

THE SPECTRUM SHOW

Magazine

ISOMETRIC GAMES

OMNI I28HQ LAPTOP

A SPECTRUM, BUT
NOT AS WE
KNOW IT!

PLUS
CLONE WARS
Get a Brazilian..



Includes material
not in the video
show!

MIND YOUR LANGUAGE
Continued programming
feature

FLASHBACK 87

GAME REVIEWS

FEATURES

HARDWARE

CONTENTS



12. OMNI 128HQ
A new Speccy arrives.



16. CLONE WARS

The Brazilian clones explored.



22. MIND YOUR LANGUAGE

Spectrum languages.

FEATURES

4 News from 1987

Find out what was happening back in 1987.

12 Isometric Games

Knightlore and more.

16 Clone Wars

Exploration of the Brazilian clones.

24 Mind Your Language

More languages from George.

32 Play Blackpool

Report from the recent event.

36 Vega Games

Games without instructions on the Vega.

38 Grumpy Ogre

Retro adventuring and championship moaning.

42 Omni 128HQ Laptop

A new Spectrum arrives.

And more....

GAME REVIEWS

Knight Lore 6

Elixir Vitae 8

Grand Prix Championship 9

Viagem ao Centro da terra 14

Kung Fu Knights 20

Sewer Rage 21

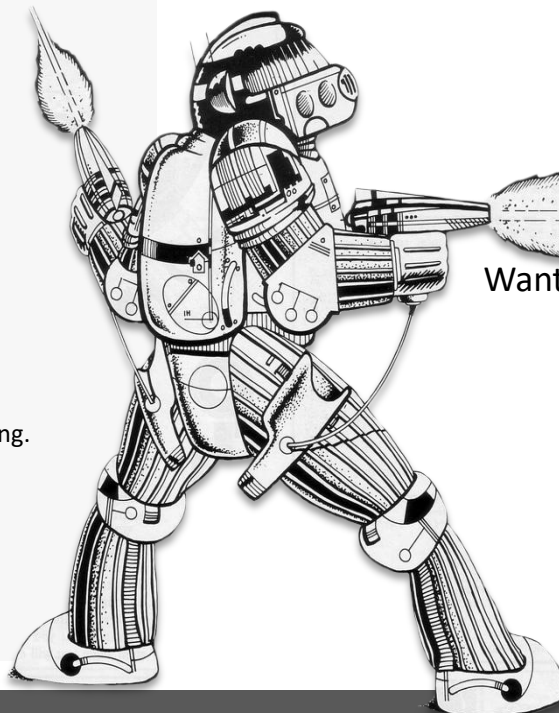
Dominator 22

Spectres 23

Wanted: Monty Mole 30

3D Tunnel 31

Gauntlet 34





Welcome to issue 21 and thank you for taking the time to download and read it.

As series seven of The Spectrum Show comes to an end with a mammoth end of series special, the next series is already well underway in the planning stages. The first episode will have gone live by the time you read this.

Yes, it's a never-ending planning, writing, reviewing, filming and editing fest that keeps me off the streets. Not enough that it stops me going to events, and the recent Play Blackpool was a great day out.

Sadly I couldn't stay for both days, which meant I missed a few talks that I really wanted to see, mainly the YouTubers panel talk.

I am already looking forward to the next event in the year's calendar, Retro Revival in Birmingham. I will, as usual, be reporting on it in the show and in the pages of this magazine.

Something I feel passionate about is the 16K games section, and I really want to show people just what a humble 16k Spectrum can do. Recent purchases (thanks to Patreon) mean I have enough 16k games to use for the whole of Series eight. Strangely, my all time favourite game Jetpac, which is a 16K game, has yet to feature in that section - maybe this series!

A quick, big, huge and massive THANK YOU must go to my Patreon supporters here. You guys rock. Thank you so much for helping the show.

Recently I was reminded of why I love the Spectrum so much, and it was for a very obvious, yet often forgotten reason.

I was working on several things at the same time on two different computers. I was doing some video editing on my main PC and at the same time checking emails and researching future features on my little Macbook Air.

Strangely, both required an update, so I dutifully clicked OK and both machines began to download the files.

The Macbook, once started, took about 15 minutes to update, the PC slightly less. As both machines were now tied up, and after making a cup of tea, I was left with only one option—the Spectrum.

I quickly turned it on, press the file browse button on the Smart Card, and I was playing Deathchase in seconds.

My Spectrum never nags me to update, never needs new drivers, never needs security updates, it just plays games.

Yes I know things are much more complex now, but even the latest consoles often have over 1gb updates to install!

New Spectrum



Recently I was contacted by ZXrenew and offered a new Spectrum to try out; the Omni128HQ. I was looking to purchase one of these anyway, but took up the offer to try it out.

It arrived soon afterwards, and I must

say, I am impressed with it. It's a Harlequin (Spectrum modern clone) main board fitted inside a new 48K style case and includes twin card slots, HDMI out option, twin joystick ports, NMI button, reset button and RGB out. Certainly a lot of features, and it even has a standard expansion slot.

I was sent the laptop version, but will be looking to buy the desktop version (without the screen) as soon as it becomes available.

A full review of this wonderful device can be found on page 42.

Play Manchester Off



In case you missed it, the Play Manchester event for this year is cancelled. They are instead, adding an extra event at Blackpool in October.

Fancy writing a game review or special feature?

I am always looking for new content and all contributions are welcome.

PLUS 3 CHAOS

The announcement in February from Amstrad that they intend to release a version of the Plus 2 with a disc drive, has caused a few ripples. Older stocks of the 128k Spectrum are being sold off at ever cheaper prices with Dixons dropping their price to an astonishing £89.95. This is for the machine only, without any software packs or joystick, but it's still a great deal.

The Spectrum is still outselling its nearest rival the Commodore 64 by two-to-one according to the newly released Christmas sales figures, and the new +3 machine will hopefully see this continuing.

Many magazines have started to speculate just what this new promised machine will look like with Sinclair User printing a really odd looking artists impression. For the real thing though, we shall have to wait a bit longer.



GRANGE HILL

The popular television show Grange Hill will soon be available on your Spectrum. The game allows you to control Hollo as he tries to break into school to retrieve his confiscated Walkman.

The game will use a menu driven system similar to Knight Tyme and there are plenty of other characters to interact with – at least according to the publisher, Argus.

This could also be the first game to have a moral message to the player. If you encounter a drug pusher and interact with him in any way the game ends and you have to start all over again.

USG GET INDY LICENCE

US gold have finally sealed the deal to produce a game based on the Indian Jones movies.



They announced their intent last summer, without even having the licences, so it's relief all round that they actually got it. The game should be ready to play in about another year.

MICRO LIVE CUT

The BBC commuter show Micro Live may be dropped from the schedules.



The show that covers both home and business computers is currently being discussed by the BBC's planning team, with no future date for a new series yet announced.

WRONG UCHI

Martech have discovered a problem with their game duplication plant, and as a result, the wrong version of their Judo game, Uchi Mata has made its way out to the public. This version is not the full release, and is in fact an early preview of the game.

Martech are asking anyone who purchased this game to check that the score returns to zero when you begin a new game. If not, then you can return it and get the full version free of charge.

**...TARGET... ENEMY NUCLEAR DEVICE...
...ATTACK... INFILTRATE... LOCATE... DESTROY...**

ARMY MOVES

MANOEUVRE YOUR WAY THROUGH 7 SCREENS
OF FURIOUS COMBAT ACTION IN THIS NEW
MULTI-ROLE ARCADE GAME.

From jeep to helicopter and then on foot you cross
deserts and jungles to reach the enemy headquarters.
Your mission is fraught with danger and excitement - your armaments vary from hand
weapons to missiles but your objective remains the same - information - at the enemy
camp, locked in a safe at their heavily guarded complex.

You're on your own, you must succeed for there's no turning back in Army Moves...
Time to play hero?



DINAMIC

SPECTRUM
£7.95

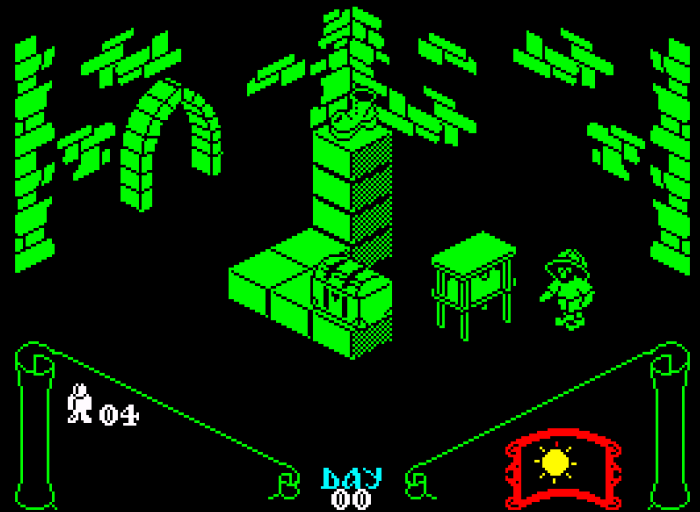
ocean

COMMODORE
MSX AMSTRAD
£8.95

6 Central Street · Manchester · M2 5NS

Tel: 061 832 6633 · Telex: 669977

KNIGHT LORE



Ultimate Play The Game started a trend on the Spectrum in 1983 that is still used today. That trend is Isometric games.

You play Sabreman seeking a cure to the curse, the curse of being a werewolf.

You head for Knight Lore castle and upon finding the wizard, you discover you have to collect items to be placed in a cauldron to cure you, and you have forty days in which to complete this.

Sabreman can walk, jump and rotate, as well as push objects and collect them. You have to master these controls to have any hope of making progress past the first few rooms.

One special move that is key to this game, is the jump / collect trick. This allows the player to jump over things they normally cannot jump over, or reach ledges usually un-reachable.

The trick is to drop an item, Jump on top of it, arrange your inventory to leave an empty space and press the jump and collect keys simultaneously.

This will cause the character to jump and collect the item at the same time.

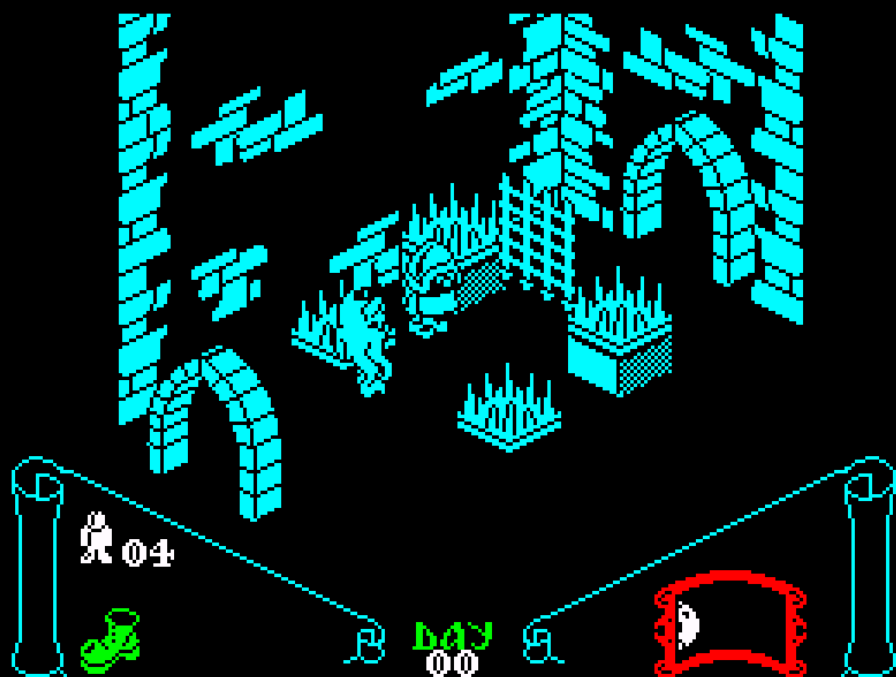
You can hold three items at any given time and these are collected and dropped in rotation.

You start the game in one of several locations and using a map, or memory, you will know where the cauldron is. Entering this room and watching the bubbles in the cauldron will indicate which item to add next and off you go. You need to collect 14 items to compete the game and this is a tough challenge.

Many rooms are difficult to navigate and it takes a lot of practice to get them right. Many rooms are puzzles in themselves with movable blocks, collapsing blocks and chasing enemies.

Some rooms require objects such as tables to be moved into the right place, but if you get it wrong, you can exit and re-enter the room to reset the layout.





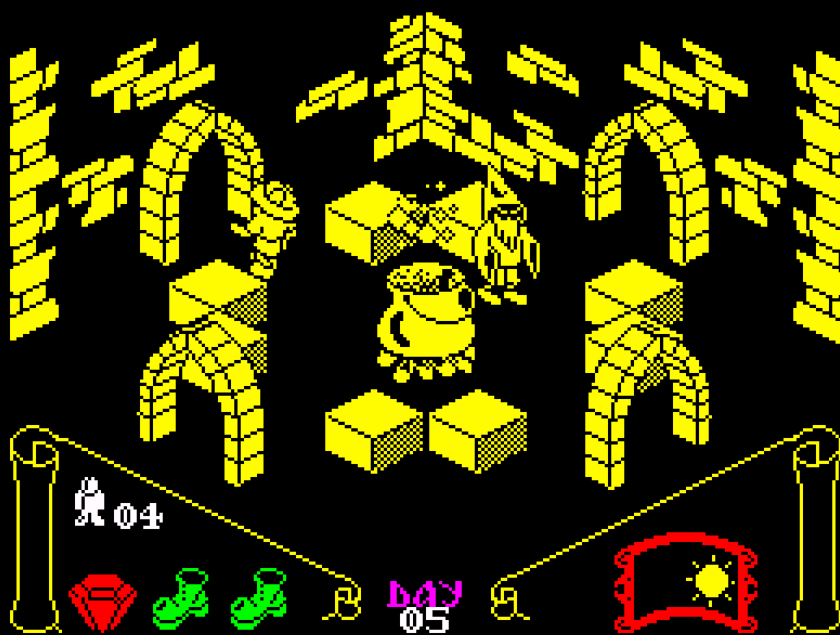
The game is played on a day / night cycle, this being displayed at the bottom right. During the day, you are Sabreman, changing into a werewolf at night.

This change, although well animated, means you cannot move, leaving you open to collisions from the moving enemies.

There are differences in the characters too. The wolf can jump slightly further and some elements in rooms will attack the player when in this form. This adds a bit more strategy and you have to know the game map to make sure this doesn't happen.

The graphics are brilliant and very well drawn. Each room is depicted with two rear walls and any doorways or contents rendered in such a

way to make things look 3D. Sprites are also well defined and move really well, sometimes slowing down if there is a lot on screen.



Sound is used well throughout, and control is responsive with different control options.

As mentioned before, gameplay is tough, even when you master the controls, but this genre defining title must be tried at least once, or maybe a few times if you get on with this style of gameplay.

If like me, you just can't get the knack of the controls you can always watch the game being complete on one of the several Youtube play throughs.



