

Spectrum

modern magazine for active spectrum user

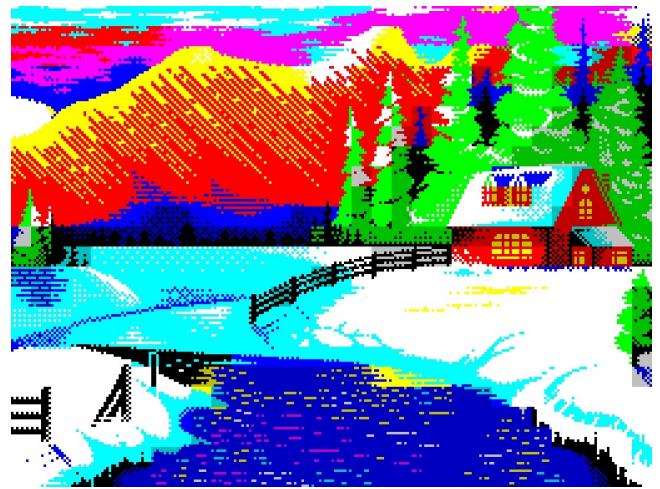
0/2014
February - May

Today





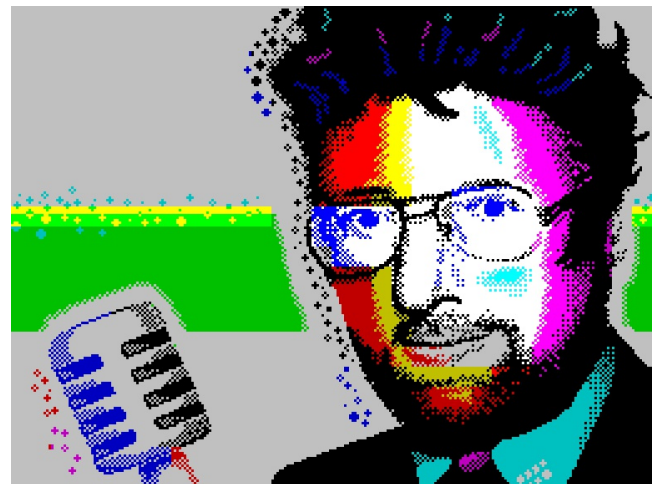
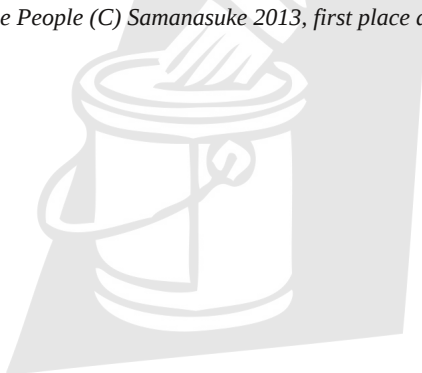
Master (C) Hydrogen 2013, second place at 3BM Openair



Hot Cold (C) Prof 2013, fourth place at Load Error



ah Little People (C) Samanasuke 2013, first place at DiHalt



Sir Clive Presley (C) CVM 2013, first place at Forever 14

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Good morning!

It is about 6 months from the moment when this issue of Spectrum Today came out in Slovak language. Although things were not going by the way I wanted, I am happy that English version finally happened. Big thanks have to go to Slenkar, who took hard job of checking translated articles and even if he did just 2/3 of them, it was a big help!

So, what is this magazine about? It is about all the things that happen right now. Games, demos, programming, everything that still appear on the Spectrum. In consideration of my technical incompetence, games makes most of the content of this issue, but tech section will grow up in the future. For sure there will be not thousandth review of Robocop, I have no plans for articles that talk about 80. years of last century. I read lot of magazines dedicated to Spectrum in last few years. Starting with ZX Computing to ZX Format, I found out that it is worthless to remember old good times. When we will put nostalgia aside, maybe we will find that those old good times are now. Programming for the Spectrum never been so easy, quality information so accessible and information channels omnipresent as today. Community is still strong (even if less numerous), the will to create new things is present on every computer meeting. All of that is the reason why I think that it is pointless to board the sea of retro scene, but it is worth to take old good Spectrum as a hobby, that is still alive.

Magazine will appear every four months. Range will be in accordance to number of articles, I believe there will be always at least 20 pages. English version will be published one or two weeks after Slovak version. I hope to gain some interest also from people outside of Slovakia. Layout will change a bit, I spent quite a lot of time by learning typography and design, there is still a lot of things to improve.

Magazine is free and spreading is welcome. I have plans for occasional printing of few copies to give them away on meetings I will attend. Just for a good feeling. Articles can be re-used and re-published without magazine itself, condition is strict non-commercial use. Articles published in the magazine don't have to be exclusive, information is important. It is better to re-publish good article (with the permissions of course) then to invent something dull.

That is for the editorial. I wish you good reading, I hope at least something from the content will be interesting for you. I will appreciate any feedback, praise will cheer up and criticism will move things on. Wish you enough of free time and ideas for next creations and I am waiting for all those new things that await us on the Speccy scene!

ellvis/zeroteam
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ZX Spectrum Today, issue zero. Magazine about actual happening on ZX Spectrum and compatible computers. It is published three times per year and is free. It is edited by ellvis/zeroteam with the help of community. No language check was applied.

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World of Spectrum

World of Spectrum celebrated its 18th birthday on the 30th of November. It is currently the biggest archive of games and other materials for ZX Spectrum. Even if there are no regular updates from the middle of 2013, **Martijn** (administrator) said that he had not left the project. At the beginning of January an update appeared, surely there will come more of them. The community on the forums is still active and it is the first place to look out for news about games and utilities. Additionally happy birthday! (The thread for announcing new games, utilities and demos for 2013 is at

<http://www.worldofspectrum.org/forums/showthread.php?t=45201>)

zx-spectrum.cz

On the other hand, **zx-spectrum.cz** is updated often and celebrated 12 years on the 3rd of November. Statistics say there are about 819 titles from 213 producers, 284 walkthroughs and 675 manuals. **Pavero** is also a tireless creator of game maps, there are 1980 maps in the archive (1056 made by himself). We wish him good luck in expanding the pages and also happy birthday!

AYGOR

There is a new setion called **The AY Great Official Resource (AYGOR)** running on the Polish **specy.pl** portal. It is a collection of .AY files with music from the Spectrum. The current version is from January 2014, the size is 3,82MB and contains 1157 music files. Beside the usual music for **AY** and **BEEP** it contains also music for **Turbo Sound**. Most of the files in the archive are sorted by author's name. It is the only project dedicated to distribution of AY files that is currently alive. This format has the advantage that it is often supported by common software for music playback on computer (Audacious, Deadbeef, xmms2 and others under Linux for example).

Harlequin

Ingo Truppel from Germany has sorted out the problems of the original **Harlequin** board and has made a new batch of revision F. Just to remind you, the Harlequin, originally designed by José Leandro Novellón Martínez, is a clone of the Spectrum 48kB with exact timing. The book by **Chris Smith - The ZX Spectrum ULA: How to design a microcomputer** was used to replicate the ULA. The board is made to fit into the original Spectrum case, so it is a replacement for the old hardware. It doesn't have a TV modulator anymore, an S-Video and RGB output are provided instead. Even if Ingo's batch is out of stock,

the documentation is public, so it can be made again.

VNN

Sad news came from Russia. On 12th of November **VNN** died, he was a spectrumist and member of the AAA-Group. He was the person who made most of their border multicolour demos. He died at the age of 57. As a memorial there is a small demo named **In Memorial V.N.N.** (introspec & 4th Dimension & goblinish)

Didaktik Kompakt

z00m took a closer look at the original rebuild of **Didaktik Kompakt** to 128k from **MDV** and the results are placed at **playground.darkbyte.sk**. He is also preparing an english version for **hw.speccy.cz**. There is also his modification of MB02+ where he replaced the EEPROM with 28c256.

Playground

After the temporary link to **oldcomp.cz** forum from **zxm.speccy.cz** **Noby** changed the link to **playground.darkbyte.sk**, which is the forum for Czech and Slovak Spectrum users. It is dedicated to all active spectrum people from czech and slovakia (including all rest of the world if the language used is English) as a source of know-how and information. Hopefully the low traffic in the beginning will not discourage anyone.

Snake Escape

First game to use multicolour engine **NIRVANA** is in development. It is remake of **Lime Rick**, logic game where we have to guide snake to the apple. Programming is made by **Einar Saukas** himself (author of Knight&Demons DX, multicolour engines, FZX and IZX utilities and much more), so it is surely something to look forward to! Some details about development and screenshots are at <http://www.worldofspectrum.org/forums/showthread.php?t=44932>

DemoZoo

After some years of preparations and building was finally launched **demoszo.org**, which maps all activities in demoscene, including ZX Spectrum. One of the main people behind it is **Gasman**, who started to work on demozoo after he created demotopia. There was big testing and database fill last three years. Today it's big project containing information about more then 42000 release and over 33000 people.

FOReVER 2014

The next **FOReVER** party will happen again on the 3rd weekend of March (14th - 16th) in the building of **Agrosuca** in **Horna Suca** next to Trencin/Slovakia. There are buses coming from Trencin from the number 8 bus stop (then you have to get out of the bus on the first stop in Horna Suca and go by the left road to the party place). Some information is on the official homepage **forever-party.net**

The rules are still the same, **1k intro** and **demo** for programmers, **AY music** for musicians and **graphics** for graphicicians. The ZX section is still organised by **mike/zeroteam**, in case of any questions about the rules or competitions on the ZX Spectrum it is best to contact him at **mike@zeroteam.sk**

It is possible to reserve a bed (just for both nights, sleeping for just one night has to be solved individually) at **ellvis@zeroteam.sk**.

The **Gemba Boys** released a nice invitation intro for the party at the beginning of this year, it can be found at <http://demoszo.org/productions/98116/>

Multimatograf 10

During the weekend between 25th and 27th of April the **Multimatograf 10**, game party is happening in **Vologda/Russia**. During this meeting a demoparty is also held, which is focused on 8bit computers.

On the ZX Spectrum, we can compete in **BEEP** music, **AY** music, **256b** intro, **demo** and **graphics**. All the compos except BEEP music are mixed between the scenes. The compo machine will be the **ZX Evolution**, so it is not recommended to rely on the exact Spectrum timing (ZX Evolution akka Pentevo is a modern clone of the Pentagon).

The main website is at <http://multimatograf.ru/> and the section with compo rules is at <http://demoscene.multimatograf.ru/>. Unfortunately, only a few things are translated into english. There will also be online voting during the event.

Contributions should be send to **demoscene@multimatograf.ru**. Each entry should contain this form with information about the entry:

Nick/Realname:

Group:

Full name of work:

Compo:

Requirements:

Duration (minutes):

Contacts:

There is also an invitation intro for the party at <https://www.pouet.net/prod.php?which=62453> ■

Tygrys/speccy.pl

Tygrys is main administrator of portal speccy.pl, programmer and overall active person on spectrum scene. I took a chance to talk few words with him.

■ When was born the idea to create speccy.pl and who was behind it?

Tygrys: The idea for speccy.pl come from 2005. I was checking the interest in something like that between people and as there was none, nothing happened. The idea came back in October 2011 after talk with Duddy, who supported the idea to create something. Few people came to the first meeting on 5th of November 2011. That's how it all began.

■ Was there any central place for polish Spectrum public before speccy.pl?

Tygrys: Nothing like that existed. There was lot of sites dedicated to Spectrum, but none tried to connect them on one place.

■ Demo 'Unit 42' end with words 'Waking up the polish scene' - is it going well?

Tygrys: We are trying to wake up old Spectrum people. Few of them promised to write something new, time will show us what will happen. I am trying to drag-in people who were active in 90's into my projects.

■ In fact, most of all demoscene production during early 90's came from Poland. How is it today? There were periods after year 2000 when we've seen nothing at all coming from Poland...

Tygrys: Lot of people moved to Amiga or Atari ST during early 90's and were no more interested in Spectrum. There were exceptions as Claw or AgentX, of course. Later, nothing happened at all for few years, because people cared about their lives. Also, there was not any bigger concentration of Spectrum people in groups. Speccy.pl try to change it, but it is not sure if there will come some results after such a long of time.



demo Unit 42 from 2013

■ Except demoscene, speccy.pl take care also about preserving Polish software for Spectrum. How does it work, is there some maintainer or anyone can send the

files?

Tygrys: Archive contains Polish software and also software translated into polish. There was FDD3000 disk system wide-spread in Poland, so the archive will contain also software for this system. Software can be uploaded by anyone using the form that is linked from main site of portal.

We appreciate work of people who support the archive, that's why there is a name of person who uploaded each file or it's source. That is one of the ways how we can say "thank you" to people for their help. We read README files in the archives and respect intention of the authors!



demo Reliable Fraud from 2011

■ What next can we find on speccy.pl?

Tygrys: Archive is just one part of the portal, where are besides news around Spectrum in Poland (we don't want to duplicate websites which inform about happenings around Spectrum all around the world) also technical articles about Spectrum, programming and interviews with interesting people.

Hidden part of portal is AY Land - internet radio that started in 2005 playing, sometimes with few months long break, music for BEEP and AY. It need playlist update and also creation of own pages. There is also forum on the portal.

■ Question about AY Land, how does the playlist look like, is it possible to send new musics to be added to it?

Tygrys: Content of the radio is based on 5 years old playlist. It contain 619 files for AY and BEEP. Update will be based on addition of more files for AY and BEEP from various competitions - first 3 or more places if they are really good. Also full albums of AY-RIDERS and MISTER BEEP will find it's ways into the playlist. Listeners will be able to send their wishes by ways that already work in archive section. I have plans to create dynamic playlists with the listener's wishes and (few) hour long broadcasts with the production of concrete authors/themes or

just wishes. When will it be done? I don't know myself, it depend on support (also moral) that I will get.

■ Are there any projects or pages that cooperate with speccy.pl?

Tygrys: News from speccy.pl are published on t2e.pl (Try2Emu) and also on <http://www.facebook.pl/speccypl>. There is not any active cooperation at the moment.

■ Is speccy.pl interested in organizing of some computer party or meeting?

Tygrys: There are organized small local meetings of people around speccy.pl few times per year, albeit now just in Warsaw. I hope they will appear also in other cities in some time. It is too early to talk about bigger parties.

■ Are there any plans for the future that speccy.pl want to take part in?

Tygrys: No big plans. We focus on development of each section of portal. There will be soon information about project started by Abrimaal - AYGOR, meanwhile occur games and demos made by people around speccy.pl



game Krunel from 2013

■ What is your opinion about today's scene? What about new games and demos, communication between various scenes (cz&sk, de, en, ru etc)?

Tygrys: Right now there is evident difference between the scene in Russia and rest of the world. I hope that few fanatics, who forgot already what hobby mean and who make biggest fights will not kill all the fun and will not start to build up the walls between east and west. ZX Spectrum should connect and not divide! About the demos - I think they are good. There is design, musics are part of them and not something disturbing. There is lot of game releases, mainly thank to game editors. It is nothing bad for home production, but sometimes there is question coming up "find 3 differences between the games".



