Spectrum as a programmable synthesiser. Can you give me some advice on what equipment and software to use? Paul Allen, Liverpool

Sure can do! The MIDI interface would be the best as it'll allow you to interface many different synths and use the Spectrum to record and playback the sounds generated from the keyboard. You can control more than one synth so it'll be a good investment. You'll have to get software to suit the interface so you'd be well advised to look at combinations that'll suit your requirements.

My Spectrum works fine with a colour TV when connected up with a Currah MicroSpeech but it won't work properly with a Sony 124UB black and white TV. Why am I getting all this interference? Glynne McDonald, Dunbartonshire, Scotland

: It sounds to me that the black and white TV should go in for a service. I reckon the sound and video signals are too close to each other causing the 'sound on vision' type of interference you describe.

Help! My poor Speccy is very sick indeed. It only produces black and white pictures. How can I get the colour back? J Beaton, Inverness

: It you've got an issue 1 or 2 Spectrum then there's no problem — they've got a small capacitor inside that can be twiddled to adjust



having hard times with your hardware? Write to Steve Adams and he'll give you a good time!

the colour. However, if you've got an issue 3 it could be anything in the colour circuit so it'd be best to get it looked at by a good repair firm.

### How do you connect a Trend Printer 800 to a Spectrum?

F Newberry, Portslade

RS232 lead. Connect pins 5, 6 and 8 together inside the plug to make sure it works.

### I know this sounds crazy but I'd like to turn an Ingersol XK696 data recorder into a tape recorder. Can it be done? J Robinson, Romford, Essex.

Well, you can try! The Load control can be used as a playback volume control but you'll need a separate pre-amplifier to plug into the AUX input. That way you can get the tone and volume you'll need to work from a MIC input. There's already an



AC erase and AC bias for recording on the unit so you shouldn't have any difficulties there. Have a look in the Maplins or AMBIT catalogue for the kit.

I have a problem. The trouble is I never know when to stop piling on the interfaces on my faithful ol' Speccy. I've already got five peripherals stacked on the back. Will I be pushing my luck if I add an RGB monitor interface? Graham Woodcott, Dorchester

I recommend you get an upgraded power supply and a MicroSlot interface as well 'cos all the RGB interfaces are dead-ended. Both Adapt Electronics and Ferguson do ones that are both pretty popular.

If I acquired an Interface 1, a microdriver and disk drive interface, such as OPUS or Kempston, that use microdrive commands, would I be able to transfer tapes to disk? R Grattan, Retford, Nottinghamshire

It's not very sensible to use two devices that use the same commands for a start. The Kempston interface (KDOS) would be the best bet 'cos it doesn't use the same microdrive commands — they're all prefixed by PRINT #4. It also uses a command that'll allow you to transfer tapes to disk without needing another interface.

How do I connect up a Spectrum Plus, microdrive and VTX5000? Malcolm Rose, Lytham, Lancs

Well, the Spectrum's connected to the Interface 1, the Interface 1's connected to the VTX5000 and the VTX5000 can then sit vertically behind the Interface 1 and that's the word of the Lord.

l've got a solution to the dot crawl problem you get with a Spectrum and monitor. Put a switch in series with the colour tuning capacitor (version 1 and 2's only). To eradicate dot crawl simply turn it off! This removes the colour and gives a perfect black and white signal to the monitor. T Van de Wart, Holland

Nice to see a tip for a change, thanks T. If anybody else has got a few hardware hints send 'em along to me at Hard Facts



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keyboard, joystick interface, two portable cassette recorders, magazines plus over 250 games. \$200. Buyer will collect or straight swop for Commodore 64 plus C2N. (Hmmm! Ed). Paul Newall, 72 Dalmilling Crescent, Ayr, Scotland. VTX 5000 Modem plus software — hardly

used, boxed and includes The Hackers Handbook £50 ono. Tel. Bognor Regis 823540.

Cassette recorder with volume. level, tape counter, mains lead, VGC. Similar to BBC recorder, but silver/grey. Only £20. Write to John Heywood, 19 Molyneux Rd.