Slivir Vitae

Rafal Miazga & CJ Echo 2013

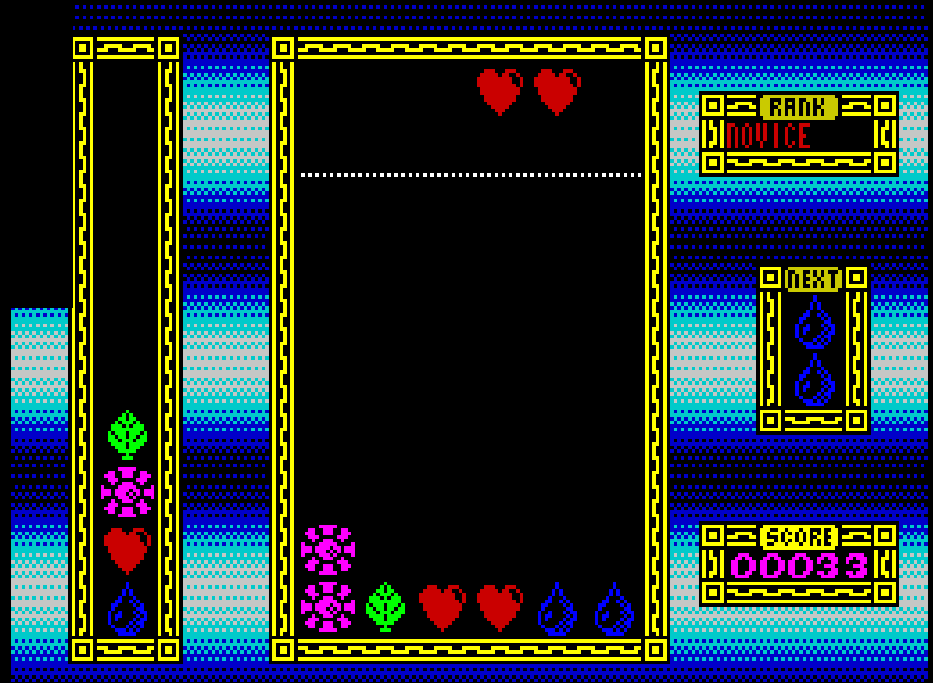
Many years have past since the Krell race have been ejected from their own planet of Verox. The Krells now roam the galaxy looking for anything they can lay their greedy little hands on. This time it happens to be supplies leaving a factory on the way to the warehouse. You must dive down between the fleet of ships that has been assembled to roam the planets surface and stop any unwelcome intruders.

Here then is a simple arcade game from the early life of the Spectrum, and to be honest, it shows.

At first this game reminds me of Lunar Rescue but the gameplay, although similar, is different enough for it not to be considered a clone. It definitely takes inspiration from the arcade game though.

My first attempts to get anywhere were terrible. The game is controlled by the cursor keys, which were always a bad idea, and this sent my ship to many a fiery death. Back in emulation and at least I could use the joystick option and this meant I could at least get a bit further.

You control a small craft and have to navigate to the bottom of the screen and pick up one of the boxes moving



from left to right. Once collected you than have to carry it back up your ship. However, you have a limited amount of fuel to do this and this really does force you to make errors as you rush to complete the task.

Control is in character jumps, which makes things tricky, especially trying to get through the layers of space ships. If you wander too far off the screen, you explode, which is bit unfair considering the poor response to key presses. and you often find yourself being blown to bits for reaching the top of the screen.

The graphics are simple and lack depth or form and move in 8 pixel jumps, giving the game a type-in feel.

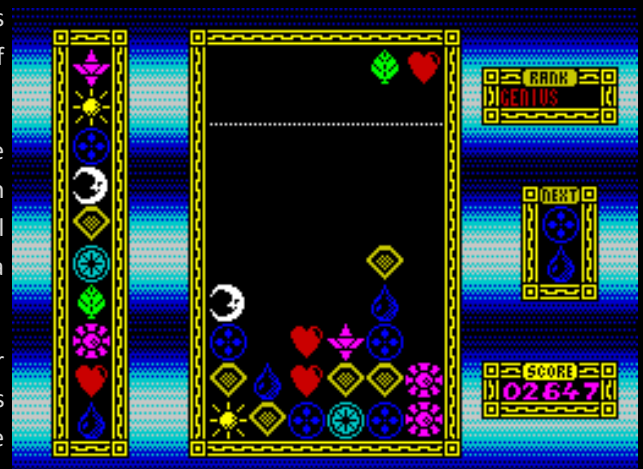
The sound is average for an early game, and has some nice effects here

and there, mainly when you explode.

Gameplay soon gets boring as all too often your fuel runs out, with no means to refuel apart from getting one of the boxes back to your waiting mothership.

A simple game then, for a simple time in gaming. Some early games were ground breaking, others though were dull and repetitive... this one falls into the latter category.

Review by: Piotr "PopoCop" Szymanski



GRAND PRIX CHAMPIONSHIP

Zeppelin Games 1991

There were many Super Sprint clones around for the Spectrum, many coming from Codemasters, but there were other companies producing the same kind of material, enter Zeppelin Games and their version.

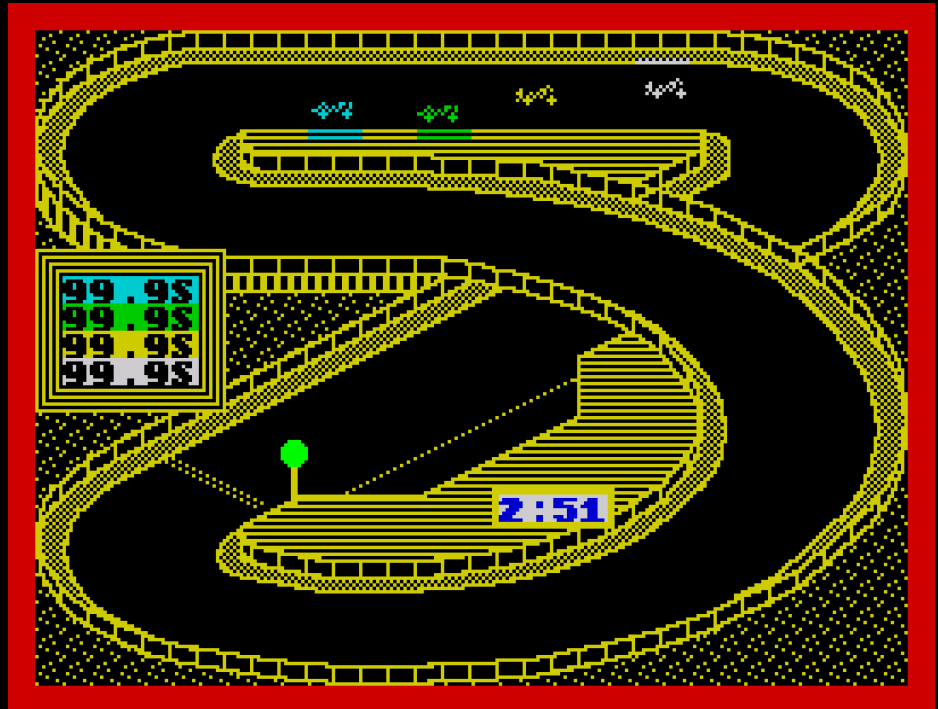
The instructions are very sparse and it took me a few plays to get to grips with the little nuances of the game.

The circuits are drawn well, but if you watch carefully, you will notice the cars are visible when they go under the bridges. It doesn't really effect the game but it can just put you off when you cross paths.

Accelerating is done in stages by pressing the accelerate key. Keep tapping and you'll end up at full speed, something missing from the instructions, and I spent ages wondering why all the other cars were faster than me. Something this important should really be mentioned somewhere.

Once you get up to speed the next task is to master the cornering. Turn the car into the bends will see you sliding slightly, and this is just right. It means the game controls are not too sensitive and you soon get the hang of steering.

If you do crash, you can always reverse out, but this game does have damage so you have to be careful. If you hit enough things, or the other cars hit you, you lose gears and speed. Eventually this leads to you crawling around the track. You can nip into the pits to



fix this though and you will have to use the pits if you want to keep your car at full speed.

To progress to the other tracks you just have to complete the course in the time allowed, you don't have to win. Just make sure you get to the finish line.

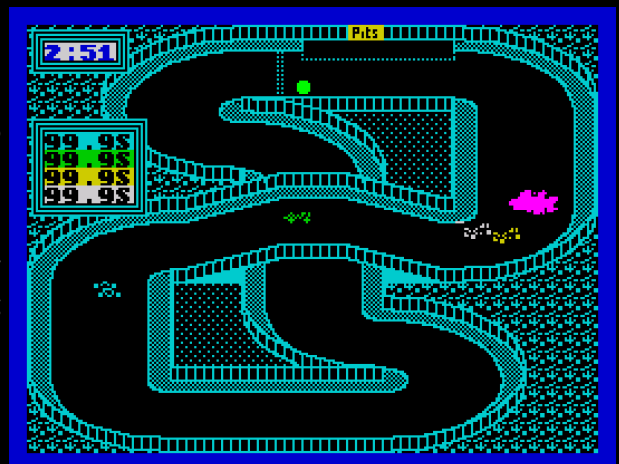
The courses vary in complexity from fairly simple, to pretty difficult and are all drawn in one colour.

The cars are great with lovely animation despite being tiny.

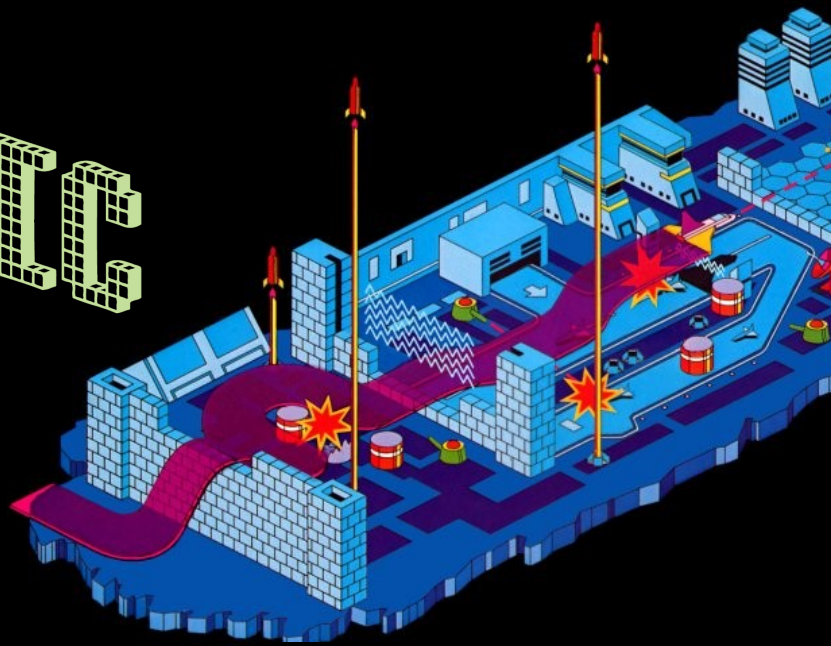
Sound is also well used with nice engine sounds and skidding along with crash-

ing sounds if you hit anything.

Once you get used to the controls, I think you'll enjoy this game. It's nice for a quick race and quite challenging.



ISOMETRIC GAMES



Isometric is a term, for most Spectrum fans at least, most associated with Ultimate Play The Game's ground break KnightLore. However, Isometric is not actually the correct terminology, it's Dimetric. I won't go into the details, but for this feature we'll call it Isometric just to make things easier.

This form of visual style in video games was first seen in the arcade classic Zaxxon in 1982.



This Sega classic featured some impressive graphics with your ship flying over a 3D landscape. There was even a shadow cast on the ground making the effect even more realistic. At the time this new style blew the game players away, it was astonishing.

Following quickly behind this came Q-Bert, a different game altogether, but using the same graphic style. The pyramid is drawn to give the illusion of solid blocks. The player controls the main character jumping from block to block, changing the colour as he goes. The diagonal movement emphasised the 3D.

As the arcade hardware got more advanced, other games took advantage and improved things with games like Congo Bongo. Although this game ran on the same hardware as Zaxxon it used a more refined colour palette. This game gives a less harsh colour set



better used to give the player a unique platformer.

Home computers, although not as powerful as the arcade machines, were now racing each other to see who could produce this style.

Ant Attack on the Spectrum, written by Sandy White and released in 1983 by Quicksilver, did an excellent job. The player was put into a large city all shown in beautiful isometric projection.



CONGO BONGO

Released into the arcade in 1983 was a cross between Donkey Kong, Q-Bert and Marble Madness.

The hero had to climb and jump isometric platforms to reach the gorilla at the top of the screen.



SCORE : 5461 Rescued : 3



The player could walk, run and jump around the game map, being chased by a pack of ants as they search for the partner to rescue.

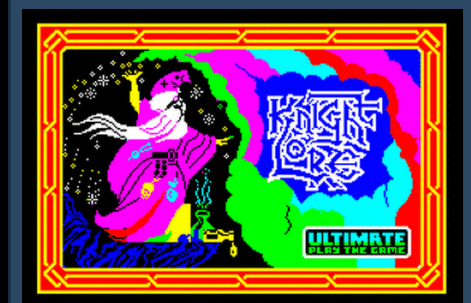
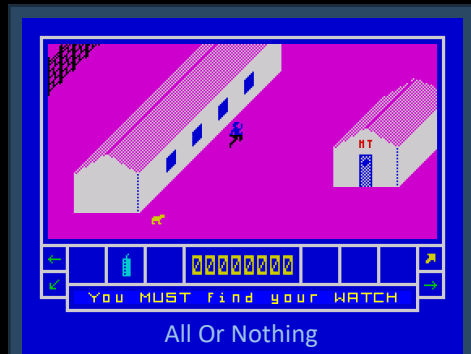
The game even improving on the arcade machines by providing four direction scrolling and four different views of the action.

This feature had to be used, as sometimes the person waiting to be rescued could not be seen from some angles. A

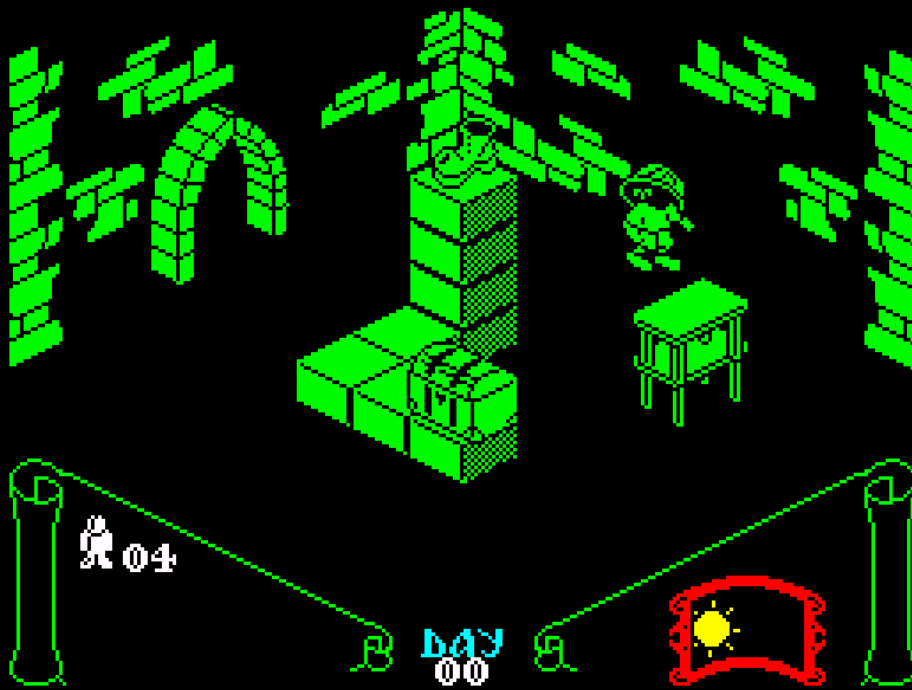
clever use of the technology to improve gameplay.