Abbaye Des Morts

(C) Darkhorace&Jerri

Let's go back to the France of the 13th century. We are playing as monk Jean Raymond, who hides in an old church after his expulsion. He has no idea that something frightening is hidden under the church.

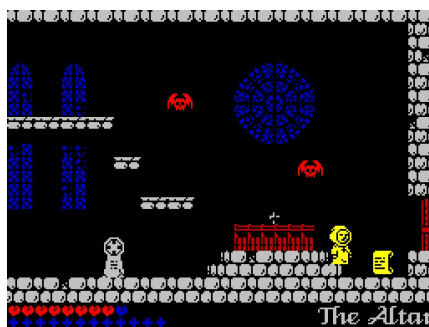
If you have finished all the old platform games for the Spectrum and want more, you should wait for this one. There is a small demo to play from last November, it impresses for sure. But let's start from the beginning.



It all begin with escape

Originally, l'Abbaye des Morts was a game for PC. It was interesting because it looked like a game for the ZX Spectrum

(apart from the lack of colour clash). Darkhorace and Jerri decided to port the game to the Spectrum and in November released a demo.



A story uncover during the game

The graphics are great, Simple and meaningful. Everything is colourful and the enemy sprites are of various sizes. The game has very good playability, the main character reacts swiftly to the controls. Right after the game starts we appear in the forest, where hordes of Knights are trying to catch us, so we can do nothing else but run. When we finally lock the doors in the old church, we can see our persecutors trying to get in, the doors jump a bit from time to time. The sound in the game is

composed of BEEPs. We can explore the old church in this short demo and will find a small shred of a story about twelve brothers. The game has a good atmosphere and we are looking forward to what will come next. There are various levers for opening the doors, some objects can be taken. What does the bell do, for example?

We have nine lives and have to find twelve crosses. There is a grave before the altar, which is used for saving our position in the game, so after being killed we will appear at the last visited grave.

The game brings back enjoyable memories of platform games and the full version will appear soon, hopefully! ■



This doesn't look good

Bomb Munchies

(C) Matthew Carrier

Throwing bombs on the heads of other people is becoming a widespread hobby in today's over-technological age. The Spectrum is not being left behind in this regard so we have here another variation on this topic. What is it about then?

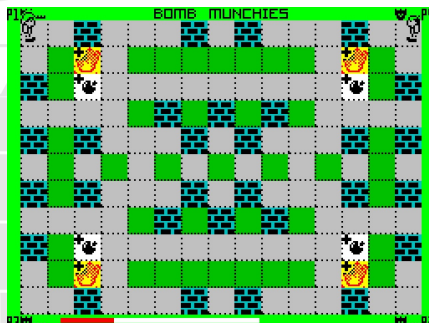
It is a game for four players at once. As the Speccy is quite small for such a number of people, we have support for quite a range of joysticks. Curiously the Kempston joystick is connected to port 55, this allows us to have two Kempston joysticks connected at once. But a special interface is needed for that. It is possible to switch off players, so we don't have to always play with four people.

After the selection of players and controls we can start the game. This is the classic bomberman, there is a maze on the screen which contains walls, which can be destroyed by bombs and full cells that cannot be destroyed at all. There are other players in the maze (at least one of them) and we have to kill them with a bomb. We have to clear the way first. Every explosion (also the explosion of our own bomb) can kill us.

Sometimes there is a bonus left after a wall is blasted away, and there are enough to choose from! From classic bonuses such as more bombs to put down simultaneously, bigger explosions or the potion that changes

the controls for a while (we shouldn't drink at work!) to some specials as the ability to jump over the walls (so it is not easy to

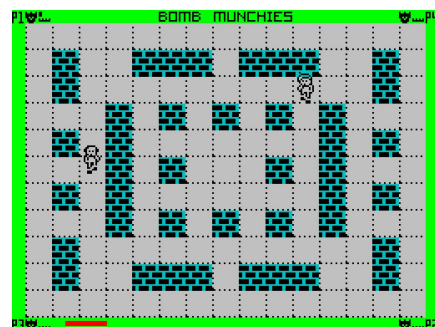
catch us in a corner with no way out), jumping over the bombs (it often happens to me that I kill myself because I put the bomb into my own way) or even a fire shield. It will not really save us from a full explosion, but it will give us time to escape. Sometimes there is a bomb revealed instead of a bonus that will explode after a while.



Game begin

The graphics of the game are delightful well-arranged and colourful, the movement is fast. Each player starts in his own corner and has his shield meter there. It's increased by collecting the sweets. The biggest downer is the time meter. When we run out of time that is marked by the white part, all of the full cells will change into

walls that can be destroyed. After a while all the boundaries of the playing area will change to indestructible walls and if any player is standing there, he will die. Every screen is generated randomly, it is more interesting for hunting the other players than the typical screen layout. The sound support is for BEEP and AY, we can play also on a 48k Speccy.



Deathmatch

The game actually offers two playing modes. The first one is a classic one round match, after all the enemies are dead the game is over. The second mode is a game of three rounds. Each winner gains a star for winning a round and when someone has three of them, the game is over. Bomb Munchies is an interesting version of the famous game and brings a lot of new ideas for sure. We will see what the full version will come with! ■

Escape from Cnossus

(C) No Time To Play 2013

Long and difficult is the way from palace

Last year saw some good RPG games being released. Escape from Cnossus is one of them. We can expect levels full of monsters, treasures and fights. There are 20 levels in the palace so we have plenty to do!

The story is simple. They kept us locked up for a long time, bringing us sacrifices and calling us Minotaur. The sacrifices have stopped coming now so we want to move out. But that is not easy.



Level exploration

Escape from Cnossus is a survival game so it is not important to fight with everyone we meet. But fights are beneficial because of the objects that enemies leave behind, like food or weapons. We will find old chests and jugs, candles and torches during our journey. Torches have a special importance because their light allows us to

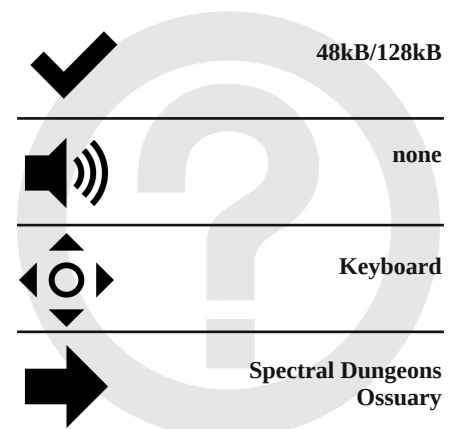
see more of the labyrinth. The monsters are afraid of light so we have a chance to progress without fighting. Our destination is a staircase that will take us to the next level.

We see everything from an overhead perspective. The graphics are UDGs, but that's OK. Our hero is @ and enemies are various letters (b - boar, s - snake and so on). There are statistics under the playing area (health and play points), one line is for status messages (what's going on during fights, stuff we took and so on). The last thing on the screen is the menu that is used to control the game. Our character is moved with the cursor keys and chooses what to do from the menu. The fights are automatic, it is enough to press the direction the enemy is in to attack. Our character automatically uses the most powerful weapon we carry. We can run away from fights and enemies will usually not follow us. When we find something that lies on the floor (chest, jugs), it is necessary to open it at first. If the item is empty it will crumble to dust. If there is something inside, it will appear and we can take it. One of the most important objects to take is a bag that will allow us to take more objects. Without a bag we can only carry one object. Health can be refilled with food, dry fruits will add 3 points and meat will add 8 points of health.

Because the game shows just what

our hero sees, it will take a while to find the staircase. The Level is mapped automatically, so what we explored stays on the screen, but the enemies and objects on the floor will appear only if we are approaching them. Candles and torches are limited, a candle shines for 14 steps and a torch shines for just 9 steps.

At the beginning of the game and while entering the next level we can choose which statistic of our hero will be increased (strength, sturdiness, speed) or we can let the game to choose it for us. I am choosing strength and escaping from the Cnossus! ■



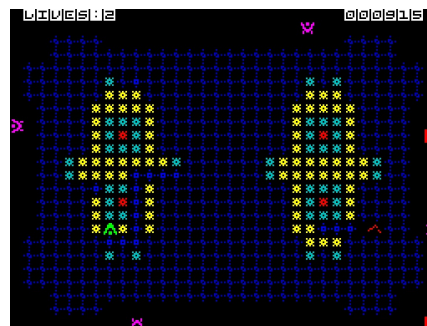
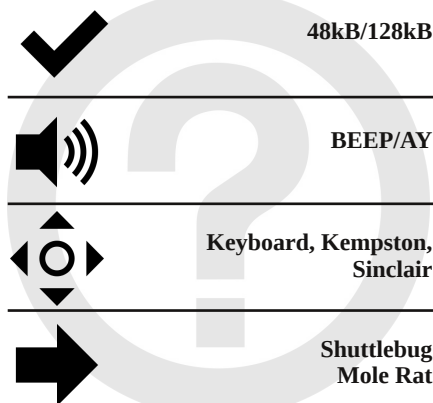
Sector

(C) Denis Grachev 2013

Good old action

It's not always easy to pick up things laying on the ground. Especially if there is someone shooting at us. But we will not give up!

Sector is a modern version of the



We can't hide

game 'Transversion' (Grid, Grid Runner and so on). Each sector is in fact one screen where we move on a grid. Our task is to pick up everything that can be picked up and avoid the four cannons that shoot from each side of the grid. We cannot fire by ourself.

Beside the fact, that the bullets can

kill us, they are also useful. They destroy everything and that is to our advantage. Some cells on the screen cannot be taken and if we can't pick them up, we have to let them get shot. As the cannons move, we have plenty to do to avoid the bullets and to use some tactics.

One original thing in the game is the effect of time slowing down. If we come too close to a bullet, the game slows down for a while. It adds to the playability as it gives us a better chance to get out of the bullet's way. It is a great feature and something that should be in other games.

Graphics are simple but good, everything is smooth and the playability is really good. Even if the game is quite hard, it is a very good way to distract from boring days. ■

Gem Chaser

(C) Bob's Stuff 2013

Colourful race with time

We could start and end with "a game about a square collecting colourful balls". But still, Gem Chaser is an interesting game which deserves a deeper portrayal. What is it about?

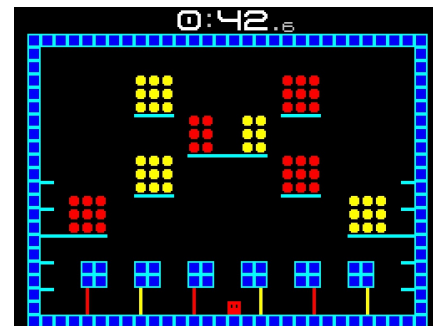
We have to pick up all the balls in all of the 70 levels. The problem is that we have just a certain amount of time for each level. To make it more interesting, the balls are of various colours. Just two at the

beginning, but another two will come later. The main idea of the game is the fact, that if we want to pick up a ball of a particular colour, we have to be the same colour. We change colour by crossing the coloured doors. For each ball taken that has a different colour to us, we will lose 5 seconds of time which is really tight.

In the game we control a square. Just 3 keys are enough for that - left, right and jump. The game is about finding the most optimal way to collect all the balls as time is really tight. In later levels it is very rare to solve the level on the first go. Our advantage is the fact, that we have as many lives as we want, so we can try until we find the way. After finishing the level (both successful and unsuccessful) it is possible to restart or go to the main menu.

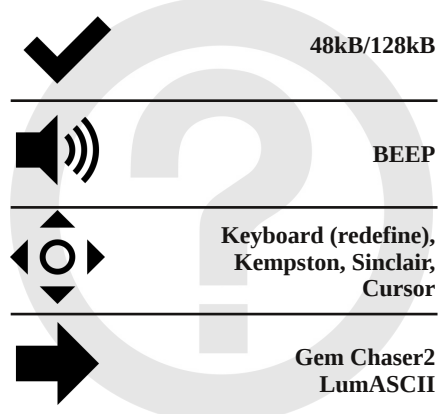
The infinite lives are what makes the game interesting. Difficulty increases slowly so one is compelled to try more and more levels. The controls react well so even complicated maneuvers are easy to do. It is possible to do fast combinations of recolouring and collecting. The simple graphics (colourful and very original) are also good, because even complicated levels

are easy to orientate in. Later levels are difficult because of having to change colour too often and controlling more than one character at once. The sound is also simple but good, the sounds effects are BEEPs only.



Moment of concentration on start

Even if it doesn't look like an involved game, it pulls you in so much, that it is easy to spend a lot of time playing. So, take care with the colours! ■



Krunel

(C) speccy.pl 2013

Not just stars fall down from the sky

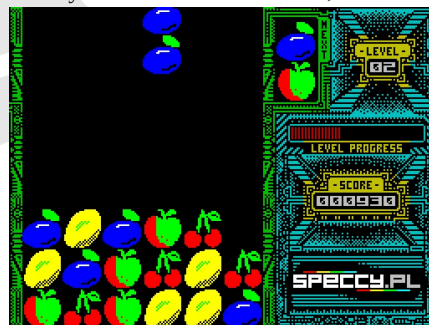
I planned the review of this game to be short and quickly written. When I had not even written a word after one and a half hours of playing, I appreciated the reset button.

Krunel is another variation of Tetris: Something is falling down, we will move and rotate it somehow (or not) and if we have the right pile down there already something will disappear. In fact, it is a variation of Columns: Pairs of different stones fall down the screen. We can change their order and columnn they fall in, we can't rotate them (to fall next to each other). We try to lay them down in a way that they form rows of three (vertical, horizontal or diagonal). If we have at least 3 of the same stones in the right combination, they will disappear and everything that lies on them will fall down. The situation in next level is the same and the stones fall down faster. And that is the whole game in fact.

The game's realization is very modern. Right after loading we can choose if we want music for AY or SAA chip (originally from Sam Coupe) that is connected to Speccy as a sound card. The

menu of the game is simple, we can choose between music and sounds during the game (this can be switched also during the game). Next to choose is the stone set, there are 16 various graphics themes together, some are better and some are worse to play with. There is a panel on the right side of the screen during the game with the information about the actual game. At the top is a pair of stones that will come next.

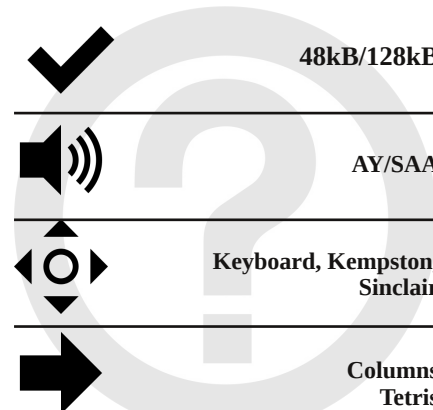
Next to it is the number of the level we are playing now. Under the number is a meter of stones that we took out of the pile already. It is not numerical, it is a



Playing with fruits

'thermometer' that shows us when we will proceed to next level. The last thing there is is score. When the game is over, we will see the statistics of how much of each combination we managed to take out of the pile. The same statistics are on the screen during a pause.