Whe to John Heywood, 19 Molyneux Hd, Maghull, Liverpool. Saga keyboard, boxed, £25, Currah microSpeech plus Mystic Tower tape £15, Currah MicroSlot, unused, £7, Or swop the lot for microdrive and Interface 1. Tel. (0734) 332604 and ask for Ben.

VTX Modem. Five months old, as new plus extra s/ware £40. Software for running bulletin board with T—soft MBX, Cug's and much more £15. Also Currah MicroSpeech £15. Tel. (051) 4233381.

E15. Tel. (051) 4233381.
 ZX Spectrum +, tape recorder, joystick interface, £80 worth of software incl. JSW //. Way Of The Exploding Fist. All for £150. Tel. Chandlers Ford 61062 and ask for Paul.
 Spectrum 48K, 10 months old, with Kempston Interface and joystick, data recorder, over £150 worth of software, many conditionance. Minertage 250.

recent titles, mags. All worth around £350. Tel. (093874) 310.

48K Spectrum, radio cassette recorder, Kempston joystick interface. Scalextric with four cars, extra track, C20 or swop for C64 software. Tel. Ely 740672.

ZX Interface I, microdrive, three carts incl. Ant Attack. Brand new £65. Phone Runcorn 713498 after 4 pm. Also brand new unused

boxed Interface I. C33. Spectrum + printer, Protek Interface plus over 70 games. All guaranteed, brand new C250 ono. All games originals, many more. Tel. (0758) 612748 for details.

Spectrum 48K, turbo interface, Kempston compatible interface plus £180 worth of software, swop the above for a Commodore 64 and accessories. (Double hmmm! Ed) Tel. (0437) 5959 ask for Victor.

48K Spectrum, Saga Emperor keyboard. microdrive and interface I. Kempston pro-joystick and interface with C300 of software including Frankie, Fist. Tel. (0423) 865418 ask for James. Offers around £250

### PEN PALS

Penpal wanted to swop adventure games and tips. I have lots of them! Send your list for mine. Hurry! Nuno Miranda, Av., Emideo Navarro, 19-A/1, 2750 Cascais, Portugal

Penpal wanted aged 14. Into POKEs and arcade games — will swop games. I have the latest titles, Super Test, Nightshade and lots more. Darren Culley, 24 Gayland Avenue, Luton, Beds. LU2 ORR.

Avenue, Luton, Beds. LU2 0RR. 17 year old Speccy owner wouldn't mind writing to a good looking female who likes Speccy's synths and Depeche Mode and music. Julian Phelps, 27 Worksop Road, Swallownest, Sheffield, S. Yorks, S31 0WA. Penpal wanted. Like making graphics and m/c utilities. Also got lots of the latest games. Write to Peter van den Kool.

games. Write to Peter van den Kool

 Bekhinghof g, Hoogeveen, Holland 7908 BS.
 Male penpal wanted, about 13 years old, to swop games, POKEs and hints. I like arcade-type games and football. Tel. Craig (0382) 25076.

15 year old Spectrum owner wants female or male Spectrum owner to swop software. POKEs etc. Tel. 850760 or write to Adrian Roberts, 75 Elvaston Road.

Penpal wanted male or female, aged 14+. for male Speccy wrecker. Interested in music. (pop), anything to do with micros 39 West Lane, Burn. nr. Selby, N. Yorks. YO8 8LR. Richard Shore.

Foreign penpal wanted to swop games. I have a very large selection of English games. Please send your list with letter. Write to Dave Wild, 22 Lansbury Road, Edwinstowe, Notts. NG21 9QJ

94

Female penpal wanted to exchange hints and tips etc., and for general correspondence. Must be 17. Write to Daryl Baughan, 12 The Island, Steedle Clayden, Buckingham, Bucks. MK18 2NU.

Buckingham, Bucks. MR to zrvu. I would like a penpal who is good at playing and finishing adventure games to give hints and swop games. Martin Gormley, 51 Walter Street, Dennistown, Glasgow G31 4P

Penpal wanted, male aged 15-16. Must be beginner in Basic. Write to Michelle Farrell, 5 York House, Beech Road, Sowerby Bridge, W. Yorks. HX6 2LH.