All or Nothing from Abbex made a poor attempt. Jerky scrolling and poor sprites made for a poor experience.

Blue Max tried to provide a Zaxxon-like game using a first World War setting. Gameplay was the same as Zaxxon though, so this was a lesser version of the classic.



ISOMETRIC GAMES...



In 1984 a game arrived that completely changed the market, and although using the same technique, the game style and look, was something new. Knight Lore by Ultimate Play The Game was that game and it changed the perception of what the Spectrum could achieve.

No one had ever seen anything like it before. Smooth, hi-resolution graphics, large sprites, complex environments, a large game map, puzzles, collectibles, and movable blocks. Objects could be picked up, taken to another room, dropped, jumped on and used to get over higher walls. This really was a ground breaking game.

The screen was drawn from the back to the front, allowing blocks closer to the player's viewpoint to be drawn in front

of those behind giving the 3D affect.

The flood gates were now open, and other companies were thrown into a battle to try and match this exciting new style.

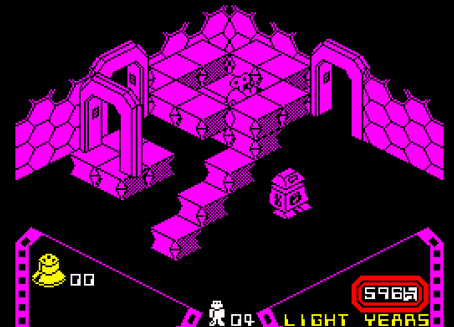
Games began to arrive thick and fast, and not all of them good.

Pedro from Imagine looked like a poor type in game. It was dull to play, hard to control and looked terrible.



Quicksilver released the follow up to Ant Attack called Zombie Zombie. This improved the original with colour (the original was just black and white) and a different objective. The ants were gone, replaced by zombies. These had to be coaxed into following you and to kill them, they had to be led up blocks so they fall off.

Ultimate released Alien 8. Often criticised for being Knight Lore with different graphics, but the game, despite looking similar (it used the same 'filmation' engine) was different.



Chimera from Firebird was another attempt, but played too slow. Fairlight from The Edge though, took the ideas and changed them to produce a great new style. A game that actually added to the format and gave players more of an adventure style game.

Highway encounter from Vortex gave us a slower Zaxxon style game with added strategy, and the list goes on.....

The games are too numerous to list, but a special mention to Batman from Ocean. A very successful and well-designed game, with some brilliant graphics.

Not forgetting The Great Escape. A World War two based escape game. Where Time Stood Still is also worth a mention here, a survival game, again with excellent graphics.

Head Over Heals, again adding to the formula by having two characters to play, each with their own abilities. This game is often picked as the best isometric game, but it was released several years after the original concept was first seen on the Spectrum, and had time to incorporate new ideas and coding techniques to squeeze even more from the Spectrum.

For Zaxxon fans there were a few to chose from on the Spectrum. Zaxxon from Starzone Software was the first and probably the poorest. Although it has colourful graphics, the game did not use isometric, instead placing the action at 45 degrees. This aided scrolling, but made it hard to calculate exactly how high your ship was.

Leviathan was a newer version from English software. The game suffered from not being able to see where your ship was due to the texture used for the ground. This made it almost impossible to play at times.

The official conversion from US Gold lacked colour, speed and more importantly, playability.

There were even several 3D game creation programs released, so you could now make you own isometric masterpieces.

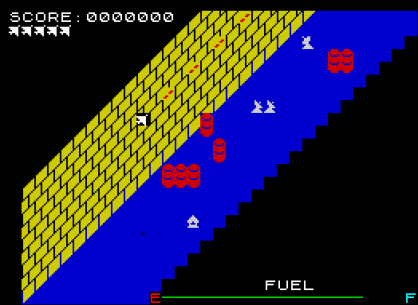
Despite companies trying to add to the tested formula, the game play was more or less the same. Some games tried to implement the view in sports games, some tried Zaxxon style games



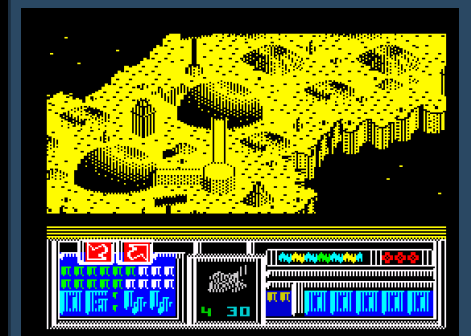
such as Hate, others stuck to mazes, but the style was limiting and slowly the game companies moved on.

There are still games produced today that use this view on most of the systems including the Spectrum.

It seems odd that there was a time when this style did not exist in gaming and I was lucky to have been around in 1984 when Knight Lore was released. It was a great time. A time when new things were being introduced that had never been seen before and even though I can't play isometric games very well, I do appreciate the design and graphic style.



Zaxxon—the official release



Leviathan—spot the player ship

<— Zaxxon—not isometric!

Viagem ao Centro da Terra

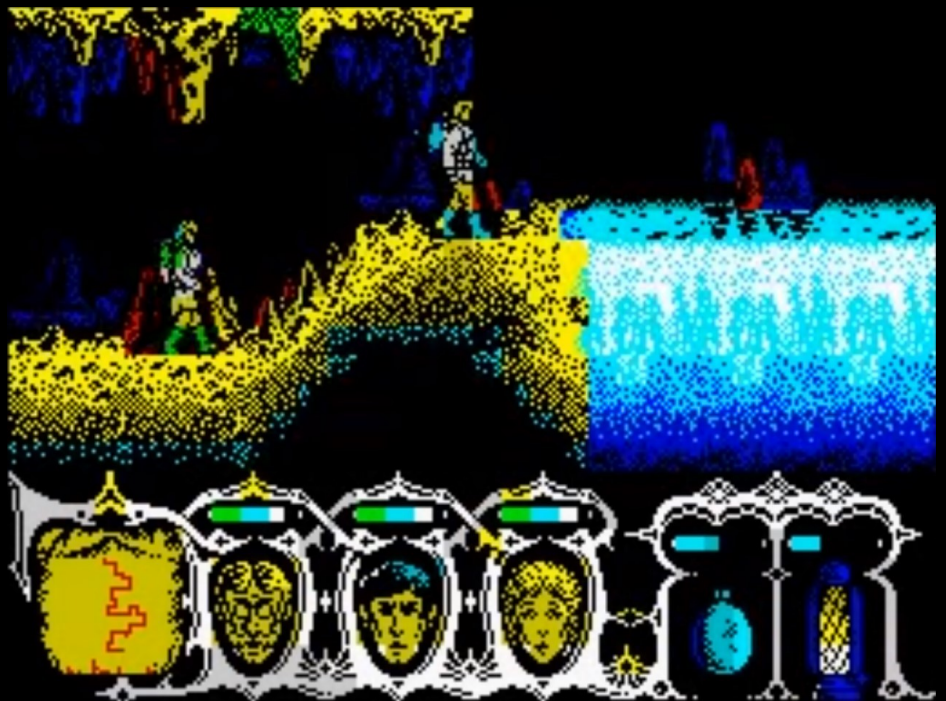


Alfonso Fernández Borro continues to re-issue and improve games that made history, releasing the games, first in Portuguese, and later in Spanish and English. Following on from *Em Busca do Mortadela* (Searching for Mort) and *Topo Mix Game* (created with the 3D Game Maker), there comes a substantially different adventure, "Viaje al Centro de la Tierra". This game was originally released for Spectrum in 1989 and at the time only with three levels (the 16-bit version had five levels). Later, in 2007, Borrocop released an extended version containing all the five levels. Finally, as a result of the partnership with the blog *Planeta Sinclair*, he released this version, translated into Portuguese and fixing some bugs of the original version.

The game has a beautiful cover created by Alfonso Azpiri, which he would certainly be proud of this release if he was alive.

Viagem ao Centro da Terra (Journey to the Center of the Earth) is naturally based on the well-known book from Jules Verne, following it very closely.

The first level unfolds in the house of



Professor Otto Lidenbrock, preparing for the descent of the volcano Sneffels. We are presented with the map of Iceland and our task is to reconstruct it. This takes the form of a mosaic puzzle and using a pen, you put the pieces in the correct position within a time limit measured by an hourglass.

The second level is the longest of all. We assume the role of each of the three characters - Professor Otto Li-

denbrock, his nephew Axel and his girlfriend, Grauben - each with their own characteristics and influencing the course of action. For example, Grauben is unarmed, but carries the precious liquid that heals the wounds of the members of the expedition.

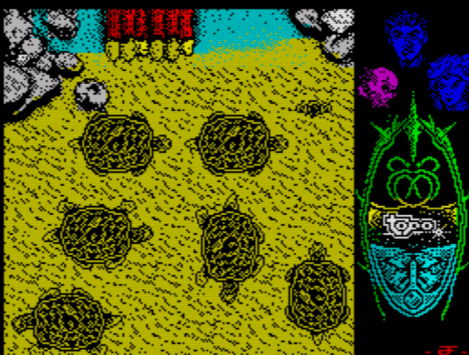
They begin the walk through the cave together, trying to reach the sea, preferably with no casualties. The journey takes them along a path full of dangers

like giant spiders, bats, geysers, floors that collapse under their feet, among others.

The graphics are divine, as in most Spanish games, and it contains delicious details, such as turning the lantern on and off, darkening the scenery, or the route being marked on the map. By the way, it's a good idea to start mapping the route, the only way to be successful.

Having reached the sea, we advance to the third part, the jungle. The characters which have managed to finish the adventure alive in the previous level are those who now begin the new one with. Armed with a small spear, the teacher and Axel (since Grauben remains unarmed) will try to reach the beach, but the jungle once again contains many dangers. Not only the prehistoric animals that populate it, but also the swamp, which slows the pace, leaving the characters more exposed to stegosauruses, terrorsaurus, smilodons and pterodactyls.

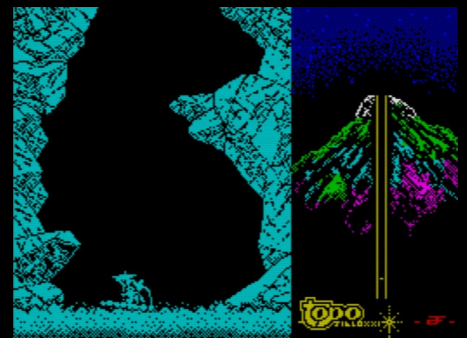
As with previous levels, the graphics are wonderful, with very large and defined sprites, even being monochromatic, they still with the usual high detail and nice effects like the ground shaking every time we kill a terrorsaurus.



Once on the beach (land of turtles), we advance to the fourth level. This one didn't appear on the original version of 1989. We now have to reach the port that will allow us to climb the volcano Stromboli. However, giant turtles are fearsome opponents, having to be avoided at all costs. Not only the living ones, whose touch is fatal, but also the carcasses of the dead ones, which prevent us from crossing, leading us to take a more dangerous route. The number of characters that arrive safely at the port will be the ones starting the final level.

In this last level, the end of the adventure of Jules Verne is recreated and the characters are expelled by the volcano. We start at the base, standing on a raft and we go up along the cone to the rhythm of the rise of the water. If there's any touch of the raft on the walls, one of its occupants dies. But the climb begins slowly, gradually the speed increases, until ultrafast reflections are required to avoid the walls.

One of the great advantages of this game is its diversity. Each level, by itself, could make a good game. Altogether, it will please the great majority of the players. On the other hand, the graphic level reminds many of the Spanish games of the late 80's, but without the usual problems, that is, poor gameplay and a degree of difficulty close to impossible. This is, without any doubt, one of the best Spanish games for the Spectrum.



Review by André Leão / Planeta Sinclair

THE CLONE WARS

Far away from the United Kingdom and the offices of Sinclair Research, a company in Brazil were producing Spectrum clones and introducing another country to the little micro.



What is thought to be the first Spectrum clone was reported in the computer press around March 1986, although the computer and the company had been around a bit longer.

The story of the clone and the people that made it begins in 1981,

when the Kovari brothers set up an electronics company called Micro Digital in Brazil.

At the time there was tremendous financial unrest in the country and the government enforced a policy blocking the import of any computer related goods and also banning

external companies from moving to the country.

This meant that although many other countries were beginning to enjoy the first wave of home computers, Brazil was practically frozen out.

Miro Digital took another ap-

proach, and instead of investing in research and design, they simply imported computers, changed the name and sold them as their own.

They first did this with the ZX80 and ZX81, naming them TK82 and TK-85. These machines were more or less direct clones of the Sinclair machines.

The next machine they aimed for was the Tandy Colour 2, but despite announcing their version, the TKS 800, it never made it to production.

At this time, the Sinclair Spectrum was outselling other home micros in the UK, making it an ideal target for the company, who were now not only just cloning machines, but modifying them.



Microdigital TK90X

The TK90X, the first Spectrum clone, was launched in June 1985 to the eager Brazilian user base.

The unit itself is very similar in size and design to the UK Spectrum, but has a diagonal pattern across the top very reminiscent of the Atari ST.

The keyboard remains the dead flesh rubber blocks, each with the familiar keywords and sub functions. Although BEEP has been replaced by SOUND. The fascia differs slightly, with larger emphasis for the colours and of course the Microdigital logo at the lower right.

Inside the circuit board looks very familiar. On the back again there is the very familiar connectors and an added joystick port. It even came with a converted horizons introduction tape.

Although borrowing heavily from the Spectrum, and looking very similar, the machine had a few differences.

There was a built-in joystick port as previously mentioned, that was Interface 2 compatible, a modified UDG set with accented



The Clone Wars

characters for the Portuguese and Spanish languages, a TRACE command for de-bugging, a built-in UDG editor and a digital ULA rather than the analogue one of Sinclair's.

The machine also ran at 60Hz instead of Sinclair's 50Hz – this meant games ran slightly faster.

Comparing the music from Cobra for example and the difference is quite noticeable.

There was no internal speaker either, sound was output via the RF socket to the television.

These changes though caused some games not to work, for example 3D Deathchase, but the number was relatively small compared to the hundreds of titles that began to flood into the country, not all of them official.

As with the UK, there was a thriving pirate trade, which helped sell the units.

News of this success eventually reached Sinclair, who filed a lawsuit against Microdigital for copyright infringement. Sinclair lost and the



machine continued to sell.