Krunel is a fast game for a few minutes that works. Easy rules, modern graphics and great playability make this game to be one of those to return to. ■



ZX Striker

(C) Valdir 2013

Even sport can be fun

I was always interested in football mostly in some pub having a beer. Clinking of glasses, cigarette smoke and uproar of talks made all this running for a ball somehow less physically straining then it was in real. Thus I opened a beer and loaded newest football game into the Spectrum.

Season 2	Round 3 / 15	Match 3/8			
	Pt	Ga	Skill	Champ	
1 Abdul	9	3	Superb	1	
2 Karl	6	3	V Good	0	
3 Toni	6	3	Poor	0	
4 Ian	6	1	Poor	0	
5 Kevin	4	5	Superb	0	
6 Pierre	3	1	V Good	0	
7 Bobby	3	0	Good	0	
8 Elvis	3	-1	Player	0	
9 Leonel	3	-2	Refull	0	
10 Hassan	3	-2	Refull	0	
11 Gary	3	-3	Good	0	
12 Mike	2	0	Superb	0	
13 Teddy	1	0	V Good	0	
14 Joe	0	-2	Good	0	
15 Valdir	0	-3	Good	0	
16 Luis	0	-9	Poor	0	

Mike VS Luis
Press any key
I lead the middle

ZX Striker is not football simulation as such, it is just about penalty kicking. We will lose that less interesting part that is about running around the playground, but will not lose the most interesting part - kicking on goalmouth and the goals itself. The game is conceived as multiplayer, up to 16 players. They can be all real players, if there is not enough of them (at least one), computer will play for them. How does it play then?

After loading, computer will ask for number of players and their names. Then sorted table of players is shown and first round of first season start. Each season contain 15 rounds and our results at the end of season determine our start position in next season. Well, not really. We start each new season in the middle of the table no matter if we have won previous season or not. The initial order is random. As there is 16 players in the game, we have to wait till we are on the play. That is happening by pressing a key after each round that is played by computer (game show us just the results and actual order, the main kicking of penalties is not shown). So, we have time to

take a look what is on the screen. In upper left corner it's number of current season. In the middle it's which round in current season is played right now, it's 15 of them together. And to the upper right there is which match in round in current season is played, 8 together. In the middle of the screen is a table with order, we can see current order, name, number of points, number of negative points (they increase with collected goals and decrease with shoted goals), player's level (we are level "Player", in my case it is "Loser" written in diplomatic way) and the last column show number of seasons that each player won. Under the table is written who play currently with whom and the results after the match. It's needed to press a key after each notification.

That was strict description, let's take a look on game itself. When our round come, screen will change into play field view from above. There is a table in left upper corner where we can see which penalty is going to be kicked (each player have 5 attempts) and current score of each



Kicking the penalty

player. In upper right corner we can see 2 arrows, the one directing up define elevation. Balls kicked to roll on the ground are usually easier to catch, balls kicked too much up can easily miss the goalmouth (that's why bigger lift is better to use when we are closer to the goalmouth). Lift is set up by pressing SPACE key for little longer. Double arrow mean screw, how much we want the ball to change direction after being kicked, that's those fancy curves to the sides when it is more complicated to



That wasn't a goal

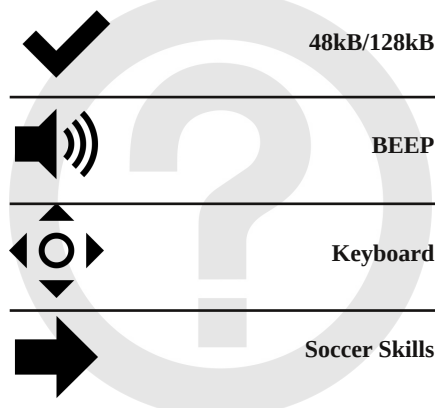
estimate place where ball will go (I am sorry for insufficient technical terminology, I used to play football mostly by sitting on the bench). Screw is set up by keys O and P.



That was a goal

We are somewhere around the play field and kicking. That is done by ball orbiting around us in half-circle. When we set up the parameters of the kick by O and P keys, pressing SPACE will do the main kick. Longer press lift the ball. The countdown mean how much time we have to do the kick, when the time is out, computer will do the kick for us with current kick settings and the ball location. When we do the kick, ball fly and we see if we scored a goal or not. After that situation change and our opponent kick the penalty and we are in the goalmouth. Now we cannot direct the goal keeper, he is sniggling automatically. Location of players on the play field is random, speed of orbiting ball is directly proportional to our opponent. More skilled opponent (column Skill in the table) mean ball orbiting faster.

ZX Striker is not big pretentious project of great size that will shock everybody. It is small, simple game with great idea which despite that (or maybe because that) long and long time stay in the field of view and one like to come back to it often, even if the realization is simple (but comprehendous). Everything is nicely readable, graphics and animations are just fine. Game is fast enough and smooth. The sound is decent, from time to time we can hear some BEEP accordance to what is going on or what we currently do. The only thing that can slow down the gameplay is the need of pressing the key after every round while we wait for our turn, but I think it is possible to use to it and game is not less playable because that. Mainly when playing with more people the game is really fun, but even while I played alone for first time, I switched the game off just in third season, so the game have something to serve also to just one player. We have here another, greatly made evidence that football can be fun also for non-sporting people! ■

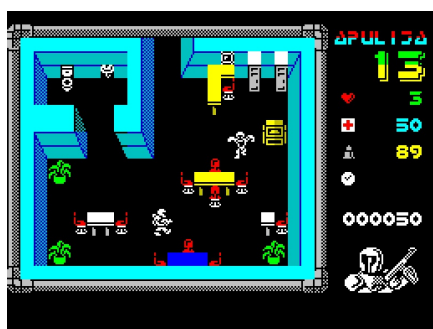


Apulija 13

(C) Alessandro Grussu 2013

Not really safe search between the enemies

We are playing the role of Jonlan, a seasoned veteran rebel soldier. His mission is to go to the enemy planet, inconspicuously land on the base there, find the plans for the secret weapon and then destroy the base. This is complicated by the fact, that Jonlan crashes on the enemy planet. He continues in his mission, but will need our help. The base itself is damaged and weird things happen there. Of course,



There is a card somewhere here

we are not welcome.

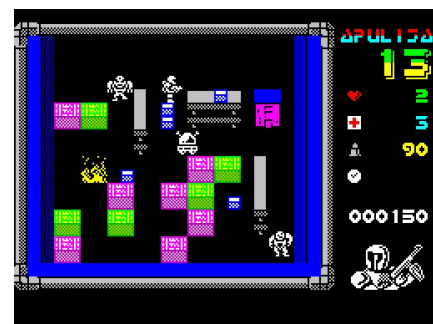
As we crashed on the planet, there is a third objective added to original two (find the plans and destroy base) - find the nanoreactor as the one in our ship is destroyed. Fortunately, all we need is inside the base.

After choosing the controls we can begin. The game is an action adventure, so we will enjoy shooting, and collecting and using various objects. The view of the playing area is from above. We start with 3 lives, 50 energy units and 99 bullets.

Energy decreases after contact with the base inhabitants and radioactivity. After setting up the time bomb we have a tight time limit to leave the base and fly away. (Else we will fly away anyway, but to more directions at once and not in one piece). We can carry 3 objects at once and will need to use access cards to access each section of the base. Luckily The entrance to the base is open and nothing prevents us from going in.

Because we don't have an unlimited amount of bullets and we need 10 or more of them to kill the ever-present enemies (and when we come back to a screen, they will appear again), it is better to use tactics and fire just in necessary situations. Enemies usually follow their own path, but sometimes we can find more intelligent ones who follow us. In this case we can use the room equipment to hide behind and gather our wits. If we carry the right access card, doors will open automatically. In the reactor room radiation will kill us if we don't carry a radiation shield. A Big advantage of the base is the fact that each section has its own colour (cyan, white, yellow and blue) so it is much easier for us to know where we are. Not all the items to pick up are visible. Sometimes we need to search for them, we have to stand near the furniture and press the key for picking up. If the object is there, we will hear a sound and the object will appear in our inventory.

The graphics of the game are nicely detailed and colourful. Sometimes there is something animating (ventilator, fire, characters). A small drawback is that there are some tiny passages, it is not easy to be in the right position to walk through on the



Guarded storage

first try if someone is hunting us. But overall the difficulty is balanced and the game play very good.

There is also an extensive manual for the game with all the story and descriptions of the objects in the game. I think that in this case it is advisable to support the rebels and help Jonlan to successfully finish his mission! ■

✓	48kB/128kB
🔊	BEEP/AY
⬅️⬆️⬇️⬅️	Keyboard (redefine), Kempston, Sinclair
➡️	Cronopios y Famas Funky Fungus Escape from Asylum

Nightmare on Halloween

(C) Radastan 2013

Mr. Bates troubles

Mr. Bates lost 5 pages from the sacred book of witches. The witches turned him into a skeleton during Halloween night because of this and he will wander the world like that until he finds the pages again.

This game shows us that skeletons can be active beings. It is not a problem for them to run or jump. But as always, nothing is perfect and each contact with another being (ghost or devil for example) is a problem, their bones will collapse. That is

the thing to think about during the search for the book pages. As we go, we will find a key sometimes. It is important to take it as it opens locked doors so we can advance in the game. In fact, there are just two keys in the whole game and if we use the shortcut, we will need just one as one door can be avoided. We can also find a pint sometimes, it will give us a life.

The game will take us to the cemetery, underground and also to the castle, everything in this game reminds us of Halloween. It is because the game came out right on that holiday. Like Misco Jones, the game is meant as a few minutes of fun and not a serious big game. Playability is good, it is not necessary to jump very precisely nor carefully maneuver past the enemies.

The game is very static. Nothing is moving or animating besides the main character and his enemies. The static water

in Misco Jones is replaced by static fire and both games are very similar. In fact, both games are by the same author. Again, the game is good fun for a few minutes but doesn't last longer. It is possible to win it in few tries. ■

✓	48kB/128kB
🔊	BEEP
⬅️⬆️⬇️⬅️	Keyboard, Kempston, Sinclair
➡️	Axel K. And The Lost Bills Raiders of the Lost Vah-Ka

The Speccies

(C) Sokurah 2013

Wheels and rolls

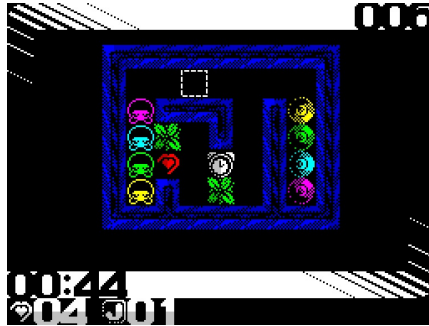
Small creatures rolled around everywhere and can't get home. As we passed by and have nothing to do, we will try to help them. We will use logical thinking and one square cursor to help.

Speccies are small beings that don't like to walk for some reason. Except moving, they can't do much at all, so it is up to us to get them home. Each has their own colour, which corresponds with one of their homes and our job is to move each one of them into its own home. If we start to roll one of the Speccies with the cursor, it will stop when it hits something.

We are restricted by time during each level. Under the time counter there is the number of lives and next to it number of



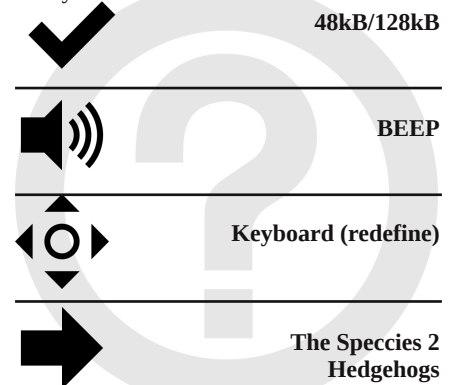
Joker letters collected during the game. The number of the current level is up right. We



can move just one Speccie at a time. In the way there are the borders of the playing area, plants and some other obstacles. Sometimes we can find alarm clocks (to add time) or hearts (to add a life). Other obstacles are various arrows, which will change the direction of the speccie or cells that will bounce the Speccies back. When we select a Speccie, the edges of the screen will change to its colour. When a Speccie is in its house, we have to release it from the cursor to make it really at home (so rolling through the home is not counted as success). When we pause the game, we can restart the level or abort the game.

Graphically the game is great. The graphics are big, detailed and colourful. Animations are fluent nothing flickers or jerks. The game even supports ULA+, so it can be switched into a more colourful mode in some emulators. The music in the menu and sounds during the game are for BEEP.

When a new game is started, each 13th level is accessible. We have to pass all of them to finish the game. If we lose or abort the game, levels that we solved already are marked by a green colour and don't have to be played again. It is a great puzzle game in an attractive jacket, that will surely find its fans. ■



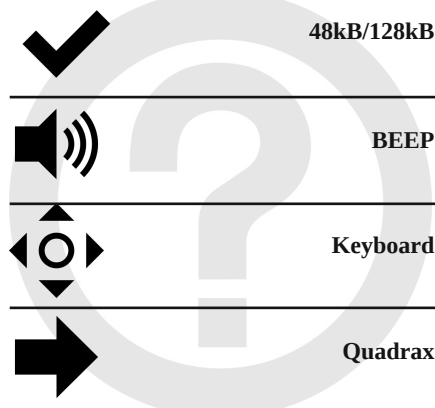
Effugit

(C) JBGV 2013

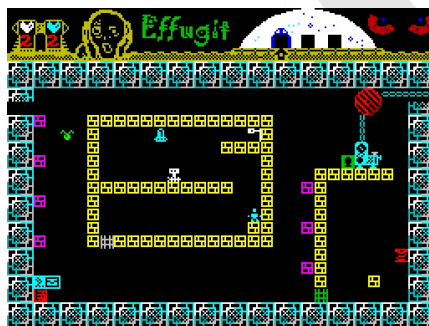
Old good post office

An unusual game should have an unusual name and this is the case here. Even if the graphics are just average and sound is also not any miracle, control of the main character is surprisingly good. The character reacts quickly and playability is really nice. What is it all about then?

We control a small character that has



to jump in each level to get to some vehicle and leave the level in it. While playing each level we will find some locked doors. There is a key, but we cannot use it as its colour differs from the doors. That is the point of the game. We can control two characters. Each is in its own world. Each of them solves its own problems on the way to the vehicle but they are connected with a post box. Objects in the game that can be



Level started

collected, can be sent to the other character who can use them and send back something useful. The keys are the items to send between characters in the first level so each one can open doors on the way to the vehicle. The important thing is the fact, that each character ends its own level alone, so we have to take care not to finish the level with something the other character needs.

The destination vehicle can be anything from steam cars, helicopters to flying saucers. Both worlds differ by colour, the first world has a black background and the second world has a white background. As well as sending the objects, sometimes it is necessary to send something that will take effect in the other world.