Hi there, anny Aussi es wanna su Software, POKEs, etc.? Please send list. All letters answered. Any under-Spectrumized countries may apply. Dean Paradice, 5 South Road, Block 10, Broken Hill, Australia. 2580

I am 17 and would like a penpal to write about all topics but especially the old ardently loved Speccy. All letters guaranteed answered. Please write to Eckhard Rodel, Leharstr. 13, 7535 Ko. — Stein 2, West

Germany. B Hil Fm Nabeed and would like a penpal aged 12-14 to swop games, POKEs, hints, games and anything else. Please write to me, someone! Nabeed Ramzan, 25 Georg Street, Dunplane, Perthshire FK8 9HE. eorge

Penpal wanted, male/female, aged 13/14, interested in swopping sci-fi and combat games and POKEs for the Spectrum. I also like pop music. Please write to Andrev Small, 6 Fairway, Chatteris, Cambs. PE16 RST

Sensible person sought, 21+ for trivial Sensible person sought, 214 for trivial and not so trivial programming and Spectrum use. Preferably with VTX 5000 modern and in London. Richard Brown, 14 Saint Paul's Terrace. London SE17 3QH.
 Female penpal 16-18 wanted for swopping games, hints, ideas. I'm 18 and interested in all kinds of music, football, interested in all kinds of music, football, 14C

tennis, basket ball. I'm waiting for your offers. Please write. Arthur Sepien, P.M 5437, Department of Pathology, M.M.H PMB Kano, Nigeria.

I'm 15 and would like a female penpal who is about 15-16. I'm interested in all Speccy stuff and Madonna. Please send a photograph. Alex Taylor, 7 Halifax Way, Newmarket, Suffolk, CB8 0DH. 17 year old Australian who loves his

Spectrum wishes to correspond with dedicated British Spectrum games buff to swop games, hints, news, etc. Please write to lan Newman, 97 Springdale Road, Killara.

2071, N.S.W., Australia. Dutch boy, 16, wants a penpal to swop games, tips etc. Write to Rene Kloatwijk, Eliotplaats 199, Rotterdam, Holland. 3060

I'm a female Speccy lover, and would like a male penpal, 15+. My likes include computers, discos, FGTH, --- please send photo to Louiz Wright, 42 Bickham Park Road, Peverell, Plymouth PL3 4QL 14-17 year old penpal required into

games, programming and Madonna. Male or female to swop games etc. I have about 500 games. Will return all letters received (tape

games. Will return all letters recoived (tape or letter). David Moore, 5 Burdett Close, Skegness, Lincs, PE25 2NY. A 15+ female penpal required. Write to John Clarke, 55 St. Mary's Stratford upon Avon, Warwickshire, CV37 6XG. I tove hacking and adore pop music. Give a bloke a chance a chance.

Penpal, male or female, 15+ to swop POKEs, hints and tips. Must have some knowledge of machine code. Steve Kidd, 88. Whitefield Loan, Whitfield, Dundee.

Penpal wanted to swop POKEs, hints, games. I have over 200 incl. H Encounter Nodes Of Yesod, Dambusters. Write to Jonathan Cook, 217 Crescent Road, Brentwood, Essex, CM4 5JB.

Speccy user just got a microdrive. Would like a girl penpal abroad. Should be my age 13 P ne soon, please! Gregory Pour (0944 946.)

Girl penpals wanted. We are interested in computers, music, reading, water polo and fun. Tim and Marc, 5 St Brelades Road, Ballantyne Park, Harare, Zimbabwe.

