KILOBYTE

MAGAZINE

NOT SO FLOPPY · A NEW ZEALAND STORY · WHY WE LOVE TO COLLECT RETRO STUFF
WHERE ARE CASSETTE PLAYERS STILL MANUFACUTRED · APLPHARAY (PLUS/4) · AND MORE

8BIT ONLY

CONTENT

GHOST IN THE MACHINE

KILOBYTE MAGAZINE'S
GEM AWARD
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THE ART OF FLOPPY DISK SLEEVES

Photo: bk

SELECT
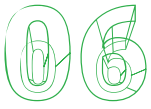DISKETTES
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SIGMA

2-Side, High Density

2 HD

SIGMA

NOT SO FLOPPY

DYSENTERY NEVER LOOKED THIS GOOD

In case you're wondering: MECC stands for Minnesota Educational Computing Consortium. The company was founded in 1973 and was owned by the state until 1991, was acquired by SoftKey in 1995 and shut down in 1999.
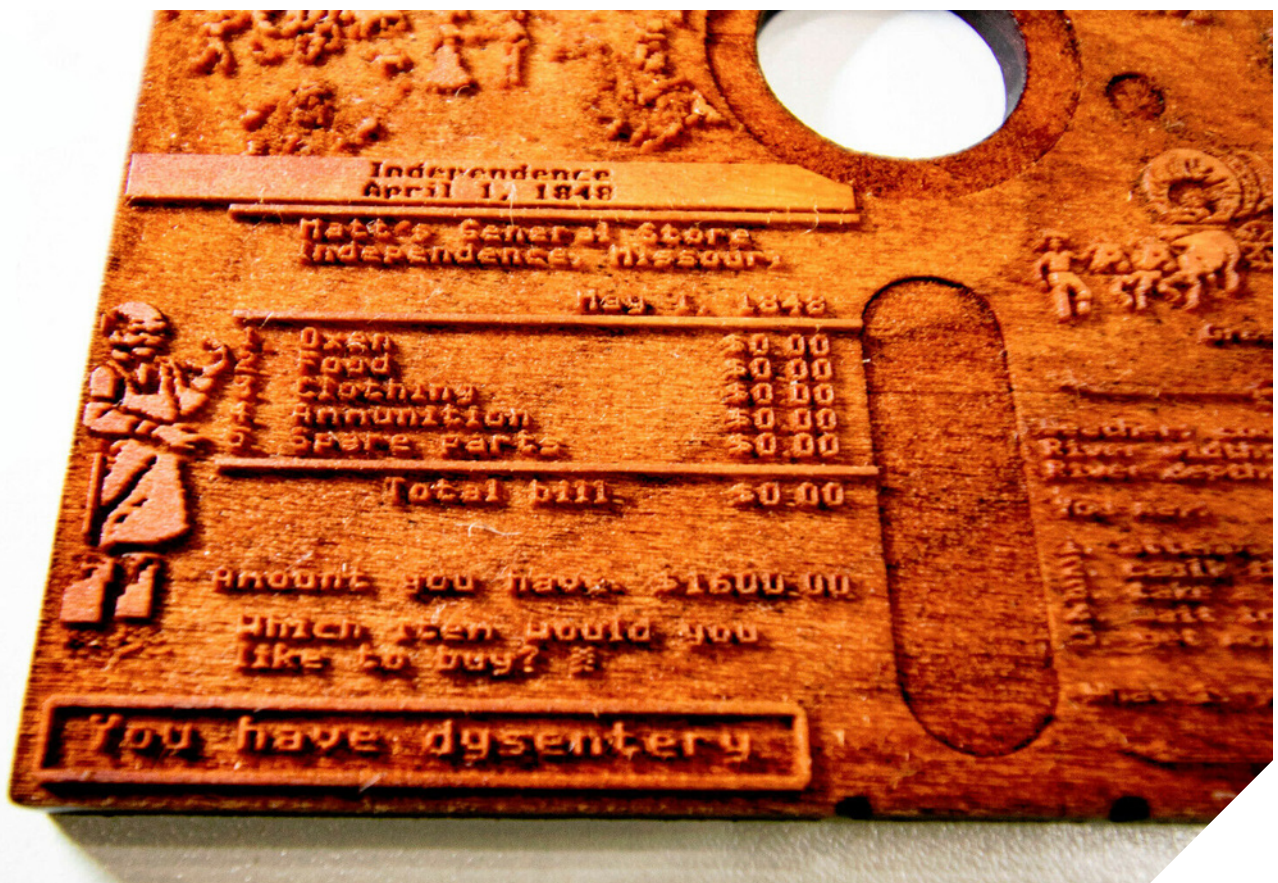
Many US students who grew up during the 1980s know at least one edutainment game that became a part of pop culture in recent years: The Oregon Trail. The Apple II version was especially well-known, as this computer was quite popular among schools – and this was exactly the environment the game was made for. After all, it was created by one history and two math teachers. One of the many youngsters sitting at home and playing around with their dad's computers, Joey Sacco discovered his love for the game. "My father was very into the Apple II back in the 80's, and we had several Apple II plus, IIe and Franklin computers around. My first computer was a Franklin Ace 1000 Apple II clone", he remembers. So there he sat, trying to reach Oregon with his small virtual family, hoping none of them would die of dysentery – a common misfortune of many players. It was a simple game, nothing too fancy and certainly not up to match other adventures or simulations. Sure, there were more exciting games to play. But this one accomplished what its designers had in mind: It gave children a