So, we will have to think as well as jump. After a short while one will stop thinking about graphics, because the game is interesting and funny. ■

Janosik

(C) Rafal Miazga 2013

There is not just a robbery in the life of outlaw

Every culture has its own Robin Hood. Our one is called Janosik and he is coming to our Spectrums! Janosik was legendary because he stole from the rich and gave to the poor. Except that he was young, strapping, strong and all girls wanted him, simply all the characteristics needed to become a hero. And as they kidnapped his girlfriend and took her to the castle, it is time to go and rescue her!

Hence we are in the role of Janosik who goes to the castle. The way is long, we have to pass the hills, village and finally the castle. There are all sorts of things standing in our way, bears, wolves and dogs. And that's not all, we have to jump to platforms and use carefully timing. So how does it play? Basically, we have to worry about everything that moves. The enemies who are the same height as Janosik can be killed by our axe and the rest of the enemies have to be avoided. Janosik progresses from left to right and this is a flip screen game. When we go back to the previous screen, all the enemies are there again. But it is not needed to go back, the way is always just one.

We start in the forest in the middle of the hills. There are mainly bears and wolves here. Fish jump out of and wolves here, fish in the water and birds flying around, all have to be strictly avoided.

There are some jumps over water and sometimes we have to jump to moving platforms. That can be tricky because we can fall off the platform even if we are not really at its edge. When standing on a moving platform, we have to keep walking otherwise the platform will move out from under us and we will fall down. It is not needed to press jump+direction as Janosik always jumps in the direction he is facing when the up key is pressed. That is also the main strategy element of the game, we cannot change how far we jump. On the other hand, usually we have time after



Hills are not always friendly

entering a new screen to wait and see how enemies are moving, so we can plan each screen.

The second level involves going through a field of sheep and a village. There are fewer bears and the same amount

of dogs instead of wolves. Sometimes we will meet sheep or goats. The jumps over the water are a bit easier.

The third level is in the castle. There are again the dogs, goats, some sheep, bats and bears. The Castle is pretty hard and one takes a breath after it's over.

The game impresses with its nice graphics. Everything animated moves smoothly and nothing blinks. It is possible to use to exact jumps, but it makes the game really hard. Sounds consist of BEEPs but there is nice music for AY during the game. The movement style and overall game principle are different from most of the new games so it is really recommended at least to try it. The game has also been released for Atari 8bit and Amiga. ■



48kB/128kB



BEEP/AY



Keyboard, Kempston, Sinclair



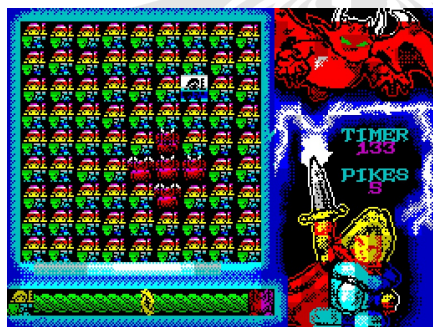
Elixir Vitae
Heritage
Streets of Doom

Knights & Demons Deluxe

(C) Einar Saukas, Baron Ashler, Craig Stevenson 2013

One more fight between the good and evil

Legend says about big duel between good and evil. The gates of hell opened and the army of demons came to the lands. How does the combat look like?



One more draw to win

Here we have a strategy-logic game. On the playing field are 9x9 cells that

consist of warriors and demons. Our task is to eliminate one of the two sides. Battle is controlled by a cursor, which can be moved all around the playing area. When the fire button is pressed, 5 characters change to their opposite (warrior into demon and demon into warrior). And that is the only rule of the game. We will need to think how most efficiently to use the cursor. One thing that makes the game easier is that we have a spell that will turn just one character under the cursor into its opposite. But we have just a limited amount of that spell. Although we have an unlimited amount of moves, there is a timelimit for the battle itself. It's counted on the right of the playing area, under that is the number of spells that can be used for turning just one character under our cursor. An interesting fact is that we can choose which side we will play. The game is finished when there is just one type of character on the playing

field.

Knights&Demons Deluxe is an improved version of the game of the same name. It is fun, easy and stunningly colourful! ■



48kB/128kB



AY



Keyboard



All Present and Correct
BeTiled!

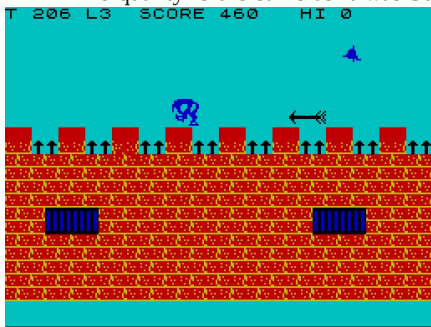
My Rendition of Horace to the Rescue

(C) Steve Broad 2013

If it's really bad, just ring

When it is bleak and cold outside. When you feel cold just by looking through the window, we can play some short games while waiting for our favourite movie or TV programme. One of those games is Horace. A sequel called "Horace to the Rescue" was promised about 30 years ago but it never materialised. Steve Broad decided to do something about it and we can play it now. But is it any good?

The quality is the same as it was 30



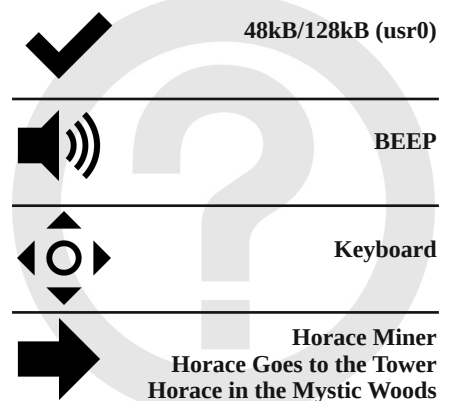
years ago. Graphics and sounds are original, the content is new. Maybe not even the content, it reminds us of another game classic - Hunchback. Our task in this game is to save the bells. It sounds easy and the first levels really are. But all this will change.

There are 15 levels and each one consists of one screen. We start on the left side and have to jump to collect the bells. If there are coins on the screen, we have to collect them also. To make it not so easy, someone fires arrows and bombs at us. Arrows fly at us at two heights.

The first one has to be jumped over and the second one will hit us during the jump. Bombs are always rolling on the ground. The next complication is the fact that the ground is not always flat. We have to jump over prickles. The coins are a small help, we can stand on them and low flying arrows and bombs will not reach us.

As I mentioned already, the graphics and sounds seem to be really from 1982.

Movement and general control is fast and responsive enough and the game plays good. It's not that difficult, deaths are mostly due to accidents (sometimes we are hit by a bomb right after our respawn). It is possible to complete the game after a few tries. This game is a great choice for spending few minutes on! ■



Gem Chaser 2

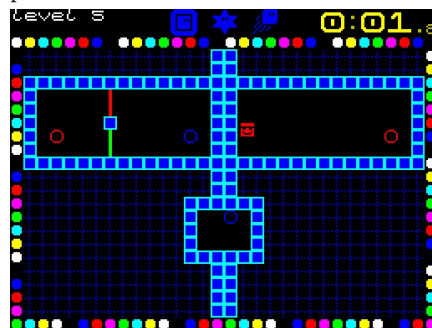
(C) Bob's Stuff 2013

Colours, nothing but colours and a bit more of time

Not much time has passed and there is a sequel to the game about collecting colourful balls. That means we have 70 more levels full of colours and racing against time. As there are changes in the rules, I think it is good to take a closer look.

The Graphics and the game principle are the same, but it differs in how to play. The first difference movement, inertia was added. So, when we go too fast, it takes a time to stop. Right in the first level we see another new thing, when we are green,

there is a small green star close to the balls. This happens in every level and is visible only when we have the same colour as the star itself. But the biggest difference is probably the fact, that we can continue to play even if the time is up. And that's the point where the sequel differs from the first part the most.

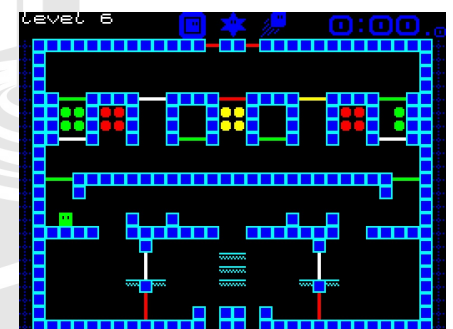


Successful end of level

After finishing each level we get a small summary. It consists of three things - if we collected all the balls of each colour, if we picked up the stars and if we did it within the time limit. The point is the fact, that we can pass through all the game even without being on time or having all the stars, but we will never finish the game

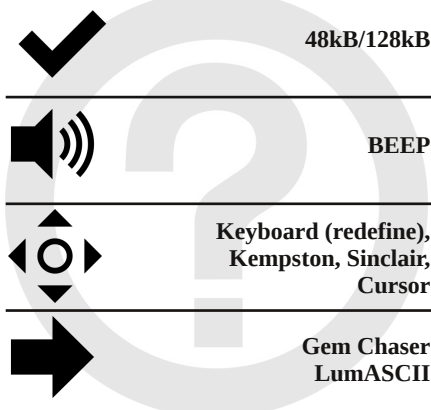
100% and will not get the final congratulations.

There are new things in later levels such as controlling more than one character at once (that is known from previous game), teleporters or even arrows changing gravity (so we walk on the ceiling sometimes). Also changed are the graphics of main character when we collect all the balls.



Lack of time can not hurt us

Gem Chaser 2 is quite an enhanced sequel of an interesting game. Some people will be not be comfortable with the changes, some people will like them. I think that the game is so different that it is worth trying. ■



Ossuary

(C) Cynningstan 2013

Adventurous trip to underground

For centuries, people buried their ascendants into underground cemetery to rest in peace. Things changed and more and more rumors about necromancers who wake up the dead and use them for their own intentions are heard. When one of them settled up in local cemetery, people decided to act. They chose one hero and want cemetery and the peace of their deceased back!

We are that hero, of course, and there is plenty to look for. Twenty-four floors full of various monsters and enemies are waiting for us and at very bottom also the main necromancer. To have things more complicated, our hero enter the underground unarmed, with just a little bit of food. What are our chances?



Treasure without guards

Ossuary is classic dungeon, where the view is not by first person but from above. Our character is always in the middle of the screen, which moves by attributes. All the game is played by draws, so everything move just after we move. It bring time to think up our next advance and also some strategy for later levels. But now let's see how the game look like.

We are right in the game after we choose controls. There are our statistics on the left side of the screen, specifically attack, defense, intelligence and health. Numbers with plus show up when we take objects that improve some characteristics (dagger add 2 points to attack, for example). Upper number next to health mean our actual amount of health points, lower number show maximum possible health points. In the middle of the screen is the main playing area. Inventory is on the right side of the screen. In lower big window are objects that we carry in inventory, upper two separated windows contain objects we carry in hands. Game does not care about left and right side, so our hero fight the same good with sword in left hand as in right one. Status messages are in the red line under playing area so we know what is going on.

There is enough of enemies in the game. At first we will meet bats, they are

nearly harmless. Later rats, snakes and skeletons will come. All of these can be killed by usual weapons as dagger or sword, shields work as defense. In later levels demons and ghosts appear and those are immune to any weapon, so it's needed to use spells. These can be found in form of scrolls or magic stick. For better defense against demons and ghosts there is special bracelet. Besides weapons we can find also food. That is in form of apple, that gives 4 points of health, or bottle, that will restore full health. There is not a dungeon without treasures. Sometimes there is bag of gold laying on the floor, sometimes even chest. Collected gold is displayed under the statistics on left side of the screen and work as a score.

Now few words about using of the inventory. All game is controlled with just 5 keys, so simple menu is used for inventory. When we hold down fire, keys left and right moves us between the menu items (it is shown in red line under the playing area). Game try to predict most useful command, so when we find object on the floor and press fire, we will automatically take it and don't have to use the menu. Possibilities are as follow: take up object (if we stand on some), go down the stairs (that will end level and start new one), save and load (both to the tape) and game end, quit menu without taking any action, waiting (it will end the move) and going to the inventory. In inventory, we can eat an object (if it's food), use (move object to hand), move object from hand into inventory, put object on the floor and close the inventory. It look complicated when it's written like this, but game itself really help in this way and we will find it easy and clear. Most time is taken by change of the objects in hands when we want to use spells instead of classic weapons.



I have a chance to escape one floor down

And now finally the main game. Each of 24 levels is one floor, where stairs are placed. We have to find and use them to go to next level. As some of the enemies carry objects, it is good not to avoid the fights. Those are easy, it is enough to come to the enemy and press the direction where enemy stand, game will attack

automatically. We can leave the fight anytime we want (if there is free cell anywhere around us), but enemies will

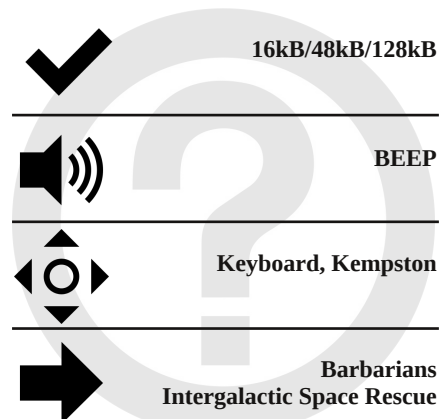


Rats are dangerous even in small amounts

usually follow us, so it is better to end the fight. We can access inventory during the combat, so it is possible to replenish our health when we are losing (and we are carrying food). Game tell us about the fight in the red line under playing area. As we gather experience from the fights, maximum health points grow up. When we have explored whole floor, we can use the stairs to go down, where everything will continue. Each floor have different layout of rooms, objects and enemies.

Whole game contain nice, colourful graphics. Nothing is animated, but everything is clear and we always know what is happening. All objects are clear to recognize, so we don't have to think up what is on the screen. Also, each game is generated randomly (levels, enemies and also our own statistics), so it is always a little bit different. Sounds is just few BEEPs, but the game work also on 16kB Speccies.

I think that Ossuary is one of the best games that appeared on the Speccy last year, it is really fun and no boredom even after few games. Sure recommendation for RPG fans! ■



Donkey Kong Reloaded

(C) Gabriele Amore 2013

Return of the Mario

The Speccy has never been Mario's domain. In fact there is just one game that comes to my mind that was an official licence and it wasn't really good. Maybe now it's time to change that.

Donkey Kong Reloaded is a classic platformer, where Donkey Kong kidnaps Mario's girlfriend so he has to save her. To make the task difficult, Donkey Kong is throwing barrels, monkeys, tortoises and other things his way. This is not a classic one screen platformer, Mario has to pass more screens (11 altogether) to save his girlfriend. But this time it will not be that easy.

The main feature of this game is difficulty. I was unable to reach even the second screen after the first few tries. The barrels and monkeys don't always fall down the same path. Each contact with them means instant death for Mario and he has no way to defend against them except jumping. When I managed to pass the first screen, the same situation happened in the

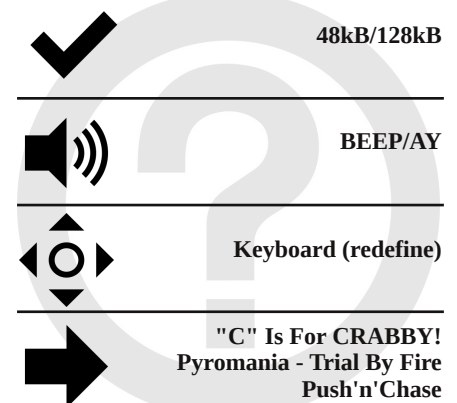


second one. It is said that tortoises are slow!