### WANTED

■ Wanted — Interface 1 plus microdrive. Will swop £110 worth of software. M. Leah, 20 Oakworth Grove. Halfway, Sheffield, S19 5SE or phone (0742) 485736 after 4 pm and

SSE or priore (0142) ask for Mark. ■ ZX Printer + paper. Will swop your Spectrum copies 1-12. Write to Gary Davison, 80 Barn Rise, Seaford, East

ZX Printer wanted in good condition. Have light pen or programmable sound generator to swop or cash. Tel. (0438) 354177, ask for

Willy meets the Taxman wanted to complete Miner Willy Saga. Swop for Runes Of Zendos and/or Ghostbusters. Write to Peter Brown, 53, Windsor Road, Cambridge, CB4 3./L

Will swop collection of railway books and

magazines for Commodore 64 computer system. J. C. McNeill, 15 Dalnottar Drive Old Kilpatrick, Strathclyde, G60 5DP. tar Drive. Wanted. A broken WH Smith's data

record CPD8300. For spares. Please write with details to Alan Salmon, 422 Nore Road, Portishead, Bristol, BS20 8HA.

Currah MicroSpeech or Quickshot 2. Will swop Frank Bruno's, Spy Hunter, Match Day, Ghostbusters, Broad Street, Moon Alert and loads of others. Tel. 01-471 1983 and

ask for Neil. Wanted. Tronic light pen. Will swop Mugsy, Cookie, Super Spy and Election. Tel. 01-459 5496 and ask for John. Wanted. Interface I; would consider one

with a microdive working or non-working order. Must be very reasonable. Also wanted, Hunter Killer. Tel. (0843) 68522

Evgs Wanted, Crash issues 1 and 2 plus issues of Your Spectrum 2 and 3. Will give anything up to £2.50 per issue. Darren Say, 40 Rutland Place, Maidenhead, Berkshire SL6

4.14 Moon Gresta, On The Run, 007 spy late Send your list for mine. Write to Dave Wild, 22 Lansbury Road, Edwinstowe, Notts NG21 90.1

Understanding Your Spectrum and the Complete Spectrum ROM Disassembly. Both from Melbourne House — name cond and price. M. Coombes, 61 Clarkes Avenue. Worcester Park, Surrey KT4 8QA.

Interface plus microdrive plus stringy things or Opus Disk drive or letter quality sheet printer plus interface and software for Sony pocketsize cordless telephone/

intercom with up to 1500ft, range. Almost new. Boxed. Tel. Wickford 63884 Evenings Vour Spectrum issues 2,6,7 and 11 wanted. Will swop for any two of Gremi Sabre Wulf, Knight Lore or Alien 8. Tel. 042483 and ask for Danny.

The Illustrator urgently wanted. Will swop for Sabre Wulf, Hurg and Hunchback. Philippe Dirckse, Maaszicht 9, Neer, Holland, 6086 NL.

Issue 11 of Your Spectrum wanted, Will pay £2. Tel. Steve on Chelmsford 81525 ar 5.30 pm.

Urgent!!! Spectrum rubber keyboard wanted. Will pay up to £3.50. Tel. Halifax 203739 and ask for Neil Kendall. Or write to 12 The Avenue, Hipperholme, Halifax, West Yorkshire, HX3 8NP

■ Wanted. Ket Trilogy by Level 9 – swop for Sherlock by Melbourne House, and Black Crystal. G. Bourner, 77 Crewe Road. Airedale, Castleford, West Yorkshire, WF10

Wanted. Interface 1 and microdrive. Will swop for DK Tronics light pen. Wild Command Control joystick and Kempston compatible Interface. Tel. (0326) 290459

and ask for Sean. ZX Jet Set Willy map and POKEs wanted for Allen 8, Dun Darach and Dynamite Dan maps or Timegrate. Writs to Graham Miller. 49 Constance Street, Couny Durham DH8 5DN

Wanted — guide book or solution book to The Hobbit. Any help accepted. A. Mulhall, 2 Upper Lord Street, Oswestry, Shropshire SY11 1LT.

Extensive ZX81 System, must have lots of hardware, tons of software and be in perfect working order. Will give my perfectly working Spectrum. Tel. Andrew on (0639) 750952. Microdrive and Interface 1 will swop for

some VTX 5000, Currah MicroSpeech, Ram Turbo Joystick Interface. Phone Andrew after 5 pm on (0639) 750952. Also interested

in swopping software. Interface One wanted and microdrive for ZX Spectrum. Tel. (0227) 720654. Wanted! Your hardware for my games.