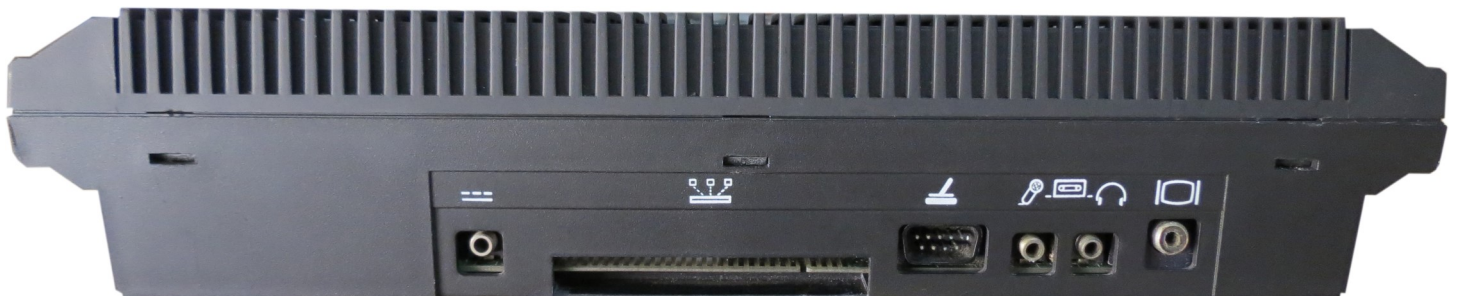
Microdigital TK95

Microdigital then released an updated version, the TK95.

This unit has a much improved keyboard, with real keys and case that

looked similar to the C16 with a full sized space bar. This change of styling made it much more distinctive, and quite attractive.

Inside the ROM had been modified to try and improve compatibility, but still some games didn't work



correctly. This didn't stop the machine from selling though.

The expansion port on both machines were compatible with existing hardware, and even modern devices like the DIVide working fine.

Microdigital did release a few peripherals for the micro including a light pen, but they mainly stuck to the computers themselves.

Today the machine is highly sought after by collectors, particularly in the UK where it is seen as a rare addition to any serious collection.

And in its home country, it is regarded in the same way as the UK

does the Sinclair model.

It's a childhood favourite, holding memories of playground game copying, excitement about new games and long programming sessions.

It is great to get a look at how the TK90X and TK95 came to market, and see how far Sinclair's ideas spread.



My thanks go to the following people who helped write this article and provided the images.

Marcus Vincius, Garrett Chiado, Wilton Abreu and Carlos Bragatto

SPECTRUM COMPUTING



ZXDB DATABASE
POWERED SOFTWARE
SEARCH



CLASSIC GAMES,
HARDWARE, MAPS AND
MAGAZINE REFERENCES



UPDATED WITH
CURRENT SOFTWARE
RELEASES

spectrumcomputing.co.uk

KUNG FU KNIGHTS

Top Ten 1988

I think the title tells you this isn't going to be brilliant!

You play Sir Wrightalot, a knight with a wish to retire after 20 years of service, however the government are not happy about this and send karate trained assassins to stop you. Yeah. This just gets better!

The night, dubbed full metal spastic (yes that's right...it's right there on the inlay) also has a colt 45! Can this get any better?

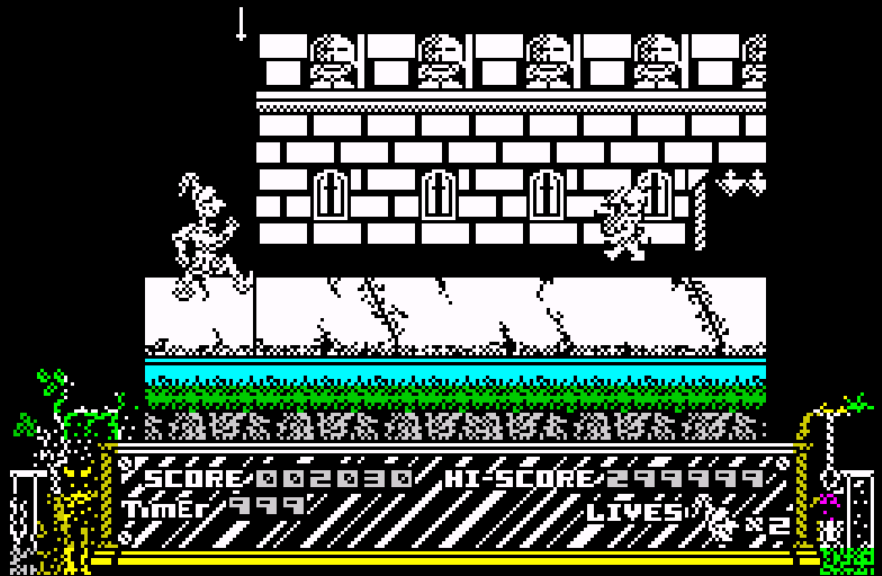
This is a side scrolling beat-em-up / shoot-em-up. I'm not really sure, and I think the game is also confused. Your character walks left to right and has to avoid arrows dropping down and also the karate assassins. These can be dispatched by your colt 45.

The arrows are a real problem though and the game ends quickly all too often. The arrows leave you no room to dodge them and makes for a very dismal experience. The only way I could proceed was to use a poke! I did try without reverting to cheating many many times, but after twenty attempts all ending after about 60 seconds, I opted for the easy way out. I wanted to see more of the game, after all, it can't all be this bad!

Well... it is!

There is not colt 45 as you may have gathered, just an arrow. You also can't move and fire at the same time so you have to stop to throw the arrow.

You can punch the bad guys, but why



bother when there is no limit on arrows. You can also jump which is used to get out of the way of the very rare arrow that moves horizontally.

There is a timer at the bottom left and you have to reach the end of the level before it runs out, but each level is pretty much the same just with different bland backgrounds.

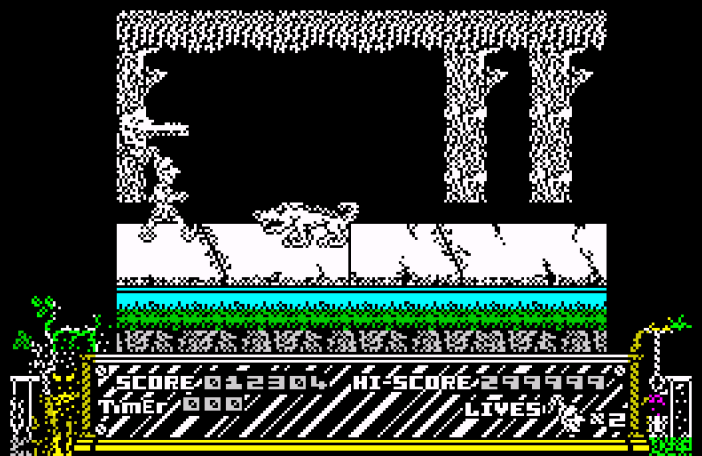
The graphics are nice, well drawn and smooth with sound being average. But its the gameplay that lets this title down, it's just terrible.

On and on you

march. Throwing arrows and getting hit by the impossible to dodge enemy arrows.

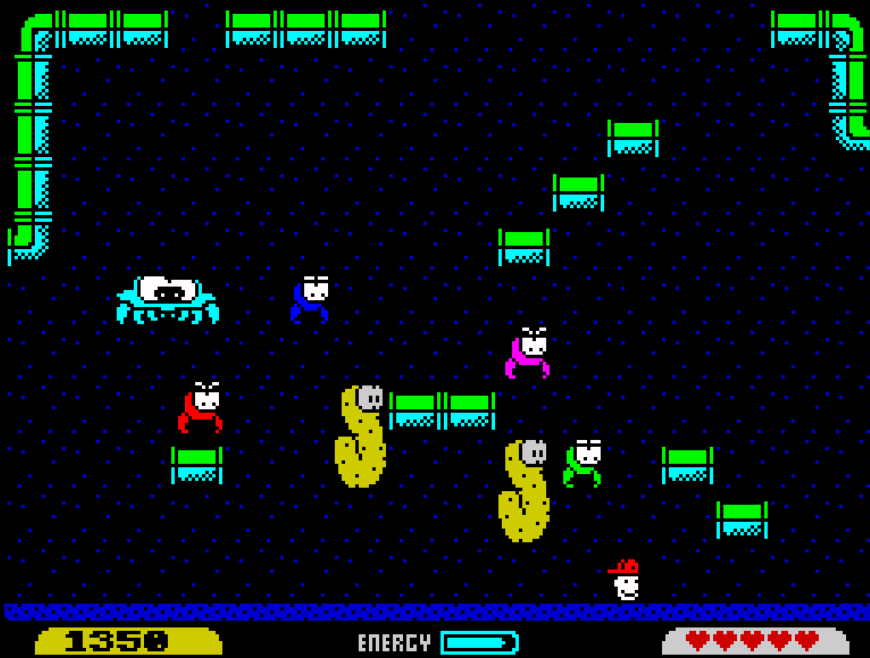
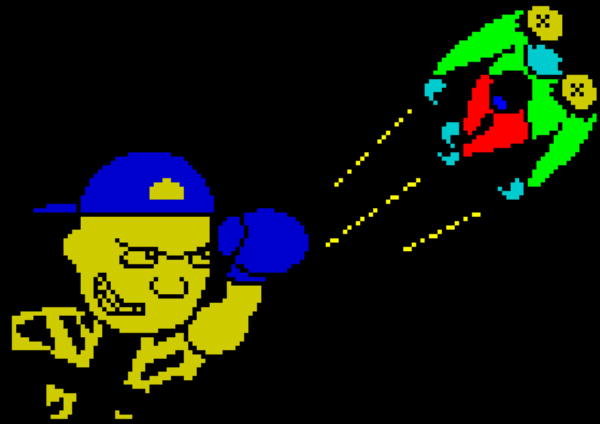
Yes this is a bad game, especially for 1988.

Stay well away from this one...



SEWER RAGE

Death Squad 2016



The job centre has forced you into mandatory work so your benefits are not stopped. Unluckily the job is to repair the sewers, a dirty job!

Once past the excellent music on the opening screen, the game throws you straight into work and the smelly sewers.

You have to manoeuvre all the pipe segments to the top of the screen to complete the repair, presumably to stop the s**t from flooding the world. Things are not all that easy though, as there are many enemies to avoid.

To move a piece of pipe, you have to

get below it, and then punch it upwards. The enemies chase you continually, so you have to lead them away from the pipe pieces and then rush back to try and complete the level.

As each level finished, the next one comes along with different pipe layouts and more enemies.

The graphics are fantastic and very colourful. To maintain that look though, they do move in jumps, but this does not deter from the

gameplay.

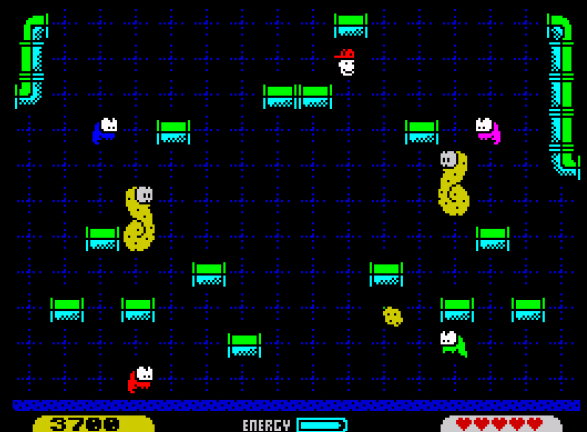
Sound is used well, with effects for hitting the blocks, running into the enemies and adding a piece of pipe.

The gameplay gradually gets harder but you can only lose energy by actually running into the enemies. If you stay still, although they surround you, they do not attack.

You can also punch them to the top of the screen if you feel it will help or you want to vent some anger towards them!

Randomly food appears, and when collected it will replenish your energy, so keep an eye out for that.

This is a great game. Easy to play and easy to get into.. go track this one down.



DOMINATOR

System 3 1989



Far away, an evil bunch of aliens are massing and preparing to take over the entire universe... blah blah.. It's the same age old story, and guess what? One man must stand alone against them.. And it's you...

After the intro screen that has some terrible racket playing, the first stage gets under way and we have a vertical shooter.

Your large ship waits patiently as the stars scroll past and soon enough the first batch of aliens arrive. It's blasting all the way but your ship seems vastly under powered and for me, this first level was very hard to play.

The movement patterns made it tricky to survive to actually get into the better parts of the game, which is a pity.

If you are good enough you will enter a nicely detailed alien area with pulsating organs and grasping limbs, still having to fight off the onslaught.

I'll be honest and say I had to use pokes to get this far! I did try to conquer this level, but after twenty attempts I never reached this section.

Onward and eventually we meet the first boss. Taking this out and the next level loads, even on a 128k machine you have to lead each level in separately.

The game at this point switches to a horizontal shooter

and gets even harder!

The aliens now fire back and the landscape makes it incredibly hard not to crash.

You get the chance to pick up weapons on this level, so you can have rear firing, lasers and smart bombs, but these were really needed much earlier in the game.

There are two more levels to play through, both horizontal and both with equally well drawn backgrounds.

The graphics are great, very detailed and animated, but the sound is a bit of a let-down. Even on 128k machines, not enough use is made of the sound chip.

Control is responsive, which is a good job really, considering how difficult the game is.

A great shooter then, but one for experts (or cheaters) only.



SPECTRES

BugByte Software 1982

You play Eddie the electrician in his never ending task of re-wiring a large mansion. Unluckily for Eddie, the mansion is haunted with four ghosts, sound familiar?

Well it is a kind of Pacman clone, although in this game you do not eat things, you fit lightbulbs. It's a reverse Pacman with the aim being to lay all the bulbs without getting killed.

Like the aforementioned pill popping game, there are power pills, but in this game they are generators that turn on all the bulbs you have fitted. This makes the ghosts near the bulbs less powerful and they can be destroyed. The down side is that all the bulbs you fitted then vanish and you have to start again, which is bit mean really.

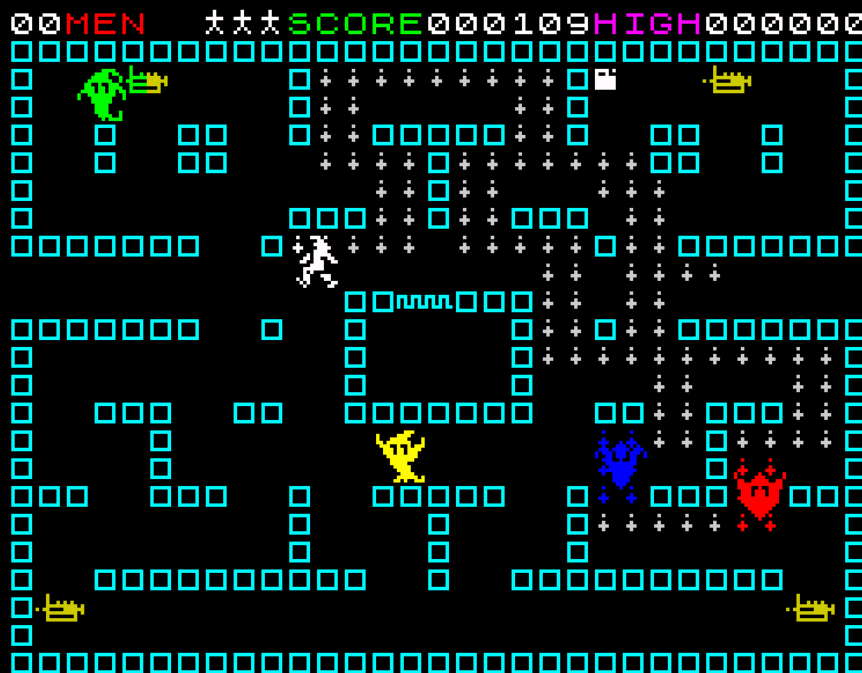
You can make the generators run longer by collecting cans of fuel that randomly appear during play, like the bonus fruit in..ermmm Pacman.