After few (tens of) tries it is possible to progress in the game. A slight improvement in the situation comes up in the third screen, where the hammer is. But it is important to get to it first. If we are successful, Mario has a weapon against the enemies! This fact made the game a little bit easier, but later the enemies start to fly, so it is again not really easy to eliminate them. There is a small statuette of Mario in one of the next screens - we got a life when we took it. The thing is, if we leave the

screen and come back again, the statuette will appear again (together with enemies) so we can collect as many lives as we want. The game is still really difficult and the screen with PacMan was the last one I got to. Even with all the lives I had collected.

The graphical side of the game is just great, it is colourful and detailed, there are a few AY sounds during the game. But the difficulty makes the game less fun. ■



Moderate Retribution

(C) Stonechat Productions 2013

Kill what moves, or avoid it

A retired pilot is sitting at home, remembering the good old times and watching the burned out red sun on the sky. Suddenly a message about an attack interrupts him... We all know it, we have experienced it so many times already!

Moderate retribution is typical shoot'em up. We fly a space ship from left to right and shoot everything that moves. Or avoid it as one shot is not always

enough to kill the enemy. To make things not so easy we are flying in narrow corridors that are sometimes really tight. The speed of our ship does not add up to good manoeuvring, so the game will keep our attention for sure. There are 5 levels altogether.

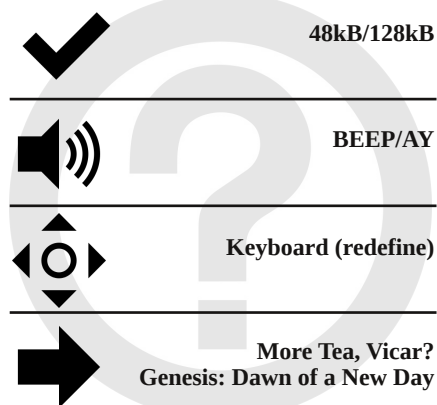


One oddity of the game is the fact that nothing fires at us. Enemies just fly around in formation and that's all. The landscape contains no guns, even the end level bosses fire not even a bullet. On the other hand, contact with anything (maybe except the water in third level) will kill us. The absence of bullets can give us a feeling

of easy flying through the whole game, but it is not really true. We have 5 lives at the beginning, one more after finishing each level. The only bonuses in the game are some coins with the amount of 50 and 100 points. Those appear at various times after killing some enemies. A small bug causes the coins to appear in places that cannot be reached by our space ship. Except bigger end level bosses, there is only one type of enemy in the whole game (flying donut, favourite cake of policemen).



Moderate Retribution will surely cheer up every fan of classic shoot'em ups, even if it doesn't last very long. It is possible to win it in a few tries and also it gets boring quite soon. I really recommend spending at least one afternoon with this game! ■



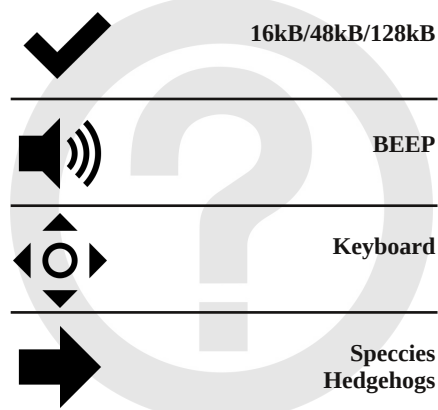
The Speccies 2

(C) Sokurah 1983

Less colours but certainly not less fun

The same day that Speccies came out its sequel Speccies 2 appeared. It is a different game even if its genre (puzzle game) is the same. It looks like a poorer relative at first sight, but it doesn't mean it is not interesting, on the contrary. The look is adapted to the fact, that the game runs on 16kB Spectrums. What is it about then?

We are controlling a character that

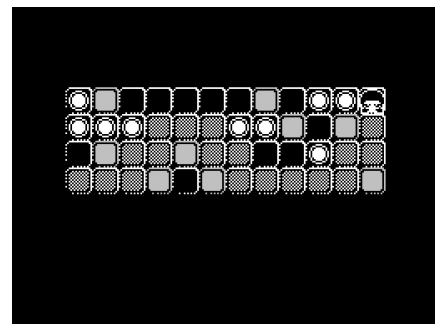


rolls from cell to cell. It can roll only to empty cells and the visited ones are not accessible anymore (they are filled with a check pattern). Some cells are not accessible from the beginning. The idea is not to fill all the cells on the screen, except the ones with the circle. When we roll over all the circles, the level is over and we move to the next one. There are 45 levels altogether and the playing area can be various sizes. Also, there is no time to worry about, we have as much of it as we want.

The game look easy. It is black and white (but uses BRIGHT) and there are no indicators on the screen, just black colour and playing area. Animation is smooth and the controls are comfortable. When we make a mistake and want to repeat the level, we have to create a dead end situation (move the character to some cell that cannot be left) and the game will end the level itself. There are sounds for BEEP during the game.

There are 36 levels accessible in the beginning, and 9 levels to unlock. If we go

back to the menu during the game, all the levels we have won are marked green so we can skip them.



Long way

Speccies 2 is a pronounced logic game that has a comfortably ascendent difficulty and knows how to keep our interest for a longer time than just a few minutes. It is certainly worth trying! ■

Tank Battle

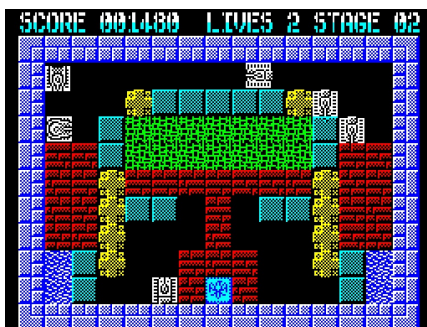
(C) Illusion Works 1995, 2013

Tanks in town mean troubles

As The Super wrote in one of their demos - Old is the new new. This can apply to Tank Battle, this game was made in 1995. But was never released, until just last year.

Our land was attacked by an enemy army and as noone is around to do anything, the defence is all our responsibility. There are 16 levels full of driving the tank and shooting waiting for us.

All the action is happening on one screen and we are looking at it from above. Down in the middle is our base that we have to defend and we have to destroy all the enemy tanks. Except the base and tanks, there are some restraints on the screen. Red walls are easy to destroy with bullets, yellows are harder to destroy. It is not possible to shoot blue walls at all. Tanks are not visible in the forest (but can be shot), water slows them down. There are six enemy tanks on screen at once. When we kill some, new ones will appear. Altogether there are about 14 enemy tanks in each level. They are probably a bit more modern than our one because they need more hits to be destroyed. We need just one hit to lose a



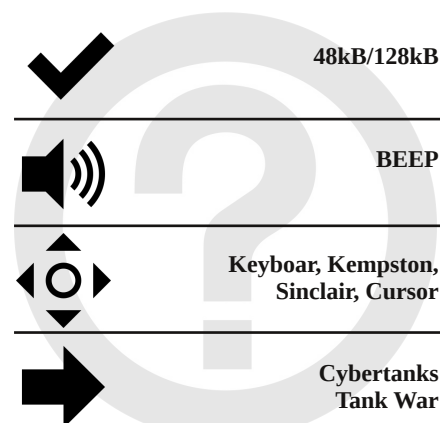
My tactic is waiting

life.

Enemies are not the most intelligent people. They are just hanging around the screen and trying to get down to our base. They are not shooting much and often change their direction. But they react to our shooting and just sometimes go into the path of our bullet. Luckily, there is no time limit, so we can use tactics. We have five lives. The game contains access passwords for levels. Instead of showing passwords after each level we pass, we only see passwords for the level we lost our last life in.

The tank movement is a bit slow and we need to get used to it. But everything in

the game is smooth. The graphics are simple, but well-arranged, so we will not be lost even in the middle of frantic action. Sounds and music are for BEEP. Playability is balanced and it easy to be in the mood to return to the game. Tank Battle is a conversion from the NES and I think it is a good one even if there are small differences (speed of the tank for example). ■



Los Amores de Brunilda

(C) Retroworks 2013

What if some superstitions are true

Various things happen in old forests after sunset. Even pilgrims are not safe from spells and frightening secrets of the past. Let's take a look on story of two pilgrims, who look for housing for one night in small village in the middle of dark forests.

The game will take us to first half of 19th century. Two Franciscan monks came to small village San Arteixo do Montalvo and are trying to find housing for a night at the end of the day while they are on the way to Santiago. They succeed but have no idea about the cost of it. We take role of monk Gonzalo. When we wake up in the morning, our companion Cesareo is not in his bed. When we find him in strange sleep, we start to unravel a story full of mysteries, spells and secrets.



Arrival to the village

Los Amores de Brunilda is adventure. We're solving puzzles, walk through locations, collect and use objects, talk with people. Game remind Japanese classics as Zelda. We see world from above, computer characters live own lives, we are collecting objects that we have to have with us on right place in the right moment. And we still have great freedom of walking in playing area. Game world is really big and is split into several parts (village, swamp where witch live, house with our companion and so on).

The graphics impress from the beginning. It's big, colourfull and detailed. Game move by attributes, so there are no problems with colours and it take not much time during moving between various locations. Objects are clear from first sight so we don't have to think up what is shovel and what is mushroom. When we come to inn, for example, various characters are animated (in fact most of all characters in game move somehow, so even if surroundings are static (trees, water and so on), game doesn't look static). Mainly in new locations, there is plenty to look at.

Hand in hand with graphics come music. Each location in game have own music motive. Village, holy ground (church for example), swamp or underground, music motive change according to location. Musics are simple, but they build up atmosphere and overall impression from game.

Very important part of the game are dialogues. We will talk often and a lot. Various characters will tell us various things and sometimes we will get (or give) some object during the dialogue. Although we cannot choose what to reply or lead the dialogues at all, it is good to take care what dialogues are about as it will move us forward in the game. Talks also explain story of the game that is sometimes more complicated, sometimes more clear. Together with graphics and musics it build up great atmosphere and we want to know more and more.



At the witch

Let's take a look how is it with the playability. Beside talking, we have to use various objects. In fact it is not much about using as about having them in right time on right place. Also we don't have to combine objects together, each one have concrete use in concrete situation. The game is pretty easy in this way, also there is not too much of the objects at all, so we are not lost which one to use where.

Complications come in form of small action games. Sometimes rocks fall onto our head, sometimes we walk through underground only with small light of lamp

and we have to shirk various monsters. This things take out our fate. That is this indicator next to the cross below playing area. When fate come to zero, we will lose our mind and run into the forests where game ends for us. There are two places where we can replenish our fate, church being one of them. Also we can find chaplet, it will replenish our fate automatically when it come to zero, but just once. Bigger right side under the playing area is inventory, where we can see all objects we carry.



I am loosing this fight

Very interesting part of the game are combats. Bigger monsters in game hold down not so easy and want to fight. Combats are some kind of "dance", arrows fall down in the middle of the screen (directions, sometimes circle as sign of fire) and we have follow them by pressing corresponding direction. Point is in the fact, that we have to do it right when the symbol is down in the lowest stripe. Each combat is a bit faster and more difficult to win.

Game is divided into five chapters, when we finish one, we get a password to start in next one. It is good when we don't have enough of time to play the game in one go.

We have a game that was not here for a long time. The story is not only ornament, texts are not just filler. Player is absorbed by atmosphere and have no will to stop playing until he will find out the very end. Great amount of graphics, musics and overall details is stunning even more as it is regular part of the game and will not stop to amuse after few minutes of playing. It is sure that time invested into playing of Los Amores de Brunilda is not wasted one! ■



✓	128kB
🔊	AY
⬆️⬇️⬆️	Keyboard
➡️	Iron Lord

Funky Fungus

(C) Alessandro Grussu 2013

Saving the world once again

There are people who will not find a mushroom even if they stumble on it. But Funky Fungus is the type who will jump on your head and throw something at you. A star for example.

We can find out what it is like to be an active mushroom in this platformer. There are 40 levels waiting for us. But let's start at the beginning.

We control a mushroom in the game. We have to jump to the star in each level and take it. When we have it, we can shoot

and our aim is to kill all the enemies on the screen. That's not too easy because they are quite strong and we need 7 or more shots to kill them. Our mission is complicated by

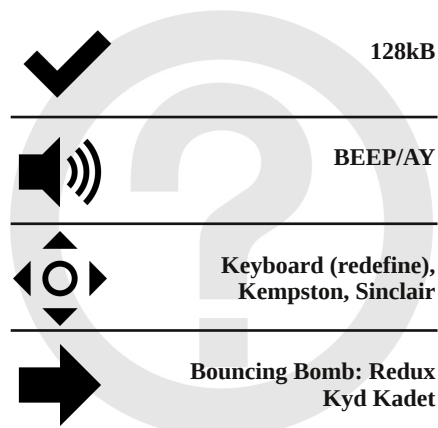


two things, each contact with the enemies is lethal for us and there is a strict time limit. All those are ideal conditions for stress-lovers. But there are also positive things. Each level contains just one screen. So we will not get lost. The second positive thing is the fact, that after killing an enemy there will be usually some bonus left for us to pick up. If it is a star, we can shoot more than one star at once (normally we shoot just one star at once), clocks will add time and mushrooms will add a life. If we touch a skull, we will lose a life. There are 40 levels altogether, 4 groups of 10 levels. This information is important because after each 10 levels we get a new life and our

score will reset. Also we can continue 3 times after we lost all of our lives, from the beginning of the actual group of levels (so, when we see "game over" in the 35th level, we can continue the game from the 30th level). When we pass all 40 levels, we will meet with the main enemy. It is not easy to overlook him as he is about 8 times bigger than we are.



Funky Fungus is surely a nice game, that has BEEP and AY sound effects. The graphics are colourful and well animated, animations are smooth and the controls are great. The game is hard anyway. It is important to plan our jumps carefully, the time limit is also tight. Those who like platformers will not be disappointed! ■



128kB

BEEP/AY

Keyboard (redefine),
Kempston, Sinclair

Bouncing Bomb: Redux
Kyd Kadet

Misco Jones

Raiders of the Lost Vah-Ka

(C) Radastan 2013

Action archeology

Misco Jones is a bored youngster who decided one day to find the gold sculpture of Vah-ka. Even though no-one knows where to look for it, he has found one small unexplored place on the map and sallies forth there.

We have another platformer here. We go through the jungle from left to right, avoid bats and native guardians, jump from platform to platform and take care not to fall into water. We can end here but as we started already, we should finish.

We will use reflexes and good timing more than logic in this game. The way through the jungle is easy and straightforward, it starts to be more interesting in the temple. The way is often branching and we are finding doors that we have to find keys for. We have no possibility to eliminate the enemies, so avoiding them is our only chance to progress in the game.