small glimpse of a rougher time in American history. It was one thing reading about it or hearing it from the teacher, but it was a whole other thing to sort of relive it for themselves on a computer. It made them learn (something they'd typically not liked spending precious spare-time for otherwise) while playing a game (something they loved). And because so many children played this, it became a part of pop culture, spawning even an handheld device in recent years which resembles an Apple Mac, while the title was most popular on the Apple II.

Fast forward to today. Joey Sacco is one of those former students who played this a lot in his youth. To-day, with a degree in mechanical engineering, he co-owns a company called Turtle Laboratories that creates all kinds of sculptures from wood an metal. Sitting in his office one day, he thought about making some retro-gaming memorabilia. "That has been on my want list for quite some time", he says. " I still have many of the games and consoles from my childhood and I love collecting 8-bit consoles." So he played around with a few ideas and then remembered The Oregon Trail. "I had a lot of fun enduring the grueling trail as a child", he remembers. "And I thought that The Oregon Trail would strike that nostalgic nerve of the majority of Millenni-

als. So then I wanted to create some sort of piece showing screenshots of the game, and I thought that a plane piece of wood was too basic. Luckily, the 5.25" has enough real estate to illustrate some artwork, despite its small size. Speaking of its small size, I wanted to also test the capabilities of the machine to see just how detailed I could get it. After a number of iterations, I finally tweaked the image file to make the laser cutter do exactly what I wanted." And the result is an astonishing piece of art: It looks like a 5,25" disk that was pressed into wood like Han Solo was in carbonite. One can only guess how many interations and tweaking sessions it took to get the elements that are only one pixel wide onto the wooden canvas. Just look at the wheels of the wagon, for example. Or the font. Sure, it's laser-cut. But the attention to detail and execution here is amazing. Joey explains the process: "Unlike most of the CNC work that I do, which incorporates CAD design and .dxf files, this is made mainly from an image file, such as a .jpg or .bmp. The

actual cutting of the disk, and the relief where the access to the disk is, is performed using a .dxf file in a separate step from the burning of the image file. Once the floppy has been burned and cut, I flip the disk, and engrave a backside, should the customer request that it also have the artwork etched on the back. Then, off to the sink, where we clean the floppy of all the residual sap that is emitted during the engraving process. From there, we let them dry out, and then I sand the high spots to make them contrast just a little more with the background."

As it turns out, he struck a nerve with his idea. People love his wooden floppy game disks and the demand increases. And so does his love for old machines again. Asked if he collects not only 8-bit consoles, but also computers, he says: "I do not currently own any 8-bit computers, though there are plans down the road, once I create a proper place to display them. I do, however, have a P3 rig, and I built a PC to the same spec as one I had built in the 2002 era, for some retro gaming. I do some DOSBox stuff too, but as I am sure you know, it just is not the same. I am very fond of Apple II systems, and will most likely end up with a IIgs and a IIe one day." Of course he will. If you'd like to support his work, head over to turtle-laboratories.com and click on Wood Art. You'll see the disks are the very first item there and they cost 37 USD each.   *(bk)*