The graphics are smooth but do flicker sometimes but they are easy to control making the game simple to play.

Sound is used well with some good effects and the gameplay is challenging making for a nice overall experience.

Unlike many Pacman clones, the ghosts in this one act differently. The red one for example will chase you directly while the yellow one will try to stay away from you.

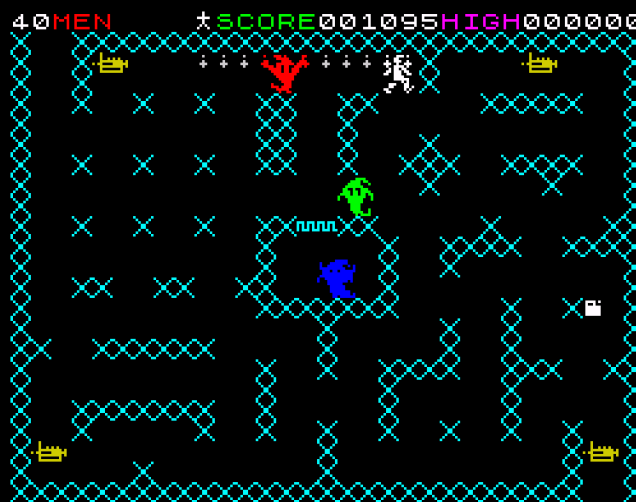
The strategy then can be up to you. Fit as many light bulbs and collect as many cans of fuel as you can without starting



the generators, and then once started, try to complete the remain bulbs or use all the generates to clear the maze so you can fit the bulbs without the chance to re-move them all.

The latter one seemed to be more successful for me and once all the bulbs are fitted you have to get back to the central room to move to the next level. Here the maze changes and you start fitting bulbs again.

Overall not a bad game for 16K, it's



certainly a challenge and a nice change from the usual Pacman clones.



MIND YOUR LANGUAGE

George Beckett continues his voyage through Spectrum programming languages

GO FORTH AND CONQUER

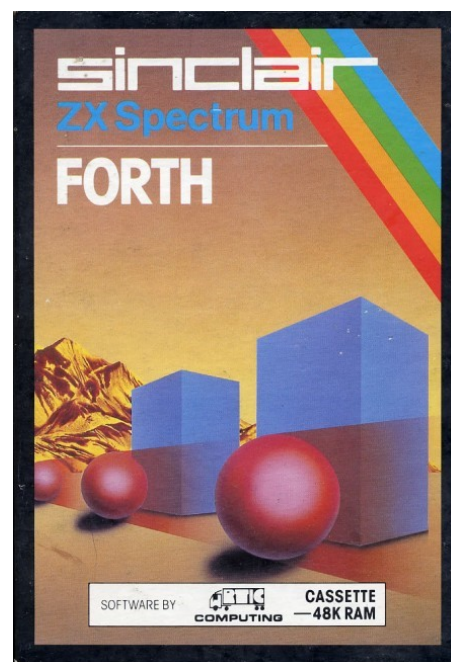
The majority of Spectrum users limited their programming to either BASIC or machine code (assembly language). However, this was just the tip of the iceberg when it came to programming languages in the 1980's and - while some of the more popular languages like Cobol and FORTRAN, which had originated on mainframes and mini-computers, were too resource-hungry to run on a micro - the Spectrum was well-served with other languages for those who wanted to explore further. Sinclair Research published at least two alternative programming languages and software houses like Hisoft developed a range of professional-quality compilers that would turn the humble Spectrum into a sophisticated programming environment.

One language that was reasonably

popular and well suited to running on a microcomputer was FORTH. The FORTH language was designed in the 1960's by an astronomer called Charles Moore, for controlling radio telescopes. Charles saw the language as advancing to the next (at the time, fourth) generation of programming language; hence the name. Though, ironically, due to name-length limitations of the system on which he developed FORTH, he had to drop the 'U'.

FORTH sits somewhere between machine code and BASIC. It has much of the speed and compactness of machine code, though with some of the higher-level functionality that is built into BASIC. However here BASIC is primarily a first step to learn to program, FORTH is (or, at least, was) a serious language intended to serve the needs

of scientific and professional computing.



FORTH enjoyed a modest surge in popularity in the 1980's, as its speed and compactness made it well-suited to writing efficient programs on a micro-computer. One company, Jupiter Cantab, actually produced a computer, the Jupiter Ace, with FORTH rather than BASIC as its built-in language. This was a radical idea that didn't really capture people's imagination. The system was only on sale for around two years, during which time it is estimated that as little as 5,000 machines were made. However, the Jupiter Ace has emerged in the emulator scene and the FORTH software that is available for it shows that a lot is possible without resorting to machine code.

FORTH is quite different from both BASIC and assembly language, and needs a different strategy to be programmed effectively. FORTH is often described as a stack-based language, because the computer's machine stack is the primary data store to be used by the programmer and the key to its speed. The stack in FORTH takes the place of variables in BASIC and the more you can use the stack instead of variables (which do also exist in FORTH), the better your program will run.

However, a stack is much less flexible than variables, and the programmer needs to learn some new techniques to get the most from it. You cannot access entries in the stack arbitrarily: it is a last-in, first-out data structure, so the data you added most recently is the data you must access first. It is a bit like a pile of paper on your desk, the first piece of paper you pick up from the pile is the last piece that you added to

the pile. Also, it is extremely important to keep the stack balanced: that is, to make sure you take off as many data values as you add; otherwise your programs will very quickly start to go wrong.

FORTH is conceptually a very simple language. Its functionality is encapsulated in a set of 'words' that are held in a 'dictionary' in memory. Words can have descriptive names such as **MAX** or **PLOT** though can also have abstract names such as **.** and **:**. In fact, these latter words are very important in FORTH, and you will use them frequently. There is no punctuation in FORTH, other than whitespace. There are no commas to separate arguments to a function, nor parentheses to group data, nor even colons to separate commands. Everything must either be a word or a number, and must be separated by whitespace¹. Any sequence of ASCII characters can and is used to name FORTH words and so, to avoid confusion, FORTH words in this article will be shaded in blue.

FORTH parses the elements of a command or program in turn. First, FORTH checks if a character sequence corresponds to a word in its dictionary. If so, it executes it. If not, then FORTH checks if it is a valid number and if it is, it pushes it onto the stack. Numbers are (at least, for the Spectrum) limited to 16-bit (or 32-bit) integers, which can be signed or unsigned, similar to in assembly language.

A very simple FORTH program is, as follows:

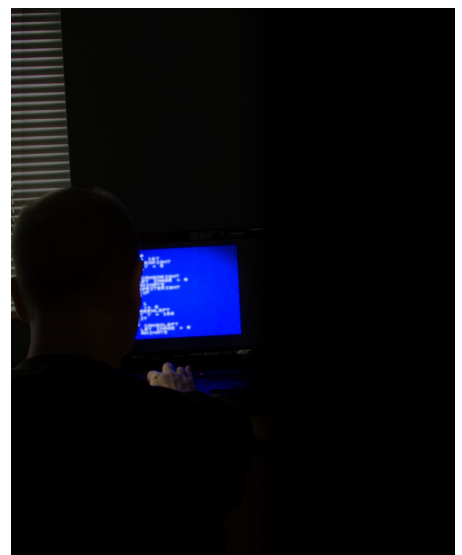
```
16 15 *
```

-which will print the result of 16×15. FORTH starts with the first element, **16**, which it checks to see if it is a word in its dictionary. (Usually it isn't, so) it then tries to interpret it as a number and should succeed, so will push the number **16** onto the stack. FORTH will then treat **15** in the same way, will identify it as a number and push this onto the stack. Then, FORTH will try to find ***** in its dictionary. The standard FORTH vocabulary defines the word ***** as integer multiplication: FORTH then multiplies the top two numbers on the stack together, replacing them by the result. The fourth word **.** is also part of the standard FORTH vocabulary: it removes the top number from the stack and prints it to the screen.

The equivalent BASIC program would be something like:

```
PRINT 16 * 15
```

You probably find the BASIC version easier to recognise than the FORTH version, because it is written in a similar way to how you might have written arithmetic expressions at school. The FORTH version is written in a form called Reverse Polish Notation, in



GO FORTH AND CONQUER

which all of the inputs to a function are specified before the function. Reverse Polish Notation is easy for a computer to process though more tricky for humans to understand.

As well as having an unfamiliar notation, FORTH lacks much of the protection that you get with BASIC, making it more like machine code. For example, FORTH will not warn you if a calculation overflows the size of numbers supported. If we try to multiply 200 by 200 using:

```
200 200 *
```

then you get the answer -25,536, rather than 40,000. Can you see why?²

FORTH has a pre-defined dictionary that provides a range of functionality to the programmer. However, the real power of FORTH is in the fact that new words can be defined and added to the dictionary, to meet the specific needs of an application. New words are 'compiled' into an efficient form, when they are defined, meaning FORTH programs are fast and compact.

There are a number of FORTH compilers available for the Spectrum. Possibly the most popular is one published by Sinclair Research, written by Artic Computing, which is an evolution of a compiler that first appeared for the ZX81. The description on the cassette box for Sinclair FORTH sums it up perfectly:

"The language of Forth combines the simplicity of Basic with the Speed of Machine Code. The compact compiled code multiplies your program speed by ten and your virtual memory by four.

The Power of Forth comes from its unusual philosophy, which allows you to add new functions (called Words in

Forth) to the language in order to match it to whatever you want to do. In other words you use Forth to define your own language."

The makers of the Jupiter Ace clearly agreed with this, though sadly the general public did not.

Melbourne House published another popular FORTH compiler, written by Abersoft. Both it and Artic's compilers are based on a dialect of FORTH called fig-FORTH (where 'fig' stands for the Forth Interest Group). Another popular dialect in the 1980's was FORTH-83. While the two dialects had significant overlap, there are enough differences between them to cause confusion, so you need to know which dialect your compiler understands. In this article and the next, I will write code in the fig-FORTH dialect. If you happen to have a FORTH-83 (or other) compiler, then you will need to make modest changes to the programs listed here.

As was the case when we looked at assembly language, in previous articles, I am not the right person to teach you to program in FORTH. There are plenty of resources that do a much better job than I could. In particular, I learned FORTH for this article from a book by Don Thomasson, called 'Advanced Spectrum FORTH', which was written to accompany Abersoft's FORTH compiler. I think this is an excellent book



though, sadly, it looks to be a difficult book to track down. I found my copy in a Salvation Army shop in London! If you cannot find a copy, then you can download and print a scan of the book from the World of Spectrum website. Alternatively, the Sinclair version of FORTH (which appears frequently on auction sites) includes a reasonable programming guide that—while quite brief—should help a confident programmer to get started.

A sample of the FORTH programming language is given in Figure 1, which shows a version of Zeller's Congruence written using the Artic Software version of FORTH.

If you are not familiar with FORTH, then this program is not likely to make much sense. However, there are some elements it is worth noting.

```
( ZELLER )
  : ZELLER
    >R
    DUP 3 <
    IF 12 + R> 1 - >R THEN
      1 + 13 * 5 / +
      R> 100 /MOD
      21 * 4 / + + 7 MOD ;
    ( DATE MONTH YEAR -- DAY )
    ( SAVE YEAR FOR LATER )
    ( JAN AND FEB ARE SPECIAL CASE. TREAT AS )
    ( 13TH AND 14TH MONTH OF PREVIOUS YEAR )
    ( EXTRACT CENTURY AND 2-DIGIT YEAR )
    ( 0=SATURDAY, 1=SUNDAY, ... )
```

Fig 1: FORTH implementation of Zeller's Congruence

Second, starting to delve into the elements of the program, you should note that the FORTH words (and) indicate the beginning and end of a comment (also note that there needs to be space before and after these words, so FORTH can distinguish them).

Third, the words : and ; that appear at the beginning and end of the program are crucial as they tell FORTH to switch to compile mode. The above program, when run, will actually create a new word ZELLER, which implements the algorithm with an efficiency close to that of assembly language.

Once compiled, to run the program, you would then enter something like:

```
23 4 1982 ZELLER
```

-which will calculate the day corresponding to 23rd April 1982 and then print the result (in this case, 6 to indicate Friday).

At this point, it would be worthwhile trying to work out which bit of Zeller's Congruence each line relates to (perhaps with a FORTH manual at hand).

Here are some pointers to help:

- On entry, the program expects the date to be on the stack: year is on top, month is second, and date is third.

- The words >R and R> move the top value between the machine stack and another stack called the return stack. In the above program, we use these operations to store away the year (which starts off on top of the machine stack) onto the return stack with >R, while we deal with the month, and then retrieve it when needed with R>.
 - The word DUP duplicates the value on the top of the stack—so there are two copies. This is needed as most FORTH words delete the input arguments from the stack and replace them with the result. For example, the word < compares the top two stack entries and replaces them with 1 if the second value is less than the top value, or zero otherwise.
 - The word IF treats the value on top of the stack as a flag. If it is true (non-zero) then FORTH executes the words following the IF statement, else it continues with the words following the THEN statement.
- N.B. This is probably not what you expected: you may have assumed the words after IF determine the condition to check and then the

words after THEN determine what action to take if the condition is true; but remember, this is Reverse Polish Notation!

If your brain is aching at this point, and you need a bit more convincing of the merit of FORTH, it is worthwhile to look back at the assembly language version of Zeller's Congruence to see how much more compact the FORTH source code is. The assembly language version required 166 lines of code, whereas the FORTH version involves just 21 words; and the FORTH version is nearly as fast and takes as little memory as the assembly language version.