We have 5 lives for all the archeological action. We can find a bag in a few places which will give us a life when we take it. One special thing is the white rounded rocks that can be rolled. There are keys or bags behind them. Rolling is done by pressing jump if we are right next to the rock. Sometimes the bags next to the rocks disappear but we can still collect them by walking in the place where they were.

The game is not very long and it is



possible to win it in 3 or 4 tries. Graphics are nice, but apart from the enemies the game is static. There is no animation of water, in fact there is no animation of anything at all. The main menu contains music and the game has a few BEEP sounds. The game is good fun for a few minutes, but because of its shortness it will not last long. ■

48kB/128kB

BEEP

Keyboard, Kempston,
Sinclair

Axel K. And The Lost Bills
Nightmare on Halloween

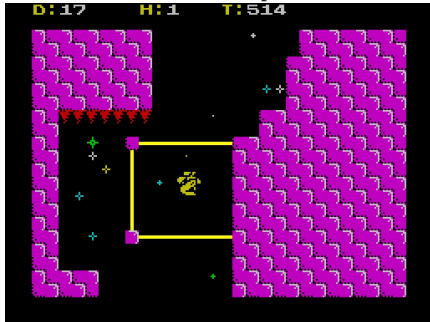
Heart Stealer 2

(C) Timmy 2013

Another hunt for hearts, this time in strange world

Walking on the ceiling and stealing hearts sounds original. Let's see what it's like when we can control gravity.

The original Heart Stealer was a nice platformer. It was about collecting hearts on the screen and then moving to another one. In this sequel we collect hearts just the same. There are no enemies, but the overall situation is a bit more complicated.



Frequent situation in the game

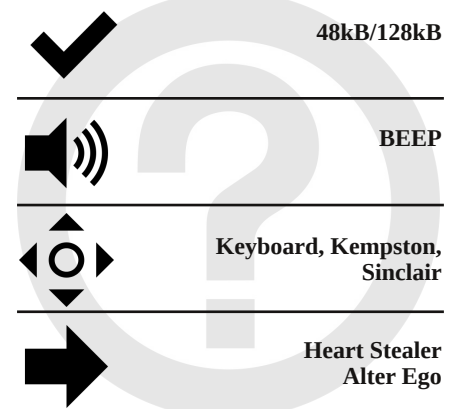
Right at the beginning we cannot go anywhere because there are some barbs in

our way and we cannot jump. The point is, that by pressing fire we can reverse gravity and will fall to the ceiling. This way we can avoid barbs and when we come to the next ones, we will just reverse gravity again and that is all the principle of the game. When leaving the first screen we walk around some lamp that will light up. That is a teleporter and we will return here when we die. We will meet a lot of them during the game and it is good to pay attention to them. At the beginning we will be impressed by the size of the game world. There are big empty spaces and it takes a while to orientate. We will find sooner or later that we can walk in circles. When we come to the right edge, we will appear on the left edge. And that's how it works with all the directions. There are six hearts we have to collect.

Up above the playing area there are three indicators. First one counts our deaths. The number increments, so we can see how many times we were unsuccessful. We have as many tries as we want. In the middle there is the number of hearts we collected. On the right there is time, as it increases, we don't have to worry about it

running out.

The game is graphically nice, but difficult. The main character has just 2 animation frames, nothing else is animated at all, maybe just a few platforms that disappear under our feet (but they will be back in place when we leave the screen and then come back). The sounds are also just average, there are a few BEEP sounds and music when we find a heart. One tune plays in main menu. I am not sure if this game can sustain our interest for a long time. ■



Land of Mire Mare

(C) Luca Bordonì 2014

Legendary adventure in new and old execution

Mire Mare is one of those games that everybody knows, while it never was released. It was supposed to be another game in the Sabreman series from Ultimate. About 30 years from its announcement it really appears on our screens, so I played it.

We control Sabreman, who has to find three diamonds and throw them into a well to stop the volcano's eruption. To make things not so easy, each diamond is guarded

by a guardian that cannot be destroyed. The diamond is not easy to get anyway, it only can be exchanged for something else. Also we need keys to open doors, but keys are not unlimited. There are creatures all around that attack us and take our energy. But let's start at the beginning.



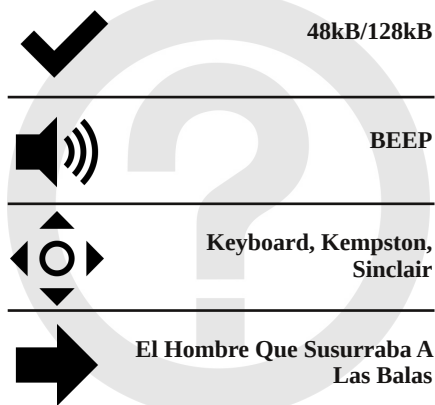
Sabreman is walking around some ruins. He finds objects, some will give him energy (spray, bottles and alike), some work as weapons (sword - kill everything except the flames, axe - quench flames, stick - kills everything), some do nothing (old shoe for example). On his road he will find locked doors, they can be opened with

the keys. But there are just very few keys and also the doors will lock themselves after their use. Luckily we can use also the axe, it will open the doors even without the keys.

Useless objects in the game are very useful. Those are the ones exchanged for the diamonds. We can carry just one object at once it means also just one diamond. When we have one, we have to find the well and throw it in. When we manage to do it with all three diamonds, we win.

The game is not too big so it is not a problem to orientate after a while. That makes the already hard game to be a little easier, as we are permanently under attack and also have the problems with the keys. But that is how it works in all games with Sabreman.

The game is made to look like it is from Ultimate. Even if I haven't managed to win anything by Ultimate, I've managed to win Lands of Mire Mare and was nicely surprised after an initial scepticism. Those who like to run around and collect objects will be satisfied for sure! ■



Cross-Packing

Brief overview of cross-packing possibilities

As most of all new software for Speccy is made on PC, I've took a look on programs that are for packing and offer depacking routine for Z80. It is just very brief and not complete overview, testing method was also simple and with just default settings. All packing utilities work in command line.

Packing on PC have advantage in speed and possibility of using more difficult algorithms. If packed data are easy to depack, there is no problem to implement depack routine for Z80. Speed and length of depack routine is important when we need to depack during program run or if we are running out of memory. What are the possibilities then?

Quido - RM-Team

Quido was made originally on ZX Spectrum. It sat in screen and used **Shrink** and **Implode** (taken from **Turbo Imploder**) methods. It was later re-written for PC. It's basic characteristic is as follow:

- use Shrink and Implode methods, each block is packed by more efficient method
- use four modes of compression, those can be selected manually or automatically let the program to choose most efficient one (they differ by length of IMPLDOW window and by direction of packing - from the beginning or from the end of file)
- packed data can be saved with or without depacking routine
- possibility of automatic TAP file creation

The length of depacking routine differ in accordance of compression mode and if we want to move the data in memory automatically or using our own routine. Longest cases of depack routine are **101 bytes / 90 bytes** for modes 1 and 3, **103 bytes / 100 bytes** for modes 2 and 4. Depack work easy: LD HL,packed_data; LD DE,where_to_depack; CALL depack or JP depack.

Interesting thing on Qido is that it offer depack routine also for **8080 CPU**.

ZX7 - Einar Saukas

ZX7 is not packer for music editor ZX-7, but general packing utility. ZX7 is implementation of **LZ77 (Lempel-Ziv 1977)** algorithm. Author write about optimal compress algorithm, program always look for best compression and that

one is used. Basic characteristic is as follow:

- just one mode of compression
- does not attach depack routine
- there are three depack routines to choose from

As said before, we can choose from three depack routines. Those differ by length and speed. Slowest one is just **69 bytes** long. Faster one (25%) is **90 bytes** long and fastest one (30%) is **244 bytes** long. Depack is again easy: LD HL,packed_data; LD DE,where_to_depack; CALL depack or JP depack.

MHMT - LVD

MHMT mean '**Megalz, HruM, hrusT**'. It contain optimal packing for megalz and hrum methods, semi-optimal method for hrust packing. Basic characteristic is as follow:

- option to choose packing algorithm
- option to set up packing windows for each mode of compression
- option to depack right on PC
- does not attach depack routine

Default compression mode is megalz, that is also the one I tested. Length of depack routine is **110 bytes** in this case. Depack is again simple: LD HL,packed_data; LD DE,where_to_depack; CALL depack or JP depack.

Exomizer 2 - Magnus Lind

Exomizer is packing utility primary for computers with **6502 CPU**, but it contains also depack for Z80 if **exoraw** method is used. Basic characteristic is as follow:

- pack from the beginning or the end of file
- option to set up length of the packing window and phrase
- option to set up number of optimization passes
- does not attach depack routine

Depack routine is **169 bytes** long (167 if we packed from the end of file), or we can use slower one that is just **154 bytes** long (152 if we packed from the end of file). Depack is as always: LD HL,packed_data; LD DE,where_to_depack;

CALL depack or JP depack.

Bitbuster Extreme - Gasman

Bitbuster Extreme is customized **Bitbuster**, that originally come from **MSX** computers. Basic characteristic is as follow:

- just one mode of compression
- does not attach depacking routine

Depack routine is just **89 bytes** long and is used as always: LD HL,packed_data; LD DE,where_to_depack; CALL depack or JP depack.

That is brief description of the packers. I did a very easy test, I was packing game **Tea and Sympathy**, that is nothing else but data for **Arcade Game Designer** (length is **12612 bytes**). I used default options with as few switches as possible. The results are in the table.

As expected, most inefficient was **Quido**, because it use most inefficient packing algorithm. In regard of it's possibilities I believe that in case free memory is not critical it have it's use. Mainly because it's user friendliness, it can do all the work for us and prepare final **TAP** file with basic loader. Rest of the programs are about personal preferences. **Exomizer** and **MHMT** have rich possibilities of packing so they can save really each byte of memory. All of them (maybe except **Bitbuster Extreme**) offer more depack routines. So I wish you successful packing! ■

Quido:

<http://pmd85.borik.net/wiki/Quido>

ZX7:

<http://www.worldofspectrum.org/infosecid.cgi?id=0027996>

MHMT:

<https://code.google.com/p/mhmt/>

Exomizer:

<http://hem.bredband.net/magli143/exo/>

Bitbuster Extreme:

<http://old.matt.west.co.tt/speccy/apology/>

Tea and Sympathy:

<http://www.worldofspectrum.org/forums/showthread.php?t=45266>

*depack routine is included in the result file length already

Program	Size of resulting data	Size of decompression routine
Quido	9888 bytes	0 bytes*
ZX7	8409 bytes	69 bytes
MHMT	8372 bytes	110 bytes
Exomizer	8103 bytes	169 bytes
Bitbuster Extreme	8471 bytes	89 bytes

Multicolour in games

Colourful and even more colourful games

Game **Aquaplane** from **Quicksilver** came out 30 years ago. It was exceptional in the fact, that it coloured the border during game so it looked like playing area is all around the screen. Today we are not drawing just to border, but there are also games that use more colours in each attribute. After **Buzzsaw+** few multicolour engines came up to make programming of such games easier.

ZXodus Engine (C) 2011 Andrew Owen

ZXodus is oldest from three reviewed engines. It allow to draw **81 static sprites** on screen at once, while attributes are **8x1 pixel** wide. Each sprite is **16x16 pixels** big. Drawing area is **144x144 pixels**, that is **9x9 sprites**. Placement on the screen is fixed, it start from second attribute column and row.



Game **Bozzle**, ZXodus engine in use

Engine can work with up to **256 sprites**. Their data are stored in **2x16 bytes** for bitmap and **2x16 bytes** for colours. Together is it **16384 bytes** of graphical data if we will use all sprites. This space is already included in the engine, it sits from address **39748** to the end of memory.

Speed of drawing is three sprites per interrupt, all screen will be drawn in **27 interrupts**. We can use **channel #4** for printing the characters on screen, engine use charset of **6x8 pixels** (middle bits in byte). Screen can slightly flicker if we use basic or program running in slow memory.

There is currently just one editor for drawing tiles in existence (**ColorTILE**) and it is for **Timex 2048**. It use it's enhanced colour mode. However, graphics data are stored in easy way so we can use anything to draw the tiles.

There is also one game that use ZXodus, **Bozzle**. It's a **Sokoban** clone and it nicely show possibilities of the engine.

BIFROST ENGINE (C) 2012 Einar Saukas

BIFROST was originally based on **ZXodus**. Last versions are re-written however, so it is new engine now. Comparing to it's ancestor it is faster and

also can use **animated sprites**. There is possibility to draw directly to the screen.

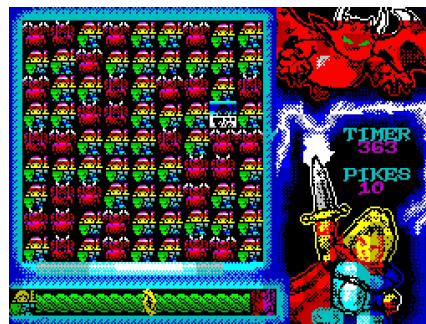


BIFROST engine demo

Format of sprite data is the same as in ZXodus, size is **16x16 pixels** placed in the field of **9x9 sprites**. Multicolour window is on the same place on the screen as in ZXodus. We have two ways of placing the sprites to the screen. First one is the same as ZXodus use, using concrete position in field of **9x9 possibilities**. Second way is to precise placing sprites according real pixels, so we can override the 9x9 placement.

Animated sprites can have two or four phases. First **128 sprites** are animated, next **127** are static, sprite number **255** is empty. This numbers can be overpassed by overlapping the indexes that points to animated and static sprites.

Overall speed of the engine is higher then ZXodus. Using placement of sprites in 9x9 raster, BIFROST will draw up to six sprites per interrupt. All screen is redrawn in less then **14 interrupts**. It also correct possible flickering of the screen when BASIC or machine code in slow ram is used.



Knights & demons Deluxe

There is one game created using BIFROST engine, **Knight & Demons DX** that is reviewed on other place in this magazine.

NIRVANA ENGINE (C) 2013 Einar Saukas

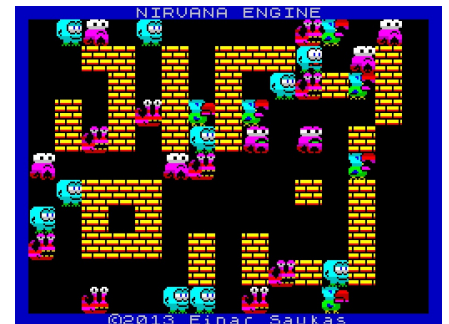
NIRVANA is up to date the newest of released multicolour engines for Spectrum. It differ from previous two in few significant things.

Sprites are still **16x16 pixels**, but

attributes are **8x2 pixels** in size. Data format is the same as in previous two engines, but data of colours take just half size (sprite is just **48 bytes** in size). Size of multicolour window on the screen is definable, maximal size is **240x176 pixels**. In this case a border of one attribute width stays around the screen.

Significant changes are also in drawing of the sprites. They don't have to be fitted on the screen as whole, they can be sticking out of the screen. Placement of the sprites is by eight pixels horizontally and two pixels vertically. Number of sprites is virtually unlimited. Animations are not carried by the engine, we have to take care about them with our own code.