Wanted Your hardware for my games. Interested in interfaces, lightpens, joysticks etc. Write to Calle Nordlund, Barkspadevagen, 75247 Uppsala, Sweden, Your list for mine.

■ Required — issues 2,7,9,11 to complete set. Pay £1.50. Tel. David (031) 449 5315. Wanted — Video Digitiser or schematic diagram for linked video monochrome camera to Spectrum. Write to Alan Cupif.

camera to Spectrum. Write to Alan Langegasse 97 CK-4104, Oberwil, Switzerland.

Wanted — Crash issues 19 & 20 and Your Spectrum 17 & 18. Will swop for any two of new software, including Exploding Fist, Dambusters. Write to Palosika Zelijko, Ho-Si-Minova 5, 11070 Novi Beograd, Yugoslavia, Wanted — manual for Spectrum, old style Please Tel. Chelmsford (0245) 358473 and ask for lan. old style

Digital sound sampling unit wanted (Datel Electronics). Will swop for Currah MicroSpeech and software games (Frankie, Nodes Of Yesod etc.). Tel. (0686) 28730 and ask for Paul.

Carnival by Eclipse wanted — will swo Please write to T. Longstaff, 1 Worcester Road, Durham. Tel. (0385) 66606. will swop

Wanted, Hisoft or Oxford Pascal, Machine Lightning, Beta Basic 3, Crystal disassembler, (goes with Zeus). Send address and phone no. and details to

Andrew Burnham, William Morris Hall, Ashby Road, Loughborough, Leics LE11 3TQ.

Wanted: Currah MicroSpeech, light pen or other accessory. Will swop for Pool, Byte Bitten, Booty, Mr Wimpey. Lunar Jetman, Angler, Nifty Lifty and more... Tel. (0326) 202000 (0000000) Angler, Nitry City and 8, 785767 between 6 and 8.

Wanted: Kemption Turbo Interface, Quickshot 2 plus circular robot arm. Willing to pay reasonable prices. Write to Andrew Campbell, 413 Ennniskeen Craigavon.

Northern Ireland. 4 x 2 Wanted: Your Spectrum issues 1 to 11 — please write to Edmund Behrendorf, Uuelhemimer Weg 14 5401 St. Sebastian,

West Germany. Wanted. Epson P-40 printer with adaptor, paper and suitable interface for Spectrum. Will swop for hand held Palman, some games and radio cassette recorder. Tel. (0535) 44302, ask for Clive.

Wanted. Microdrive Demo cartridge as supplied with expanison system. Tel. JR Greenwood on (0282) 65154.

Wanted. Alphacom 32 or Floyd 40 printer. Will swop 6 games worth £47. Automania, Pyjamarama, Boulderdash, Gyron, MATC and Ant Attack. Tel. Rainham 54333 and ask for Neil

■ Datel sound sampler wanted. Will swop for Currah MicroSpeech, DK Tronics light pen, Sherlock, Nightshade and Starion. Tel. (061) 7158 after 5. Wanted Ram Turbo Interface. Will swop

for programmable Interface and Alien 8. Tel. (0782) 620770 and ask for Paul.

### MESSAGES, CLUBS & EVENTS

International Beta-disk User Club, Want to join or get details? Contact Per H. Kristensen, Norresobakken 111, 8800, Viborg, Denmark, Phone + 456 61 2968.