Photo: Joey Sacco, turtlelaboratories.com

This is a pixel-perfect recreation of the screen images. It is a joy getting lost in the details of this disk.
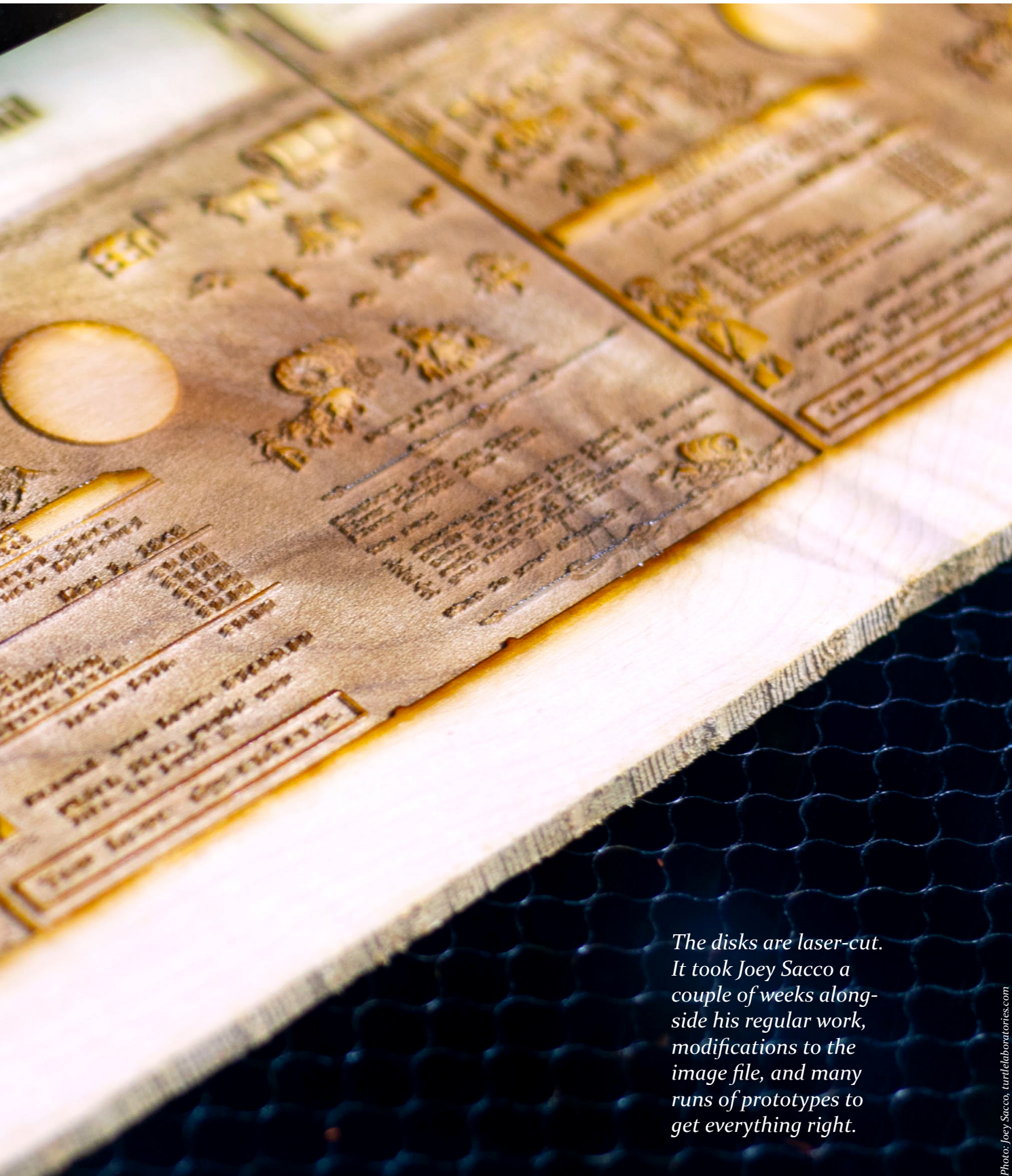
The disks are laser-cut. It took Joey Sacco a couple of weeks alongside his regular work, modifications to the image file, and many runs of prototypes to get everything right.

NEW ZEALAND STORY

SILVERSTAR ATARI 2600 CLONE CONSOLE

Photo: Rob Wanenchak

Is it a Famiclone? Is it a foot pedal? Does it glow in the dark? No! It's an Atari 2600 clone that was allegedly only sold in New Zealand.