NIVANA is too new engine so no game was released using it yet. There are information just about one game that is in development.



NIRVANA engine

Except this three engines, there are another two in development. One of them is **ZXodus II**, that will bring animations, interrupt management, support for AY music and BEEP sounds. It will be 128k Spectrum only. Second one is **BIFROST2** about which is known just the fact, that will expand width to **20 attributes**.

All three engines have good documentation so I believe the number of multicolour games will rise up, so we can expect new colourfull games even without graphics chipsets and low resolution. ■

ZXodus:
<http://www.worldofspectrum.org/infoseekid.cgi?id=0026639>

BIFROST:
<http://www.worldofspectrum.org/infoseekid.cgi?id=0027405>

NIRVANA:
<http://www.worldofspectrum.org/forums/showthread.php?t=45538>

Modern game editors

Games creation by fast and easy way

Quite a few game editors appeared on the Spectrum during its existence. Whether for text adventures (**Quill**, **Professional Adventure Writer**), isometric games (**3D Game Maker**), three-dimensional games (**3D Construction kit**) or arcades (**Games Designer**). This trend continues and a lot of new games are created mainly by two recent programs with similar names **Arcade Game Designer** and **Classic Game Designer**.

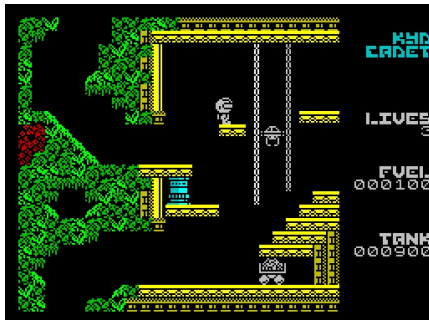
Arcade Game Designer
(Jonathan Cauldwell)

AGD is editor for simple arcade games. It enables to define graphics for each location, sprites for player and enemies and to add main game logic. The game is usable as stand alone program and editor is not needed anymore to be in memory. It is also not needed to have any programming knowledge, editor contains simple commands to set-up game logic and sprites behaviour.

According to fact, that it is game editor, we can expect that games created using this program will look similar. On one side it is true, there is a lot of games that look similar and vary just by graphics. On the other side there are original games that don't look like created in any editor at all. What does AGD offer?

- the game map can be 10x8 screens
- sprites are 16x16 pixels or up to 16x24 pixels
- 9 different types of sprites (player, enemy, lift etc)
- gravity definition (not every game has to be platformer)

- three various modes of game creation, from action game to Dizzy like game
- a lot of other features



Kyd Kadet is typical product of AGD

The game can contain music for AY, sounds for AY or sounds for BEEP. Initial music in menu is matter of choice. One of the things that program doesn't allow is the scroll of the environment, so passing from location to location is always static. Environment can be made of animated parts (water, fire and so on). The games can contain one or more screens, can be platformers, puzzles, adventures or action games, editor is giving quite a lot of possibilities for a variety. Program comes with extensive documentation and there is a whole forum dedicated to AGD at <http://arcadegamedesigner.proboards.com/>.

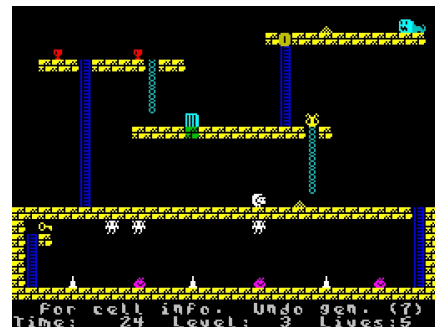
Classic Game Designer
(Dave Hughes)

CGD is another game editor that started to be successfully used for games creation. In contrast with AGD its purpose is a bit different. Instead of modern games

it tries to come close to games era of early 80's. Games created with CGD look simple and sometimes really as coming from past. As with AGD, it is not necessary to know programming and the game can be run outside of the editor.

CGD has fewer possibilities. Basic characteristic is as follows:

- game can contain up to 9 screens
- size of the sprites is 8x8 pixels
- sprites are not animated
- gravity definition



Skurff was made using CGD

Game can contain introduction screen, text and music. Also in this case the games can contain one or more screens, can be platformers, action and with a bit of effort also puzzles. Despite of editor limitations there is still enough possibilities to create original games. Documentation is extensive and contains also practical examples of various games creation. Home site is at <http://zxsandbox.blogspot.co.uk/> and contains a list of games created in this editor.

We will take a closer look on both of these programs in some of the next issues. ■

SoftPlay

(C) Andrew Owen 2013

One of the few new commands, that basic on **Spectrum 128k** brings on is **PLAY**. From the character of 128k Spectrum is complicated to use it today as most disk systems run in 48k basic. But **Andrew Owen** came up with solution.

Softplay is short machine code routine, that sits on address **63240** (its length is **2128 bytes**). After its initialization (**RANDOMIZE USR 63240**) allow us to use command **'PRINT #8; arguments'**. Arguments are in the same form as used with original **PLAY** command.

As **SoftPlay** doesn't use **128 basic**, it works even on **48k Speccy**. There is quite a

lot of simple programs on WOS that contain musics written using **PLAY** command. For testing I used program named **'Dynasty (Main Theme)'** by Ignacio Prini Garcia. Program is simple, it sets up the colours, prints few things on screen, defines music and plays it using five **PLAY** commands at the end of the program. So I tried an easy thing.

I loaded **SoftPlay** into **Spectrum 48k** with connected **AY** interface. After it runs I cleared the memory (**NEW**) and loaded **Dynasty** using **MERGE**. **PLAY** commands start from **line 130**, in this case the lines start with capital letter **'U'** (as 48k ROM doesn't contain **PLAY**). It is enough to edit the lines and replace **'U'** with **'PRINT #8;'**. Then just **'RANDOMIZE**

USR 63240' and then **'RUN'**. Definition of the music takes some time, so playing will start in few seconds.

SoftPlay solves some bugs in **ROM**, that affected speed of music playing. It means that the new command is a bit faster. It still disables interrupts, however. It is better to define music into variables and use them as arguments for **SoftPlay** command, it will speed up the things.

Author advises not to use **PRINT** into any other channel than **#8** after use of this program. Considering the limited use of this routine I believe it is not big handicap. ■

Cross-compiling

Small overview of cross-compilers for PC

I started active programming on the Spectrum about one year ago. During that period I've found out that more easy the programming is, more fun it brings.

Using PC as programming platform have it's advantages. Bigger resolution allow to see more lines of source code at once, fast compilation and run of the results in emulator save time during debugging. I am reviewing here just the compilers, I am not writing about any IDE or any text editor. Everyone can use what fits their needs. This article is small introduction to the serie, where I want to describe each program in more details and show how to work with it. Let's start.

AS (c) Alfred Arnold

AS is macroassembler that support a huge amount of platforms. We will omit all of them and will focus on Z80, of course. Small disadvantage compared with other programs is fact, that AS support really just Z80 and not Spectrum itself. However we have various utilities making things easier. Short description of AS possibilities:

- just one instruction per line, line is up to 256 characters long
- writing the number systems are as this: XXXH - hex
XXXB - bin
XXXQ and XXXC - octal
XXX - dec
- data definitions using DB and DW but also using DEFB and DEFW
- macro definitions as: MACRO [parameters]
instructions
ENDM
- text inclusion using INCLUDE, binary inclusion using BINCLUDE
- working with byte halves of index registers (IXL, IXU, IYL, IYU)
- comment start by semicolon anywhere on the line

Syntax of instructions is standard that can be found in most tables for Z80.

```
as1 -cpu z80undoc main.a80
macro assembler 1.42 Beta [Bld 89]
(k8-unknown-linux)
(C) 1992,2013 Alfred Arnold
Motorola MPC821 Additions (C) 2012 Marcin Cieslak
SPR008-Generator (C) 2006 Andreas Boltsch
Mitsubishi M16C-Generator also (C) 1999 RMS
XILINX KCP5M(Picoblaze)-Generator (C) 2003 Andreas Wassatsch
TMS320C2x-Generator (C) 1994/96 Thomas Sailer
TMS320C5x-Generator (C) 1995/96 Thomas Sailer

assembling main.a80
PASS 1
logo.a80 (387)
main.a80 (709)
PASS 2
logo.a80 (387)
main.a80 (709)

0.06 seconds assembly time

1096 lines source file
1154 lines incl. macro expansions
2 passes
0 errors
0 warnings
p2bin -r %$-%$ main.p
P2BIN/C v1.42 Beta [Bld 89]
(C) 1992,2013 Alfred Arnold
main.p====>main.bin (23105 Bytes)
bin2tap -b main.bin
allvis@zerobook:~/stuff/zx/rozrabky/bitstreams/efekt/final/demo$
```

Successful compilation using AS

Source code that can be assembled by AS is easy to assemble by most of all other assemblers, because the syntax is clean. Assembled result have to be converted to binary using P2BIN utility, that is part of AS installation. Then we need to use bin2tap from zxspectrum-utils, for example, and we will get TAP for emulator. Error messages are clear and point right to the line with error so debugging accordance assembler is easy.

SJASM (c) XL2S Entertainment

SJASM is assembler with lot of possibilities for modifications. Some of them go so far that it can be problem to compile source code with another compiler. Of course, it all depend on what modifications we will use. Short description of SJASM:

- writing the number systems are as this: 0XXXh and 0xXXX and \$XXX and #XXX - hex
XXXb and %XXX - bin
XXXq and XXXo - octal
XXX and XXXd - dec
- macro definitions as: MACRO [parameters]
instructions
ENDMACRO
- data definitions using DB and DW but also using DEFB and DEFW
- text inclusion using INCLUDE, binary inclusion using INCBIN
- working with byte halves of index registers (IXL, IXH, IYL, IYH)
- possibility to compile into defined memory pages
- comment start by semicolon anywhere on line, by two back slashes anywhere on the line, eventually C style (/ * and *) will comment whole block

Extended instructions allow expressive syntax changes. If instruction work with accumulator, this can be omitted, **ADD 3** is **ADD A,3** for example. Next possibility is to omit the brackets during indirect addressing, **JP (HL)** can be written as **JP HL**. Extended syntax support of more instructions on one line. Instruction **SUB A,C** mean **SUB A SUB C**. The same is valid also for LD, where **LD B,D,C,E** mean **LD B,D LD C,E**.

The problem of SJASM is the fact, that it is not easy to compile it on modern systems. There is also **SJASMplus** in existence, which is popular mainly in Russia (but is used also by Busy, for example). That one is also not maintained anymore and latest version is even older then SJASM. The advantage is the direct support for Spectrum (compiling into memory pages for Spectrum 128k, for example) so it is not problem to get file for emulator right after compilation.

PASMO (c) Julián Albo

PASMO is undistinguished Z80 macroassembler with possibility to create TAP, TZX or even +3DOS disk image. It is trying to keep traditional instructions syntax and not complicating the program writing. Brief overview of PASMO:

- lines can be numbered (optional)
- writing the number systems are as this: \$XXX and #XXX and &XXX and 0XXXh - hex
%XXX and XXXb - bin
XXXo and XXXq - octal
XXX - dec
- macro definitions as: MACRO [parameters]
instructions
ENDM
- data definitions using DB and DW but also using DEFB and DEFW
- text inclusion using INCLUDE, binary inclusion using INCBIN
- comment start by semicolon anywhere on the line

```
allvis@zerobook:~/stuff/zx/rozrabky/bitstreams/efekt/final/demo$ pasmo -y main.a80 bit tap
Loading file: main.a80 in 0
Loading file: logo.a80 in 609
Finished loading file: logo.a80 in 1063
Finished loading file: main.a80 in 1060
Entering pass 1
Pass 1 finished
Entering pass 2
Pass 2 finished
allvis@zerobook:~/stuff/zx/rozrabky/bitstreams/efekt/final/demo$
```

Successful compilation using PASMO

Thanks to automatic emulator files creation, PASMO can be used as conversion utility for binary files. It is enough to write small program of **ORG address_where_the_binary_will_go INCBIN file.bin**. We will get emulator file after the assemble. Output of assembling can be binary file, not directly emulator file, of course. Syntax is standard and clean so if we will not use line numbers, it is possible to easily assemble the source code by another assembler. Error messages are none if the assembling was successful and we haven't chosen any. There is possibility to turn on debugging mode. In case of error during assembling PASMO will us point to concrete line with error and print error message, so it is possible to debug program using PASMO's error messages.

Those are three most used cross-compilers on PC for writing programs in assembler for Spectrum. We have more possibilities and will take a look on next two compilers. They are also often used even for writing games.

Continuation on page 24.

Cross-compiling

Continuation from page 23

Z88DK

(c) Z88dk development team

Z88DK is cross-compiler for C language. Syntax is expanded Small-C specification with some features from ANSI-C (multidimensional arrays, for example). From original purpose to compile programs for Cambridge Z88, number of supported platforms grown up including ZX Spectrum. Brief description of Z88DK:

- platform depended and independent libraries
- contain inline assembler

There is couple of libraries for Spectrum, mainly for various devices support (Opus Discovery, ZX Interface 1 and so on). There are also other libraries, for ZX7 packer or BIFROST engine for example. There is also lot of platform independent libraries as mathematical functions, memory or interrupt services.

Compilation can be done into files usable in emulators, TAP is the default one.

Z88DK is living project so if anyone want to program for Spectrum in C language, he should follow it's development for sure.

Boriel's ZX BASIC

(c) Jose Rodriguez

Boriel's ZX BASIC is cross-compiler of Sinclair BASIC for PC written in python. It try to keep as big compatibility as possible, but language is extended compared to Spectrum, mostly following FreeBASIC. Brief description of Boriel's ZX Compiler:

- optional line numbering, numbers work as labels (these can also be words)
- writing the number systems are as this: \$XXX and 0XXXh - hex %XXX and XXXb - bin XXX - dec
- support for functions (also recursive)
- comment start with REM or apostrophe
- contain inline assembler

We can break commands into more lines. Compiled file can be binary or directly TAP or TZX file.

Anyone who really want to program can choose from various possibilities. And as it is really easy today, i am waiting for new programming creations!

AS:
<http://john.ccac.rwth-aachen.de:8000/as/SJASM>:
<http://home.wanadoo.nl/smastijn/sjasm.html>

Pasmo:
<http://pasmo.speccy.org/Z88DK>:

<http://www.z88dk.org>
 Boriel's ZX BASIC:
<http://www.boriel.com/en/software/the-zx-basic-compiler/>

zxpectrum-utils

Zxpectrum-utils is project that keep various utilities for work with files for ZX Spectrum in usable state. Utilities are from various authors that provided them free together with source code (under GNU GPL license). We have a possibility to easily work with data in binary form, tape images or even images of some disk systems. The number of utilities is not definitive and from time to time new utilities are added. Number of maintainers is currently two, mike/zeroteam and UB880D. All the utilities are intended to work in command line and it is taken care to be easily compiled under Linux, OS-X and Windows.