It's not all good however and, in the spirit of honesty, you should also be aware of some of the limitations of FORTH in the 1980's. Most notably, none of the FORTH compilers for the Spectrum had good string support. The version of Zeller's Congruence above produces a number between 0 and 6, which the user then has to translate into an actual day name. It is possible to do better than this, as illustrated in the extended version of ZELLER in Figure 2.



```
( ZELLER )
0 VARIABLE DAYS 19 ALLOT          ( ARRAY FOR DAYS OF WEEK )
: FILLDAYS 73 82 70 82 72 84 68 69 87 ( POPULATE ARRAY )
69 85 84 78 79 77 78 85 83 84 65 83
21 0 DO I DAYS + C! LOOP ;
: PDAY 3 * DAYS + ;              ( FIND START OF NTH DAY )
: PRINTDAY PDAY 3 0 DO DUP 1 + R> C@ EMIT >R LOOP DROP ; ( DAY -- )
: ZELLER                          ( DATE MONTH YEAR -- DAY )
  >R                                ( SAVE YEAR FOR LATER )
  DUP 3 <                            ( JAN AND FEB ARE SPECIAL CASE. TREAT AS )
  IF 12 + R> 1 - >R THEN             ( 13TH AND 14TH MONTH OF PREVIOUS YEAR )
  1 + 13 * 5 / +
  R> 100 /MOD                        ( EXTRACT CENTURY AND 2-DIGIT YEAR )
  21 * 4 / + + 7 MOD                ( 0=SATURDAY, 1=SUNDAY, ... )
  PRINTDAY CR ;
```

Fig 2: Extended version of Zeller's Congruence that returns day names.

FEATURE

The definition of the word ZELLER is very similar to in the previous version, except for the addition of two words **PRINTDAY** and **CR**. The latter is a standard word to print a carriage return, to move cursor to the next line. However, **PRINTDAY** is another new word, which prints the first three characters of the day name corresponding to the number on the top of the stack, read from a FORTH array called **DAYS**. To properly understand how this works, you should consult a book on FORTH. However, even without doing this, you might be able to see roughly how it works, using an array called **DAYS** which is **ALLOT**-ted an area of memory to hold the (first three characters of the) names of the days of the week, and then accessed using the word **PDAY**. In the above program, the word **FILLDAYS** creates the array and populates it with the ASCII codes for the first three letters of each day name. To run this version of Zeller's Congruence, you first need to call **FILLDAYS** to populate the array. A sample run of this new version of ZELLER is shown in Figure 3.

You will probably agree that FORTH's handling of strings and arrays is much more convoluted than BASIC, more akin to how you would work with an array in assembly language.

```
OK
FILLDAYS OK
23 4 1982 ZELLER FRI
OK
█
```

Fig 3: Sample run of Zeller's Congruence in Artic FORTH compiler.

It is possible to create more sophisticated string-handling functions in FORTH. If you look at the version of FORTH distributed with the Jupiter Ace, you will see that it includes much better support. Sadly, neither Artic nor Abersoft included string handling in their dictionaries, so you would need to extend the dictionary yourself (as the preamble on the Artic FORTH box encouraged you to do!).

Of course, we have limited ourselves to typing word definitions at the command line, which means these definitions are lost when we turn off the computer. If instead, we want to store a program then we have to tackle another idiosyncrasy of FORTH. The versions of FORTH available in the 1980's incorporated a relatively simplistic view of storage, based around the concept of 'screens'; though note FORTH screens have nothing to do with the computer display you probably think of first.

Storage (usually tape, in the case of the Spectrum) is organised by FORTH as a sequence of 1-kilobyte blocks called

screens, which—for writing a program—are treated as 16 lines of 64 characters ($16 \times 64 = 1,024$). Both Abersoft and Artic FORTH include a set of commands (in FORTH terminology, a 'vocabulary' of words) for editing screens. However, the vocabulary is built of line-editor commands rather than interactive editing—which may seem very primitive to someone who is more used to writing BASIC or assembly language programs on the Spectrum.

For example, to store the definition of the word **ZELLER** to (FORTH) screen 1 and save it to tape, a Spectrum FORTH session would run along the lines of the following (though you would skip the comments in red, which I've added to explain how an editing session works): Figure 4.

Here you are using the FORTH word **P** to put lines of text into the current screen, rather than having a cursor actually in the screen and entering text interactively. As well as **P**, there are other words in the EDITOR vocabulary to erase lines, move lines and insert



Fig 4:

```
EDITOR          ( LOAD THE FORTH VOCABULARY FOR EDITING SCREENS )
1 CLEAR        ( SELECT AND CLEAR SCREEN 1 READY FOR NEW PROGRAM )

0 P ( ZELLER )      ( THEN 'PUT' THE PROGRAM INTO SCREEN LINE BY LINE)
1 P : ZELLER ( DATE MONTH YEAR -- DAY )
    2 P >R ( SAVE YEAR FOR LATER )
              ( AND SO ON UNTIL )
    9 P 7 MOD ; ( 0=SATURDAY, 1=SUNDAY, ... )
FLUSH          ( WRITE THE SCREEN TO TAPE )
1 LIST         ( DISPLAY SCREEN CONTENT FOR CHECKING )
1 LOAD         ( PROCESS SCREEN AND ADD ZELLER TO VOCABULARY )
```

new lines between existing ones. However, even so, this will likely seem an archaic way to enter a program, which originates from a time when you interacted with a computer via a simple teletype terminal.

If your program is too big to fit on a single screen, then you insert the word `-->` on the last line of the screen, to instruct FORTH to load and parse the next screen as part of the program. For a long program, you would have to

write screens one by one, and store them in sequence on a tape, so that they would be automatically loaded in the correct order when you enter the command `1 LOAD`.

There are also a number of rules and conventions around how you organise your screens, which you should try to observe. For example, screen 0 should not be used to store program code: it should be kept for comments and program preamble. Also, the first line of

each screen (line 0) should hold only a comment, describing what is in the screen. There are FORTH words for displaying an index of screens based on the information in line 0 of each screen.

At this point, if FORTH seems interesting to you, I suggest you download a copy of Artic FORTH (which is available from the World of Spectrum website) and experiment with some simple commands, word definitions and programs. In the next article, we will look at how to write an implementation of the Rabbit Run game and an option for using disk storage instead of tape.

Downloads from this series can be found at www.thespectrumshow.co.uk/basic

More from George next issue.



Sinclair's Amstrads Commodores Acorns Atari STs Amigas
repaired and refurbished

Mutant Caterpillar Games is the place to go to for **tested, working**, refurbished 8-bit and 16-bit hardware and software.

<http://www.mutant-caterpillar.co.uk>

WANTED Monty MOLE



Gremlin Graphics 1984



Here is one of the classic Spectrum platformers with several twists. The first one being the collection of the bucket! If you don't collect it, then many collectable items will be invisible, so grab that first and off into the meat of the game.

Like many other platformers, the aim is to collect things, avoid things and get to the end.

The story involves Monty stealing coal from the local pit, yes, you play a thief, and once in the mine there is only one way to get out, and that is to complete the game.

There are ropes to climb, moving platforms, pipes and the famous crushers. Famous because they are completely random and sometimes a real pain to get past.

You can walk through them as long as the base does not hit Monty on the way down but this is sometimes harder to do than trying your luck avoid them.

As you work your way down you discover other twists. To collect certain objects you first have to get another – but there is no way to know which one does what, something I didn't know until I read up on the play guide.

The graphics are very nice, well defined

and animated and sound is used well with some tunes and suitable effects.

Control is crisp, but if you are not careful, you can trigger instant death syndrome, were you fall into the screen below, keep falling to your death and respawn at the top again.

The game is not easy, certainly not as easy I remember it. There are too many places you can die by just falling a few too many pixels and it can become frustrating. Maybe I am getting old, but for me this was just that little bit too tricky and involved a lot of guess work.

Is that jump too much? Is that drop too big? Is that crusher going to hit me? Do I collect that object?

If you have the time to experiment, I suppose this will give you something to concentrate on. There are many places where failing to collect an object will not reveal the exit to the screen so there is a bit of trial and error.

There are some nice touches like the mine cart section but again this is very tricky.

A classic game then, but much harder than I remembered it.



3D TUNNEL

New Generation Software 1983

This game comes in two versions on the tape, one for 16K owners, and the other for 48K owners. The only difference is... well I'll keep that a secret for now and give you a surprise, if you haven't already guessed from the inlay.

The idea of the game is simple; fly down a tunnel avoiding things or shooting them.

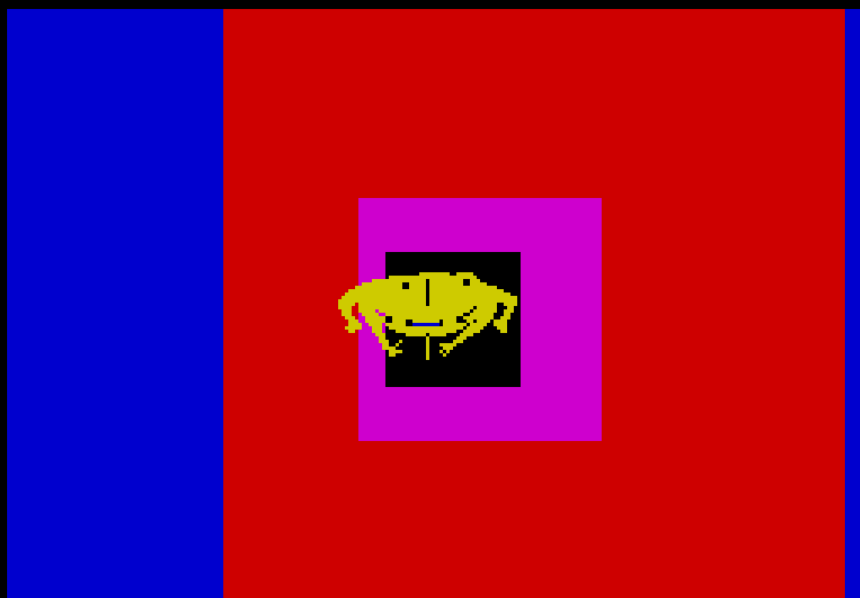
The tunnel is created using attribute blocks, and is very effective, especially when it winds left, right, up and down in later levels. Not that you can spend time looking at it, when there are various things heading towards you. You of course have to avoid colliding with the walls as well, so keep concentrating.

The first level has toads that bounce along nicely and look really good. This leads you gently into the game. After a while though the tunnel begins to twist left and right and for these sections, it is best just to not try and hit things.

The stages last along time, about 5 minutes each but eventually you get to stage 2 – and here we have rats that are again well drawn.

The tunnel in this section moves upward which is an evil twist, because to hit the rats, you have to be flying along the bottom of the tunnel. Once it starts turning upward, you have to be quick on the keys to avoid crashing into the ground.

For 16K owners that's it. You will, if you are good enough get to the end of the



Lives 9 : Phase 3 : Score 180

tunnel.

The graphics are impressive for a 1983 16K games and the sound is a bit sparse, with effects for firing, hitting something and crashing into the walls, but its adequate.

3D Tunnel is very playable, but the levels do last a bit long. It has responsive controls, although you have to remember you are flying and movement is not always snappy. You do get the feelings of drifting, which adds to the game.

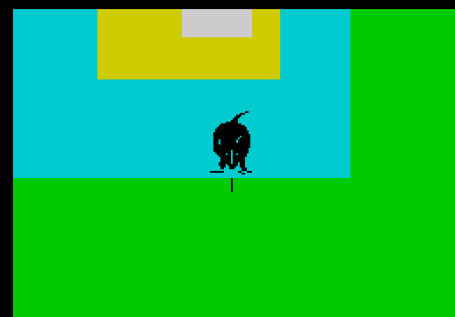
The 3D effect works well too, giving that feeling of whizzing down a tunnel.

A nice game then, and one I forgot how much I enjoyed playing.

For 48K owners, they get a few more

levels where the tunnel moves left, right up and down in the same stages. a real test of control.

There are a few more tings to shoot and the last stage has a massive subway train to avoid. That looks great.. if you can get that far of course. Maybe that will have to wait for a 48k review.



Lives 9 : Phase 4 : Score 520

REPLAY BLACKPOOL 2018

Replay Blackpool took place on 10th and 11th February 2018, and followed the usual plan of providing a mix of gaming, sellers market and talks across the weekend.

The arcade section was, as you would expect, full of all the classics but with increased attendance this year, it was harder to get a game than previous events. Having said that, it wasn't usually a long wait, and you could walk around and check out the consoles.

There were a lot of consoles setup and ready to play with the usual NES, SNES, Master System and Megadrives all present. There were also various home micros available including the BBC, Acorn, Amstrad Amiga and Jaguars, but only two Spectrums. Yes just two!

The noise levels made it difficult to hear the game you were playing, but it didn't really spoil things too much.

There were several good talks across the weekend with the likes of the Oliver Twins, Jim Bagley and a bunch of Youtubers giving presentations. Kim Justice, Nostalgia Nerd and Stuart Ashens were all included.

Overheard quote:

"I'm gonna get smashed on booze and play games all day".

At this point I left!

Like previous Blackpool events, it had a good mixture of things for all ages with board games, LAN games and multiplayer games all being available.

The market, as last year, I found a bit disappointing for Spectrum fans. Most of the stalls were aimed at modern gaming, with figurines, badges and posters. Stalls selling games seemed to just concentrate on consoles, with stacks of carts. One stall had some Commodore Amiga, ST and C64 games along with a small box of Speccy titles, but these were common games that held no interest. I mean, how many copies of Make A Chip does a human need?

Overall a good event that was louder and better attended than last year, but I am not sure that makes it a better event.

I am now looking forward to Retro Revival in May.





GAUNTLET™

Gauntlet was quite unique when it was released into the arcades in 1985, in that four players could play together, helping each other complete the levels.

The Spectrum version sadly only allowed two players to play at a time, but other than that, the game is very close to the arcade counterpart.

You begin by choosing which character to play from four different types. Each has their own strengths and weaknesses, the elf for example moves faster but has weak armour. Which character you choose will depend in your style of playing.

Once into the game, we get the familiar view, complete with scrolling levels, walls, monsters, keys, food, treasure and generators.

For anyone not too familiar with the game, the player moves around a dungeon trying to find the exit and collecting treasure along the way. Many times the player's path is blocked by walls, and to remove these, you will need a key. Some levels let you jump straight to higher level, giving you the choice to go straight to the harder dungeons.