POKEs, maps and tips FREE! Loads and loads of POKEs, maps and tips. You will not

be disappointed. Send an sae to Mark Cairns, 'Glenfield House, 246 Comber Road, Lisburn, Co. Antrim, BT27 6XZ. I have all YS issues. Send cash offers.

software or hardware swops, etc. A Steen, 194 King Street, Dukinfield, Cheshire, SK16

Hi Hak and Leigh. I love you Leigh. Happy hacking Hak and I hope your Speccy cools down for Christmas. How's Mark, Tina? Bye for now, love from Joe. Mark Harris, Flat 4. Freshford Mansions, Atlantic Road South, Weston-Super-Mare, Avon. YS issues 1 to 18 except 9. Ant poster, All

as new. Any offers for all or buy issues. Joe Bakewell, Barrow-in-Furness, Cumbria. Happy birthday Katy and Andy. Butch broke his Speccy so, Sophie, buy him

another don't you think? Tracy, Jonny and Quincy. Here's a message for anybody with a

broken joystick. I repair them cheaply — mostly Quickshots. Send sae Wayne Griffin, 27. Melling Road, Aintree, Liverpool, L9 OLE Help wanted. Studying Ideal Schools

Computer Course and help needed with lessons 6 to 10. Any help rewarded. Contact Irene Blackhall, 48 Polmuir Road, Aberdeen. Spectrum High Score magazine. Loads of tips, POKEs and scores. For latest issue send 20p piece plus stamp to Anthony Marshall, 41 Loders Green, Eastfield,

Scarborough, N. Yorks, YO11 3LB. I have all YS issues. Anyone interested? Offers in writing to Robert Lawes, 4 Meadow Croft, Rogiet, Newport, Gwent, Wales NP6 35A

Your Spectrum magazine collection (1 to 18) on offer. Phone Tom during evening meals. Phone 202116 (Brighton code).
 Hi Darren Rabbit Hornsby. My poor eraugs has a common code. Please make it

"new" again. No sarky comments from this so called Ed. T.P. for Editor. (*Hooray! T.P.*). Robert Excellent Bell. Back issues! Your Spectrum, nos 1 to 18.

Sinclair User, Crash, Your Computer, 16/48 etc. For complete list and prices write to Keith Johnston, 3 Navar Court, Bangor, Co. Down, N. Ireland BT19 2PS, Enclose sae.

I would like to know POKEs for all the games. I'm waiting for your hints. Mario Manuel Silva Cunha. Outeiro — Calendario.

4760 U.N. Famalicao, Portugal. I ve got millions of POKEs, tips'n'maps to

Phone Hindley 55633 after 4 pm and ask for

Vour Spectrum copies 1 to 12. I'd like a

ZX printer, if possible, with paper. Write to

Problem? No problem! Bored genius

Road, Manchester, M20 8TU.

Baars, J. Ste Holland.

Gary Davison, 80, Barn Rise, Seaford, East Sussex, BN25 3DD.

seeks mental exercise. Any Speccy related problem guaranteed solved. Write and/or tape with sae to Mick West, 205 Palatine

Alan Hassall from Lisburn Lane, Liverpool please answer my tape 1 letter. I don't think you play fair game in this way. Arie. Arie Baars, J. Steenstr. 95, 7606XW Almela.

swop for games or will sell separately



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### Iolo Davidson — On the Other Hand . . .

Sinclair Research must have been dire indeed for Sir to have publicly stated that he thought Robert Maxwell would be better than himself at running the business side of the company. And just to get the egotistical magnate to front up a few readies. (We can't be sued for revealing that Maxwell is an egotist, can we?)

he financial crisis at

According to the Sunday Times, the Mirror Group's heading for a twenty-five million pound loss this year, after an unprecedented drop in circulation on all three of its national newspapers. Perhaps this is the reason that the Sinclair/Maxwell deal fell through. Maxwell may have suddenly realised that he didn't have ten million to spare. Or Sinclair may have realised that Maxwell didn't have ten million to spare. Sir is not, after all, as hopeless at business as he sometimes makes out - even if he does hang round with that Mensa crowd

It's become almost obligatory for journalists to snipe at Sinclair. Even the television people seem to have changed over from 'entrepreneurial genius' to 'unsold stocks of C5s'. I predict that this means the badmouthing phase is now over. Once the telly gets hold of something it's dead as a story, and we visionaries in the specialist press have to write articles that go 'On the other hand . . .' I mean, you don't want me to tell you the same rubbish you hear every night on the box, do you? So we'll just lose likeable Uncle Clive the bumbling inventor, and in his place find Sir Clive 'Fifty Pence on the Pound' Sinclair, close-mouthed tycoon.