If you are not from New Zealand, chances are you never saw this strange Atari 2600 clone. It was exclusively distributed there, but not much else is known about it. Like the manufacturer, for example. Or when it came out and for how long it was available. Or why they chose this odd design that seems to draw some inspiration from the last NTSC version of the NES – if it came out that late. Atari collector Rob Wanenchak found one of these and just had to have it. "Generally, my inter-est in clones would be fairly minimal if not for the fact that a previously unknown 2600 game was discovered built into a clone console in 2003", he explains, referring to what is now known under the title *Mazy Match*. "So my interest in the SilverStar was threefold: Its game list was, at that point, undocumented. It looks like no other Atari clone I've ever seen – it's as if it were the offspring of a Famiclone and an answering machine. And finally the allure of a largely unknown Atari item can

sometimes be difficult to overcome." And it is not a system that you come by easy, seemingly even in New Zealand. With a little bit of help from a good friend living there, Rob was able to get his hands on one of these strange clones. "The SilverStar in my collection is the only one that I've seen for sale in the approximately six years that I've been active in collecting Atari 2600 items from around the world", he explains. "I've seen conflicting statements as to the actual rarity of these consoles, but it's fair to say that they appear to be very uncommon." Online search for this console won't bring light into the dark here. There were virtually none high-resolution photos of this little clone warrior before Rob made them and shared his find via Twitter. And to this day, noone has found one in box, though there must have

been one during the time when it was sold. "I'm pretty sure that I first heard about the SilverStar on the webpage *Obscure Pixels: Retrogaming with a New Zealand Slant*, created by Michael Davidson. The page doesn't seem to be online at the moment, but it can still be accessed via the Wayback Machine."

TRUE DETECTIVE WORK

Although its origin is unclear, Rob has a theory about this system: "There are clues that point to it being made by a manufacturer that produced numerous other clone consoles. First, the board is marked with *KING1224*. To me this hints that it may be made by the same manufacturer that made Kingsway brand clone consoles, which were also sold, among other places, in New Zealand. Second, the SilverStar

Follow Rob on Twitter and feel free to contact him if you can provide more information on the system.