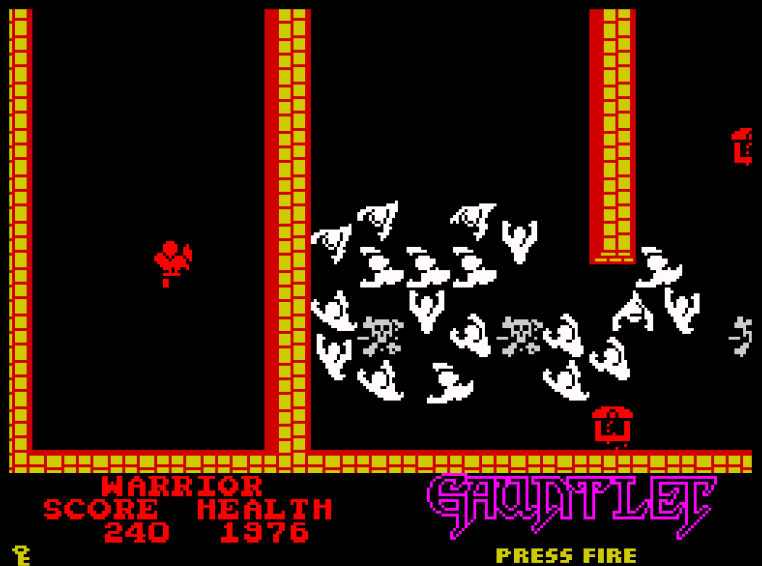
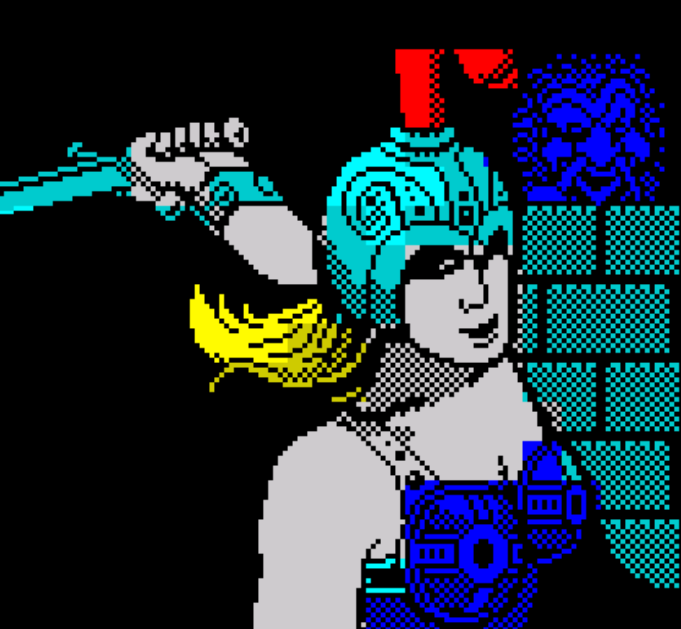
Often behind these walls are hordes of enemies. Once removed they pour through intent on your demise. The enemy usually head straight for the player, meaning clever positioning can often get them in a single line ready to be shot. You can use the walls and narrow openings to also control the enemies.

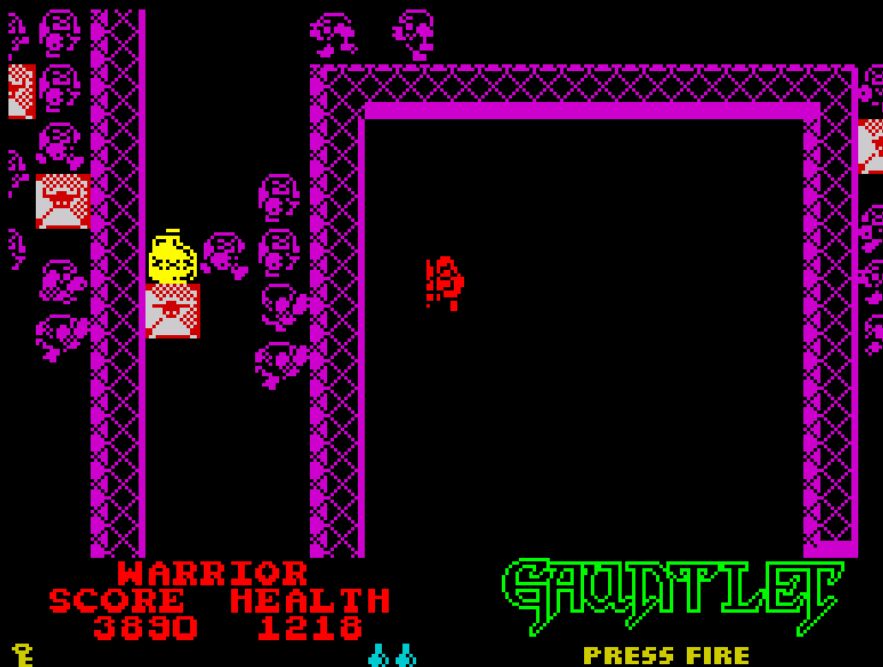
Each enemy has a generator. A point in the dungeon where they spawn from, and there can be many of them. Removing these will stop the spawning allowing you to go about finding the exit and treasure without too much trouble.

The levels are designed very well, some open, allowing the player to choose their own path, others controlled, forcing the player on a set path.

Some levels have multiple exits going to higher levels too, so you can, if you want, jump to a harder level, because the levels get harder as you move up.

There are of course food items to collect, to keep your player's health topped up. Your health is depleted if you come into contact with enemies,





come to expect this from a Spectrum game. They animate and move well, each one firing a different projectile.

Sound is used well, with incidental music, firing and contact sounds as well as item collection and exiting.

The arcade featured a lot of voice work, with the machine telling you various things from the state of your health, to hints about playing. This is missing from the Spectrum version as you would expect.

With all these things stripped out, you may think it would be rubbish, but in fact it's a really good game. Much more forgiving than the arcade version, and certainly exciting and challenging in the later levels.

I think the difficulty is spot on, allowing you to progress far enough to make you want to go back and see if you can get further.

A great conversion then. Definitely worth playing.

and through general running around.

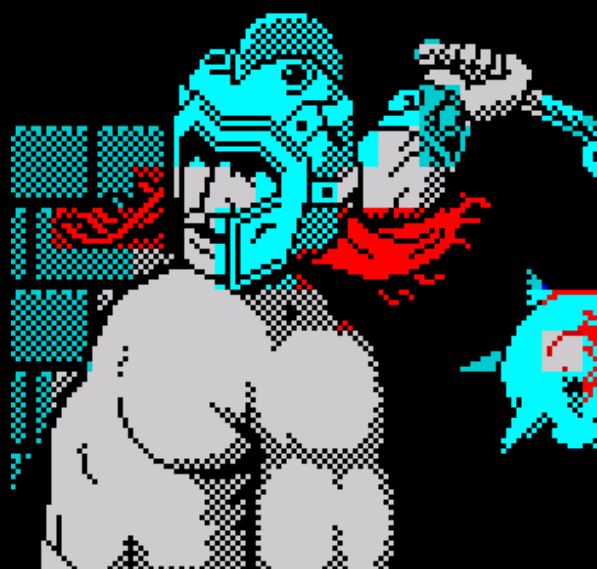
Collecting potions is important, and be careful not to shoot them. You will need these when you meet "death" in later levels. He cannot be killed in the usual way, and has to be dispersed by using a potion.

The Spectrum version uses the same level design as the arcade, so having

knowledge of the dungeons, will be useful.

The graphics have been toned down, and there is no floor textures. This can lose the feeling of movement, especially in open levels, but having a texture would cause the player sprite hard to see.

The sprites are single colour, but we





Reviewing the games
that came with the
Vega console

..but without instructions!

CASTLE QUEST

Oh dear! That about sums up this dreadful game. Oops! I called this a game, when it's actually just a single key timing test.

You control a man, although all you can do is jump. There is no other movement or actions at all. Each jump will take the man up and left, ascending a set of stairs.

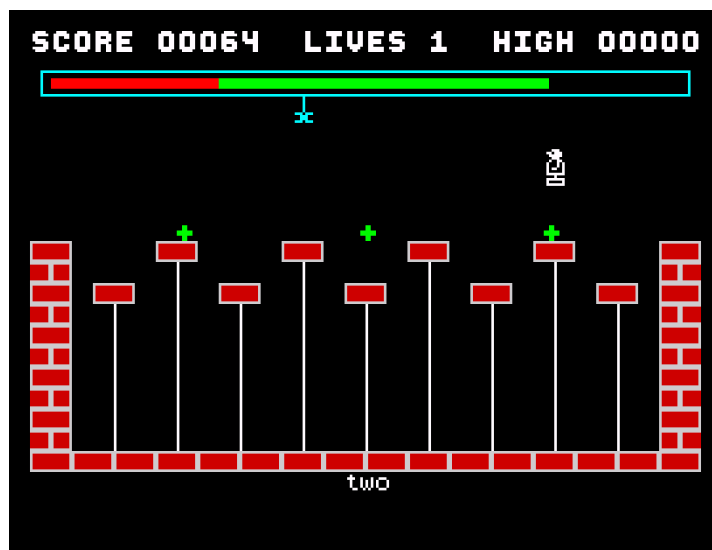
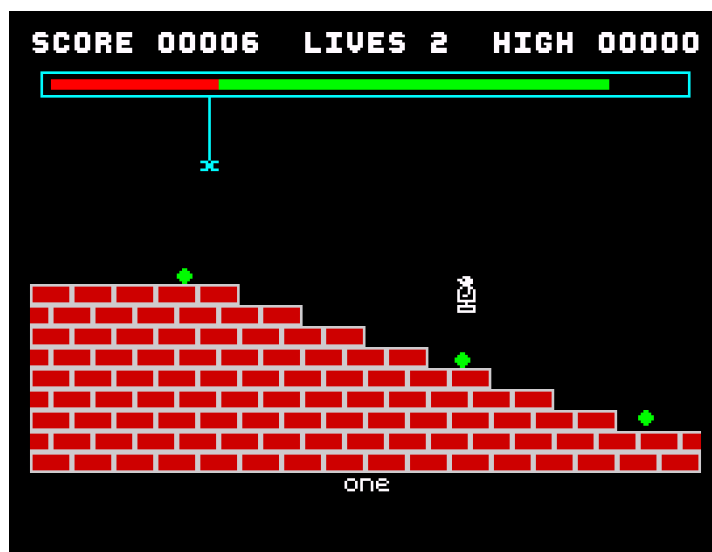
Rolling down the stairs are various things. I call them things because it's difficult to identify them. Timing your jump to avoid them and get to the top is the aim.

Once at the top, there is a spider to avoid, which is a tricky objective, as it's position and your position are entirely linked to where the level starts, where you last died and whether you pause in between the gaps of the enemies or jump anyway to improve your position.

The graphics are bland and un-interesting and the sound consists of BEEPS when you jump or die.

If you do get to the top, the next level begins and this changes the platforms but the game play is the same. This level though, requires lateral movement to avoid missing the platforms, but it's hardly exciting, even if there is a time limit imposed.

A terrible game!



F.I.R.E.

What a difference between this excellent, professional game and the last one! Everything about this game is well done and really shows the Spectrum at it's best.

It's a horizontal shooter that follows the usual pattern. Fly, avoid, shoot, collect and continue, however it is all executed so well in this game.

The intro music is superb, the in-game effects are excellent and remind me of many arcade games. The graphics are smooth, well drawn and respond really well to the control. Your ship continually rotates too, which is a really nice effect.

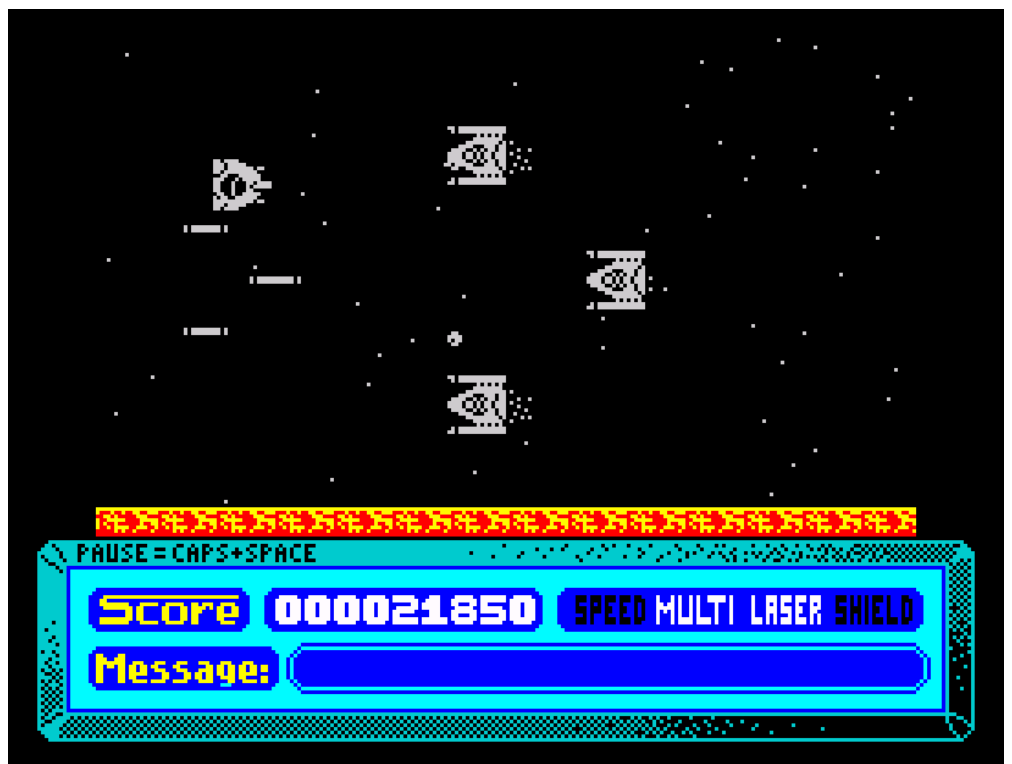
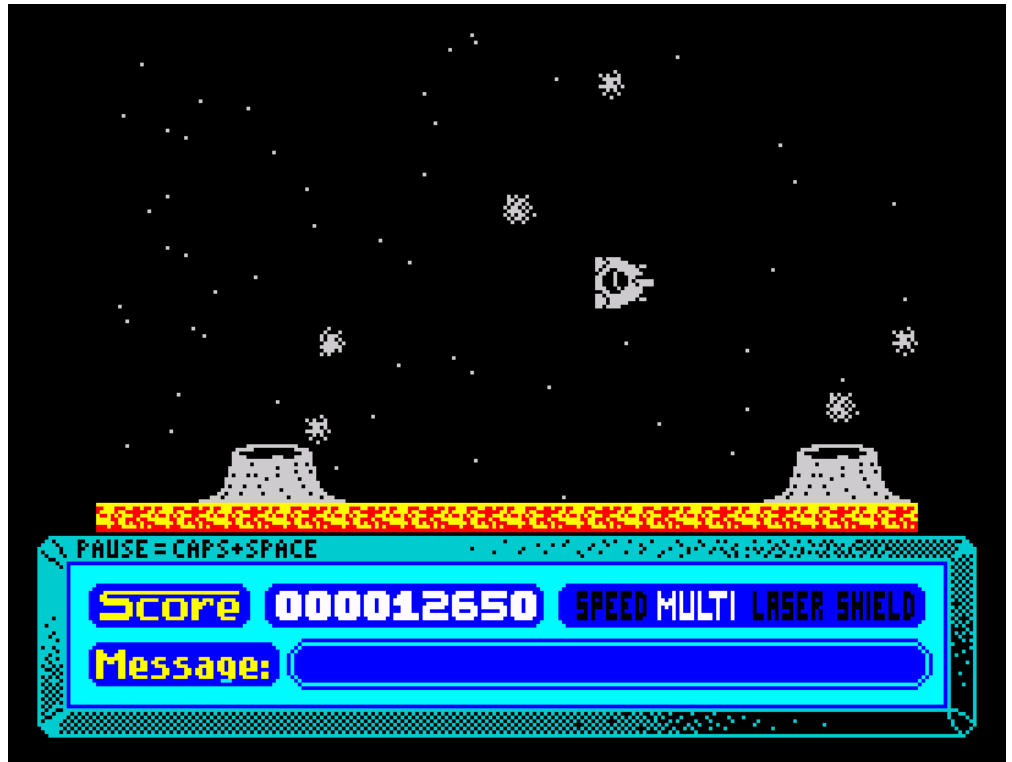
As you blast your way onward, there are bonus items to collect and this will give you various power-ups like multi-shot, lasers and shields.