Clive's most successful innovations haven't been the genuinely new technology, such as the folded cathode ray tube in the miniature flat telly, but the hard-headed businesslike cost cutters like the membrane keyboard. Hands up everyone who actually likes the Spectrum (or QL) keyboard. Gosh, what a strange looking hand! Of course you were never meant to like the keyboard, you were meant to like the price, and millions of you did.

Sir didn't invent the home computer, but he did manufacture the first one that everyone could afford. The membrance keyboard and the ULA are the things that made the hundred quid computer possible, and they were available to any manufacturer. But Sinclair was the quickest to see the business possibilities of what were essentially compromises rather than technical advances.

The general public had no reason to notice Sir Clive until the advent of the home computer boom, but he's been around for a very long time. If you think Sinclair's first computer was the ZX81 — or for those who remember it, the ZX80 then you're wrong.

The first was the mail order MK 14 Computer kit in 1978. It had a hexadecimal membrane keyboard, a quarter K of RAM, a calculator style display, and the cassette interface was an optional extra. Admittedly, it wasn't sold under the Sinclair name but as a product of Science of Cambridge Limited. But this company later marketed the Sinclair ZX80, so we can jump straight to the obvious conclusion - it was Sir Clive all along. When the ZX81 came along, Science of

Cambridge disappeared and Sinclair Research was born.

But Sinclair's history goes back long before that. Hardly anyone in the computer generation will remember the Black Watch fiasco. What looked like a highly desirable product, an early LED digital watch, couldn't be supplied in sufficient numbers because the maker of a vital chip let Sinclair down, Sinclair did much better out of the calculator boom of the mid seventies, producing half a dozen different models that sold in large numbers. There was even one that would strap on your wrist, but that was available only as a kit! The wrist calculator was sold by a company called Sinclair Instrument Limited.

You have to be one of the older electronics nuts to remember Sinclair Radionics Limited of the late sixties and early seventies. It sold Hi-Fi amplifier modules, odd polystyrene foam speakers. and the 'world's smallest' transistor radio, the Micromatic. This was a very successful company, one that regularly booked lyrical four page advertising spreads in the electronics mags. The equipment itself was very much what we've come to expect from Sinclair high specifications, compact size, suspect reliability, and a bargain price.

Sinclair Radionics moved out of Hi-Fi into calculators and digital multimeters. They got the Queens Award to Industry in 1978, then became Sinclair Electronics Ltd, making oscilloscopes, frequency meters, and even logic analyzers, under the brand name 'Thandar'. Last I noticed it was Thandar Electronics Ltd. and still going strong.

Only the incredibly ancient

will remember Sir Clive's first business, and I don't admit to being as old as all that. The story goes that he earned a crumb or two in the days when semi-conductors were exotic and expensive by buying up manufacturer's out-of-spec transistors, sorting out the useful ones with a transistor tester and selling them at knock-down prices to electronics hobbyists. This make-doand-mend beginning has stood our entrepreneur in good stead through the years. Even in the Spectrum, manufacturers' fallouts were used to keep memory costs down by using just the good halves of partially functioning memory chips.

So Sir has a record of business success going back more than twenty years. Those of you who admire this record and who wouldn't mind emulating it are now in luck. Before giving himself over fully to business activities, Sir Clive did a little writing. Naturally, he quickly realised that this was no activity for a grown-up person and desisted, but like Joanna Lumley's early video appearances, the evidence remains.

An afternoon's scholarly research through his adolescent indiscretions has revealed to me the whole secret of Sinclair's success. With a single cantrip he combines science and art and produces gold from dross. Here it is, from Clive Sinclair's own book Transistor Subminiature Receivers Handbook for the Home Constructor\*, and I quote: 'Simplifying circuits and obtaining the maximum performance from a limited number of components is an intriguing pastime.

Now those are the words of a born businessman.

When you think about it, Sir

\* Bernards Radio Manuals No. 174, (C) 1961, six shillings and sixpence at all good back street valve wireless emporiums.

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