Work with TAP files

If we have TAP file, we can extract it's content. Conversion to BIN is not direct but with one step in between.

tapto0 - copy content from TAP and save it as 000 (that is similar to TAP but each file is left alone). This format was used in past for direct copying between PC and Speccy (Export-Import Manager for D40/80). We cannot do much directly with 000 files, but we can convert them for usable formats.

0tobin - create binary files. If original file was BASIC program, extension will be bas. Binaries are pure data without header.

0tohob - create HOBETA files, those are usable for TR-DOS (Betadisk). HOBETA files can be copied directly to disks (real or virtual).

0totap - create TAP file

tap2d80 - convert TAP file to Didaktik 80 disk image.

tap2mbd - convert TAP to MB02 disk image.

tap2mbhdd - convert TAP to MB02 virtual disk image for IDE device.

tap2tzx - convert TAP to TZX file.

dirtap - print information about TAP file. We can choose to just print the file headers or also test the parity.

tsttap - test the TAP file, also can repair wrong parity.

Work with BIN files.

bin2tap - insert BIN file into TAP. There is quite a few possibilities, we can create BASIC loader for the file, set up loading address and so on. Utility can work with just one binary file at once. If we want to add binary file into existing TAP we have to use 'append' argument. If we want to add BASIC file into TAP, we have to use argument 'p' otherwise utility will create CODE file.

bin2mbd - insert BIN into disk image for MB02. Again, we have lot of possibilities as disk format (number of tracks and sectors), directory, starting address.

breplace - utility for changing the file content. By writing down the address (in hex or dec format) and value we can change the content of the file. Arguments can be read from file.

makesna - create snapshot from binary file. If we want to put data into some concrete memory bank, we can simply address it as a parameter (highest possible memory location will be not 65535 but 131072).

Disk images

d802tap - convert disk image of D80 to TAP.

mb2tap - convert disk image of MB02 to TAP.

mbdir - print content of the disk image of MB02.

mbload - extract file from disk image of MB02. File is addressed by number of directory and number of file itself.

Rest of the utilities

tzx2tap - convert TZX file to TAP. If non-standard loader is used, TAP file will not work.

dirhob - print information about HOBETA file.

hobto0 - convert HOBETA file to 000.

dir0 - print information about 000 file.

lstbas - print information about BASIC file. Output can be formatted into HTML file (tag <TABLE> is used).

permutor - convert content of EEPROM for divide between format usable for burning in divIDE and in PC.

Each utility will print short info after run without arguments. There is also documentation available, that except utilities describe also file formats. It is not finished (it is still work in progress), but there is enough of information for easy use of the utilities. If anyone have own utilities that want to add into zxpectrum-utils, it is enough to contact maintainers and ask for conditions. This utilities are big help for people that program for the Speccy.

Homepage of the project is at:
<http://sourceforge.net/projects/zxpectrumutils/>

Demoscene: production

Things from another world

Not just games make Speccy alive so let's take a look what happened in the seas of demoscene. I will not write about everything that came up last year (that is just too much), I will try to pick up the most interesting things.

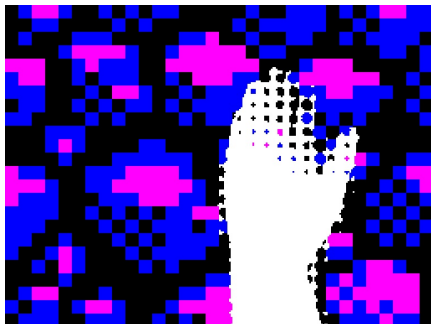
Let's start with demos that appeared in the competitions:

Forever14 bring two interesting demos, **New wave** (Alone Coder + Mayhem + Hooy-Program, second place) and **We are alive!** (Gemba Boys, first place). Both contain good effects, some of them appear for first time, some are improved older ones. New Wave even work on Speccy 48k (it is multi load demo). After release of **We are alive!** argument happened on pouet.net why this demo won the democompo. Results are positive, main trolls disappeared.

Polish scene kept their release for **Revision**. Their demo **Unit 42** (speccy.pl) ended fifth in strong competition of demos for 8 and 16 bits. It is good made demo and it's only downside is length, it is a bit short. Realization is cogent!

OSCOSS (Entire Group) is a little bit curious stuff. Demo contain just few real effects, it is all based on design. Despite of that fact it won **AAA ZX Spectrum demo compo 2013**, that happened on internet. It is worth to see, even if it is intended for Pentagon and YM 2149. By the way, OSCOSS mean Old School Coding Old School Style.

The Super did not disappointed and won last year's **DiHalt**. Their demo is called **Outerloop** and copy the style of their previous demos. Quality production obviously!



Outerloop by The Super

Gasman visited **Chaos Constructions** last year and won the democompo with his **The Cambrian Explosion** (Hooy-Program). It is typical demo with good effects and lot of English humor. Go on Gasman!

Polish scene was active last year and made a demo for **Retrokomp/Load Error 2013** named **4D Demo 8** (speccy.pl). It is

remake of old demo from Amiga (by Lamers, 1995) and they won the party. It is a joke demo and someone even say, it is one of the fastest demos on the Speccy.

Heart Megademo (AAA Band) ended up second on this year's **DiHalt Lite 2014**. Classic megademo where we use SPACE bar to go to the next part.



Forever15 Invitation intro by Gemba Boys

Intro competitions:

Shadow/Noice shown up with 1k intro **Variations** last year and it is worth of checking. Mainly great attribute use to colour the effect rate this intro among the best!

3D Vectors 1k (Busy) won last year's **Forever**. It is not really original idea, Busy successfully continue in re-writing his demo Echology into 1k intros. And I have to admit that he is successful.



This is Tritone by TK90X Fan, Nix/Site and Brightentayle

Colorix 1k (mborik/RM-Team) is another variation on Matrix, now as colourful chunks. Intro is colourful and smooth, it manage to do a lot on the screen at once.

Interflora (Hooy-Program) is 128 bytes intro, that bring **Gasman** second place on **Outline 2013**. It is typical production for emulator, because precalc take two minutes. Resultant animation is really great for 128 bytes.

Water 59 (Goblinish) is one of a lot of releases that came up from Goblinish last year. This is good written 59 bytes.

Make Demos Not 1k Intros (DeMarche) is one of few intros that

contain multicolour. It is worth winner of **Chaos Constructions** in it's category for sure!

From Chaos (Phonex) is 1k intro that came second on **JHCon 2013**. Original idea, great work!

Busy shown up with **Fade 1k** intro, won **JHCon 2013** and definitely multicolour stopped to be exceptional thing in intros.

Lavalight 1k is probably surprise of the year, because it is production of **Serzhsoft**, who came back to Speccy after long years. Intro ended first on this year's first demoparty **DiHalt Lite 2014**.

There were also free releases out of any competitions during the whole year:

GMBIT (GMBit + MMCM) is new year's demo. It contain big scroll text. Even if it is in Russian language, it is good start of new year!

Yerzmyey's Slideshow (Hooy Program) is multiload demo for Spectrum 16k. It contains classic Yerzmyey's pictures, texts and mostly also musics. Guest parts are from Gasman and Factor6.

In Memoriam V.N.N. (Introspec + 4th Dimension + Goblinish) is last farewell with VNN. Effects of the candle and shadow are really nice.

1-bit Wizards is album of BEEP musics, that came up as mp3 files. We have also a computer version that was made by **Shiru**, graphics was done by **Trixs**. It contain 12 musics from various artists.

This is Tritone and **This is Tritone 2** are another collections of BEEP musics. Program by **TK90X Fan**, graphics by **Nix/Site** and **Brightentayle**.

BitStreams 01 (ZeroTeam) is delegate of classic one screen demos and it is here just to make it sure that such demos are still appearing.

Beside the new year's demo, **Gemba Boys** also released **Invitation Intro** for **Forever 2014**. I am waiting what they will bring up for the Forever party.

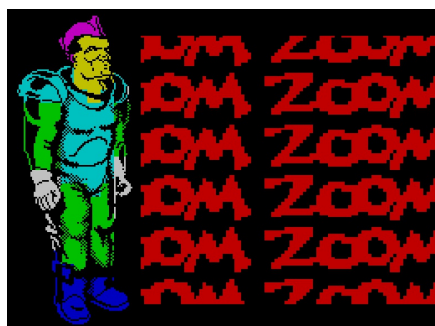
Despite of tense situation on pouet and few Russian forums, the scene is in good condition. There are still new demos and intros produced, there is lot of competitions during the year. I am waiting impatiently what will come up this year! That's for my own selection from last year's and also little bit of this year's production. There was much more of it and I am sure I forgot few quality pieces. I believe that you will get them anyway! ■

Demoscene: competitions

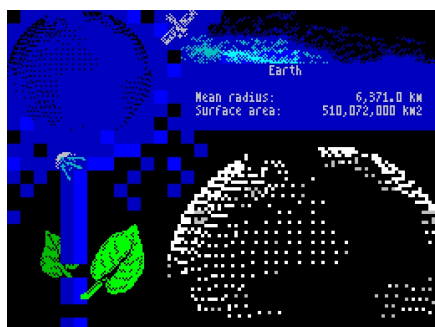
Money and fame

I haven't really noticed it lately, but there is lot of things happening around Speccy during the year. I did a small summary of parties that happened last year and it's number nicely surprised me.

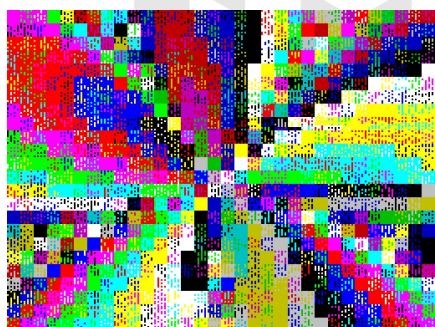
Year started traditionally in March with **Forever** party. Demos were just two, but both are worth to see. There were also six intros, plenty to watch for.



Easter is traditional time for something bigger to happen. After the Breakpoint, relay-race was taken by **Revision** and last year polish speccy.pl tried oldschool compo with Unit 42. They ended in middle (fifth place out of ten) and I think it is very good place considering the fact that oldschool compo is mix of 8 and 16 bit computers.

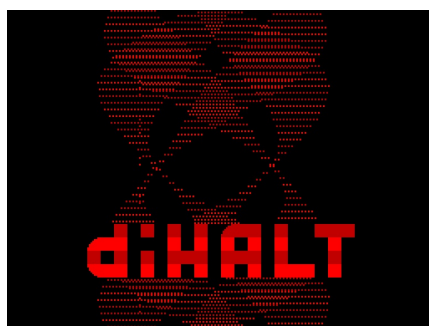


Surprise in May was **Outline** for me. I've found just now that it is a party that is supported by Gasman with Speccy releases in last five years already. Last two years he was accompanied by Goblinish, maybe an expansion into new waters?



I always wait for July impatiently, because **DiHalt** is happening. Original

party in forest at the lake. For me personally it is highlight of the eastern demoscene around Speccy, because I can do a small picture about it's situation. Six demos, six intros and some other things will surely keep us interested for some time.

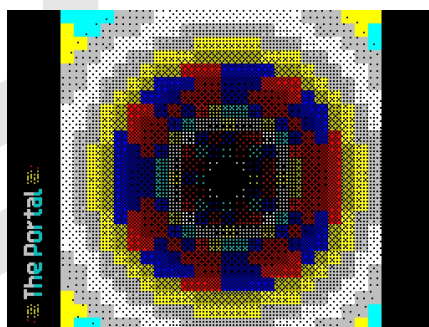


When DiHalt end, things continue, as few people go to cottage and continue to compete. Party is called **3BM Open Air** and last year gave us five demos.



Shortly after DiHalt, legendary **Chaos Constructions** is happening in Russia. Thirteenth year came up with five demos and four intros, so we have something to do.

There was **Demosplash** in October and was won by Goblinish with demo. He was there year before with intro, we will see what he will come up with this year.

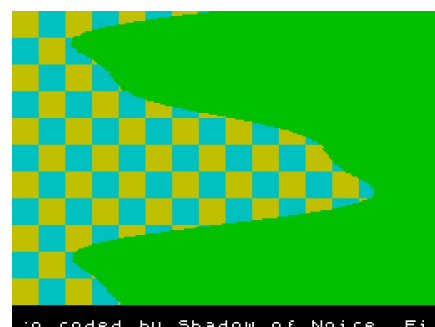


Also in October happened Polish **Retrokomp** together with **Load Error**. Retrokomp is retro party dedicated to games, here got Speccy three releases (first place Krnel/speccy.pl, fourth place Elixir Vitae/RafaLM and fifth place Deadly Labyrinth of Lord Xyrx/Hooy-Program), Load Error is demoparty that was won by

people from speccy.pl with 4D Demo 8.



Last bigger demoscene event is **JHCon**, that host intro competition last few years. Last year there was even eight intros.



Except real parties and meetings there are also virtual competitions. Last year it was **AAA ZX Spectrum demo compo**, for example, that happened in April. Participation was big, there was eight demos. Maybe also because first place was rewarded with money.

ZX Art Realtime Compo and **Multimatograf** were examples of virtual competitions for graphicicians. There were 27 of pictures all together!

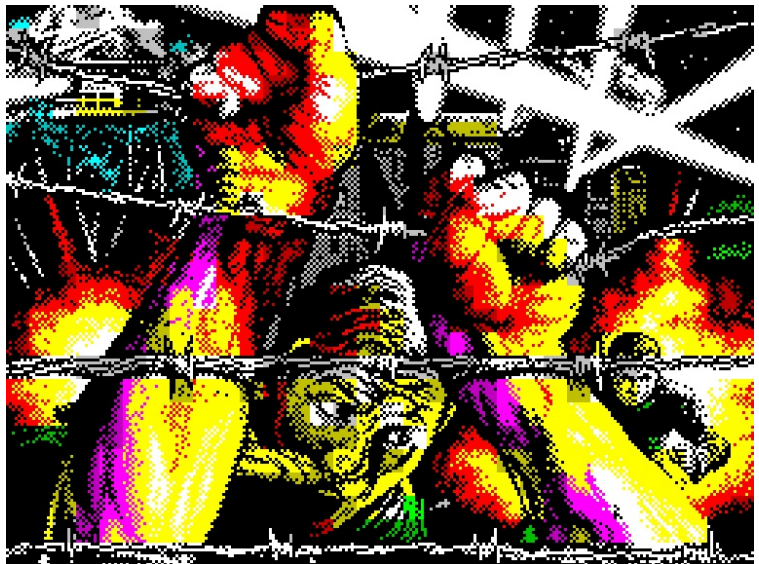


There was also **Artfield**, it brings 10 classic and 7 realtime pictures.

All together there was about 75 various demos, intros, music discs and so on in 2013. In this number are not counted releases from music and graphics competitions. This year we have over 10 demos and intros already released. I think that the scene still rock! ■

Next issue

- reviews of new games
- how to compile, install and use AS
- playing BEEP musics stereo
- how to make games with Classic Game Designer
- news from the demoscene



The Great Escape (C) Craig Stevenson 2013



Gift from the Gods (C) Craig Stevenson 2012

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