There are end of level bosses too, that need a lot of hits to dispose of them, and later levels have indestructible enemies that you have to dodge like meteors or fireballs from volcanoes.

I spent ages playing this gem, and for any shoot-em-up fan it's a game not to be missed.

You don't really need instructions for this, just plug in and blast away.

An excellent game.



GRUMPY OGRE'S

Adventure Page

Welcome back to strange places where your mind wonders freely and your brain shifts into a higher gear.

Recently I have been playing a game that gave a real mix of positives and negatives, which left me a bit bemused about how to actually write this scrawl.

The game in question is Alien Research Centre by Zenobi. It is a graphic adventure with some nice and logical puzzles, but it also contains some really annoying features.

font I do not particularly like, is well written and descriptive, helping create a spooky feeling.

The puzzles are, as I said, logical. For example to repair a broken wire you need a soldering iron and some flux.

I enjoyed playing this up to the point where a large maggot killed me if I entered a location and did anything but move on or try something that was incorrect. This was annoying because to examine objects I carried, I had to first move to another location, exam-

alone an adventure.

The same instant death happened a few puzzles on where there is a pool of liquid on the floor. Accidentally moving in its direction, kills you! It would have been far better to deter the player, or just block them with a helpful hint.

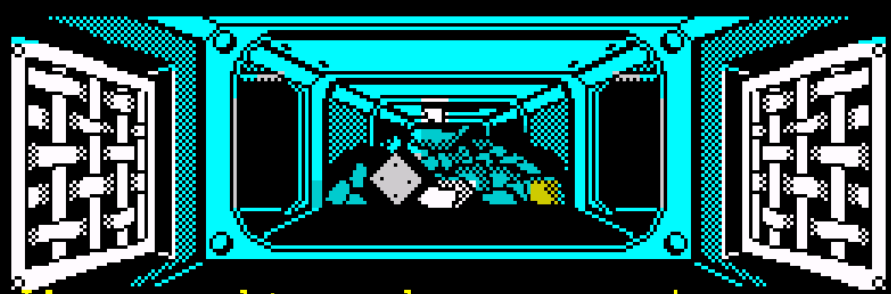
Death is not the way to entice players to try and solve a puzzle!

Other things about the game I dislike were the sound effects. I do not want sudden sounds bursting out of my computer when I am quietly trying to solve a puzzle.

It might be a gimmick, but it not only annoys me, but often makes me just want to stop playing. Why blurt out a sound effect and flash the border just because you completed a task.

Finally on to the last thing that I was not keen on; the input line. It uses double height text for some odd reason. It makes the whole thing look strange, almost like a child's game! There is no need for it at all, so why do it?

Although the game has negatives, it is a good romp overall, but anyone new to it, like myself, will find it hard going. Each time you put a foot wrong, you could end up dead and having to start all over again!



```
I'm crawling along a vent.  
It's chokingly dusty here, the  
air conditioning must've failed  
long ago.  
I notice some rubble covering an  
exit ,
```

```
Exits: Down,
```

```
What Next? █
```

Let's start with the good things. The graphics are really nice, well drawn and convey the atmosphere very well.

The text description, although in a

ine the item, then move back and try to use it on the maggot.

Instant death is not a particularly good feature of any game, let

Am I getting old... (if this was Sinclair user, there would be a reply from the editor at this point!) or do I dislike adventures that were released later in the Spectrum's life?

A good question, and I think the answer is... it depends. It depends on the game, the puzzles and more importantly, the memories I have of it.

I have played many games for the first time during these rants, but very few games new to me gained a place in my hallowed top twenty.

From a different angle, I have revisited many games from my youth only to find them lacking in so many ways. Classics such as Jewels Of Babylon let me down in the modern age, but games like Adventureland were a pleasant surprise.

I admit, I like the games I discovered for the very first time in 1982 to 1984. Games that hold memories beyond the game itself and that found a way to get into my mind and stay there.

I distinctly remember playing Inferno from Richard Shepherd Software for nights on end. Visiting my local computer shop and being asked how to get past the cliff section. Proudly, I recited my trials and how I managed it. They seemed impressed and I was elated! Experienced adventurer players and shop owners were asking

me, a young grumpy ogre, how to solve a puzzle. I will re-visit that game next issue if my mind holds out!

Other games from my youth also trigger memories; Sat in the back of a smoke filled Escort van on the way home from work, eagerly reading the inlay of Planet of Death from Artic Computing. Getting home, loading it up and spending the rest of the weekend trying to complete it.

Getting 16/48 tape magazine and reading the hints for it, and finally completing it. What a thrill!

Spending hours on The Hobbit and completely failing to get anywhere, despite reading Tony Bridge's adventure column in Popular Computing Weekly religiously.

Playing Adventure One from Abersoft, swapping hints with the guys in the computer shop, mistaking an Eastern flute for a passageway instead of a musical instrument! Dreaming of solutions to the plover room and wondering why the maze existed at all!

Ahh.. Those were the days!

Ooo! I seem to have gone off on a bit of a rant there... and look.. No more room for another game!

16/48 magazine... yes... I might just load that up and immerse myself in pure nostalgia... mmmmm

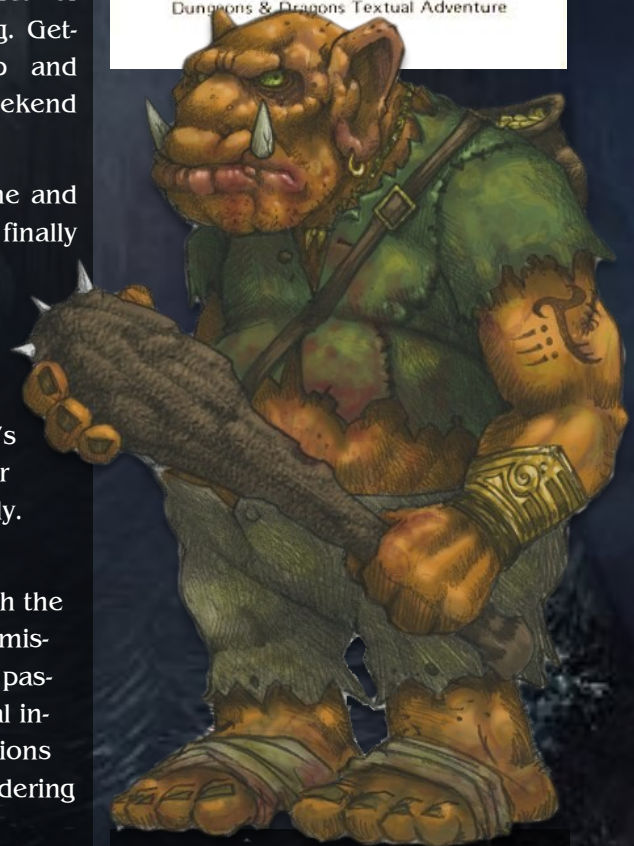
ABERSOFT

ADVENTURE 1

© 1982 Abersoft



Dungeons & Dragons Textual Adventure



OF
DUNGEONS
AND
GREEN MEN
ADVENTURE HELP FROM BAZ.

STUCK IN A SPACESHIP?
CAN'T FIND THAT TRANS-MAT?
KEEP HAVING TO START AGAIN??
THEN READ ON...

PRESS ANY KEY

Sinclair ZX Spectrum - a Visual Compendium

Bitmap Books 2015

This is a hefty book that is nearly an inch thick, and because of that it is quite heavy. The stylish cover grabs you straight away and there is no doubt what the book is about - The ZX Spectrum.

Containing a wide variety of contributors including some well known names like Kevin Toms, Steve Turner, Jim Bagley, Bo Jangeborg and Mel Croucher, this is a great read, with different perspectives on different aspects of the little computer.

The book is a mixture of personal comment, features and game spot lights. These take a well known game, for example Manic Miner, and with some stunning images, take a deeper look.

Covering some of the most icon games, the glossy pages really help to show off the graphics, and every image is crystal clear and excellently reproduced. The text that accompanies them is informative, well written and easy to read.

Industry figures are interviewed and give their account of their times in the Spectrum world with some nice insights into the murky world of software companies.

The special features cover things like graphics, sound and art work, with several people contributing with their thoughts and experience on the subject, and again accompanied by excellent images. The artwork in the book is top notch, not only with some great photography and layout, but some fantastic pixel art.

A really interesting read, and a good coffee table book, not that it will be down for very long, the cover just invites you to pick it up and browse a few pages.

It really emphasises the importance and brilliance of the Sinclair machine in an excellent package.





OMNI 128HQ LAPTOP

A Spectrum, but not as we know it...

This is the brand new Omni 128HQ Laptop from RetroRadionics and sent to the show for review by ZXrenew.

This is the laptop version, but there is a normal Spectrum version that comes without the attached screen.

Inside can be found a Harlequin Super FO board, sporting some impressive specifications including HDMI, RGB and composite out, twin joystick ports and built-in DIVmmc with dual SD card slots.

Taking a look around the impressively built unit, the case is a replica of the

original 48k rubber keys model, even down the keys that feel just like the real thing.

The difference though can be seen on the side and back of the unit.

The right hand side has the SD slots along with an NMI button to trigger the file browser. A bank of dip switches to configure the device and the twin joystick ports that can be configured for Kempston or cursor joysticks.

On the back we have the power socket along with a nice on/off button, an expansion port, mic and ear sockets to

load games the old school way or to get audio out, and an RGB / composite socket, which on the laptop version is used for the screen.

The screen is held firmly in place by strong metal mounts that go along the bottom of the unit and act as counter weights, the hinges then come up the back and support the 9 inch screen.

On the left is a reset button.

Because the device can be configured many different ways, there are also many different ways it can be configured wrongly. This can result in blank

screens or broken file browsers.

The review model did not have instructions, but they were kindly sent to me on request.

The bank of dip switches can set the device to various models of Spectrum, from 48k, to 128k toastrack to +2se. It can also be configured to be a Jupiter Ace and ZX81. More about that later.

Other settings that can be changed include enabling or disabling the Kempston mode for the joystick ports, enabling or disabling the DIVMMC, and switching between UnoDos and EsxDOS.

With all those possible combinations, there is a chance of getting things wrong, and this isn't helped by the dip switches being labelled wrong.

On the machine they are labelled 1 to 8, however, the settings and diagram show that this is in fact opposite. So S8 is in fact S1... S7 is S2 and so on... once



you get to grips with that.. setting it up is easier to say the least. That's not say it will all be plain sailing.

Let's Play

Let's switch it on and have a play.

I set the unit to a +2se with DIVMMC and Esxdos. I prefer this setup as it

seems to work with pretty much everything I can throw at it.

The Harlequin is a proven board with exact timings, so all those fancy demos with border effects will run just fine.

Once booted you can use ExsDos as normal to view and navigate the SD card. You can set a tap file for output – to load games, or set a tap file for input, to save data direct to the card.

If you just want to play games though, it's far faster to just use the NMI button.

This brings up the file browser. Sadly it doesn't support long file names.. but it's easy to use and the games load quickly by just pressing enter.

UnoDOS also does not support long files names and the commands are different. I suppose it's a matter of personal preference which you opt to use.

The screen is nice and crisp, with good viewing angles and has the option to change things like colour, brightness and contrast using the buttons of the



Omni 128HQ

side. Again, a manual would be useful for this, but trial and error was the only way at the moment.

You can also change the aspect ratio from 4:3 to 16:9. This makes the game screen larger, but obviously it stretches the graphics to do it.

Sound is a mixed bag.

Some games were really quiet, for example, Sunbucket. Other games, like Exolon were loud under some settings, but quiet under others....

I thought this might be down to use of the AY chip, but Exolon doesn't use it. 128k games, like outrun or Kings Valley, have loud music and effects, so no problems there.

You can also output sound via the Ear socket, so it's easy to connect it to something louder if you want.

Games that have issues with +2 and above machines like Jetpac for instance, can be made to work as they could for those machines. I covered this a while back. You basically have to



have a pre-load on the tap file to switch to native 48k mode before loading the game. (OUT 32765,48)

The unit is quiet heavy because of the metal framework and screen, coming in at 1025 grams but don't forget the laptop version has an internal battery.

Yes, you can unplug the Speccy, and still turn it on.. which at first was a little odd... you don't expect it from a Spectrum. It's almost magic..

The battery life gave over 2 hours of use playing various games, demos,

using the file browser and typing into adventure games.

More Than A Spectrum

Trying the ZX81 mode and yes it's a ZX81 however when you boot it provides a menu. Here you can load from tape or other things like RS232. There is a copy menu that lets you copy files to and from various places but, despite trying for ages I never got a game to load. I tried several cassette recorders too and none would load but, then again I never had much success with a real ZX81.

Jupiter Ace has pretty much the same menu as the ZX81 and pretty much the same success at loading games - none.

The DIVmmc worked, but which ever game I selected, in various formats for both the Ace and the ZX81 would not load. I may have not one of the dip switches right.. but it's difficult to tell.

I really enjoyed playing with this unit.



I wouldn't call it mobile gaming, but a novel approach none the less.

I will be looking to buy the desktop version of this once released, as the screen is not something I would be interested in. I would rather connect to my normal TV as I would a normal Spectrum.

The only thing I didn't like, was the face plate. It was a little loose and sometimes made the keys stick down. This is a review machine though, so no doubt this will be addressed with a blob of glue prior to release.

As with real Spectrums of different configurations, some games will

just not load on certain machines. This is also true of the Omni. Setting your machine to +2se will probably give you a good average, but still game like Sergeant Helmet Zero and Pentacorn Quest Fail to load.

Switching to a more compatible machine using the dip switches will of course fix this. It all depends on the games you want to play and if, like Jetpac, there are already fixes available for your particular setup.

A really interesting bit of kit then, well built and easy to use once you get the dip switches sorted out. A joy to play games on and certainly a head turner.

OMNI 128HQ SPECIFICATIONS:

Computer set based on New Harlequin board from Super Fo.

128K ram.

Integrated divMMC double SD card interface.

Two joystick 9 pin ports.

RGB out.

Composite out.

HDMI (optional)

Power button

23 WILLOW CRESCENT COATBRIDGE ML5 4BH

ZX Renew

@ZXRENEW WWW.ZXRENEW.CO.UK

Refreshing the old into the new



NEW RELEASES ON REAL MEDIA.

SPACE Disposal

The universe is full of junk

Do you have what it takes to
clean it up?

ALSO AVAILABLE

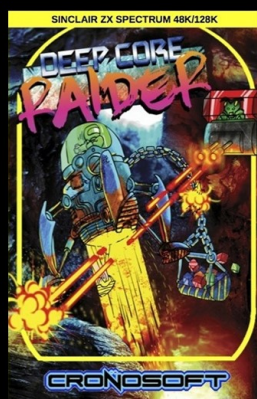
Games from Paul Jenkinson



Toofy In Fanland+



Code Zero



Deep Core Raider+

Bounty
Test yourself with this sc-fi
text adventure.

Baldy ZX
Unique platform game
across 20 levels.