Photo: Rob Wanenchak
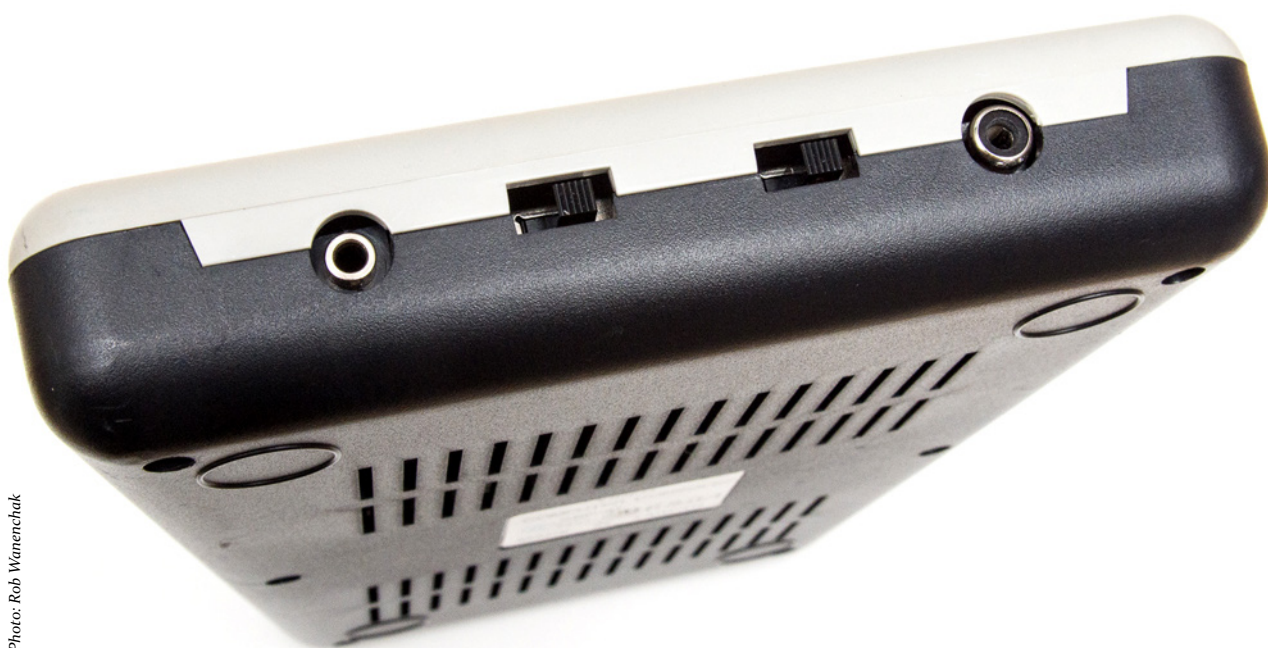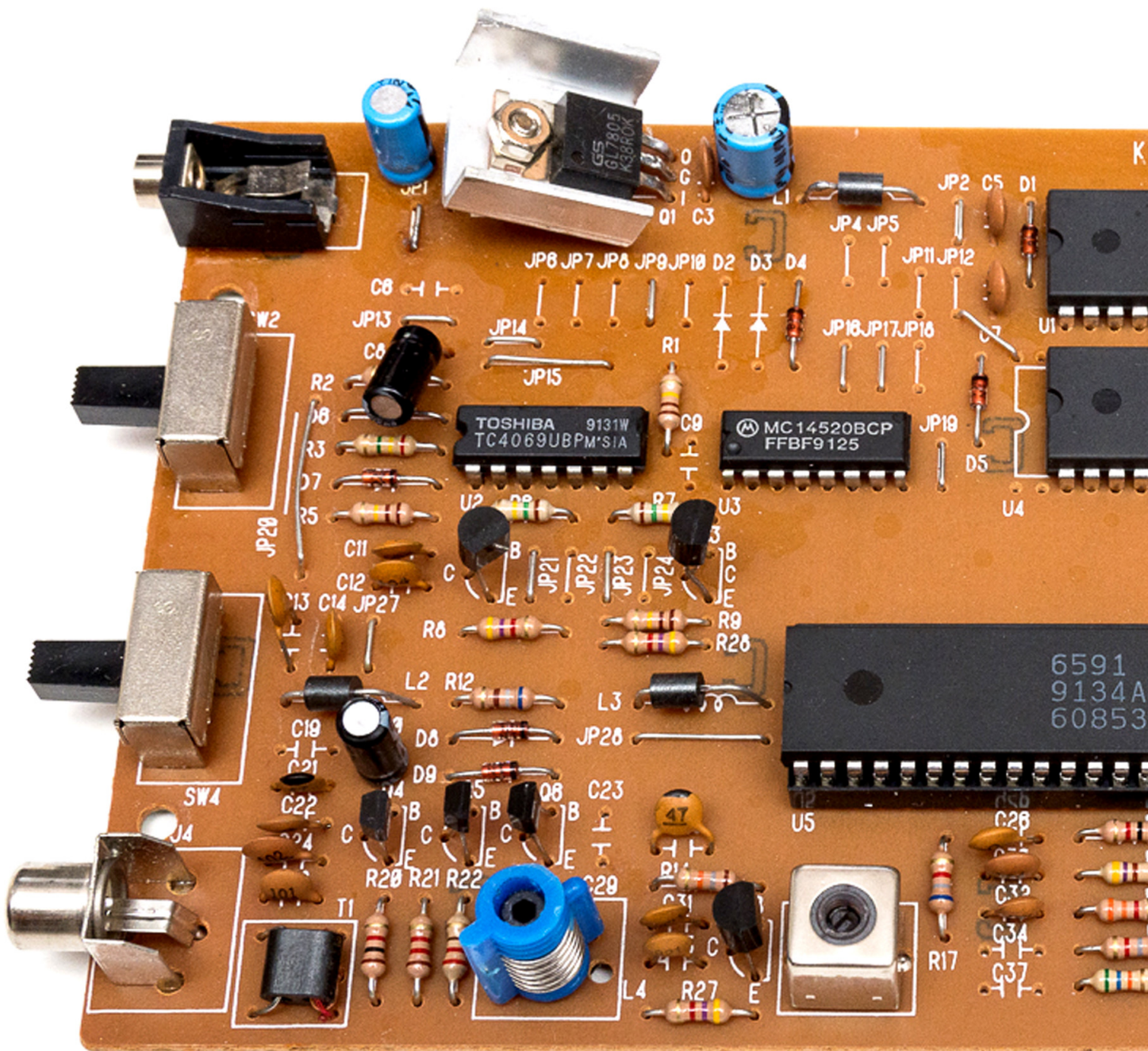
logo itself is stylized in the same way as the Kingsway logo; the typefaces feature the same "sheen" effect, and the text is surrounded by a red outline. Additionally, the joysticks that come with Kingsway brand clones look pretty much identical to those that come with clones made by Funvision, a company whose products were also made in Taiwan. I assume that the SilverStar originally came with joysticks, but I'm not sure." But he did not stop there: "I've gone so far as to speak with an Atari collector in Taiwan to see if they could contribute any pieces to the puzzle, but unless someone like them is able to locate and speak with people who worked for these companies, this missing knowledge will likely remain hidden." Looking at the board inside the shell, there is not much to get excited about. The 64 games are stored in two
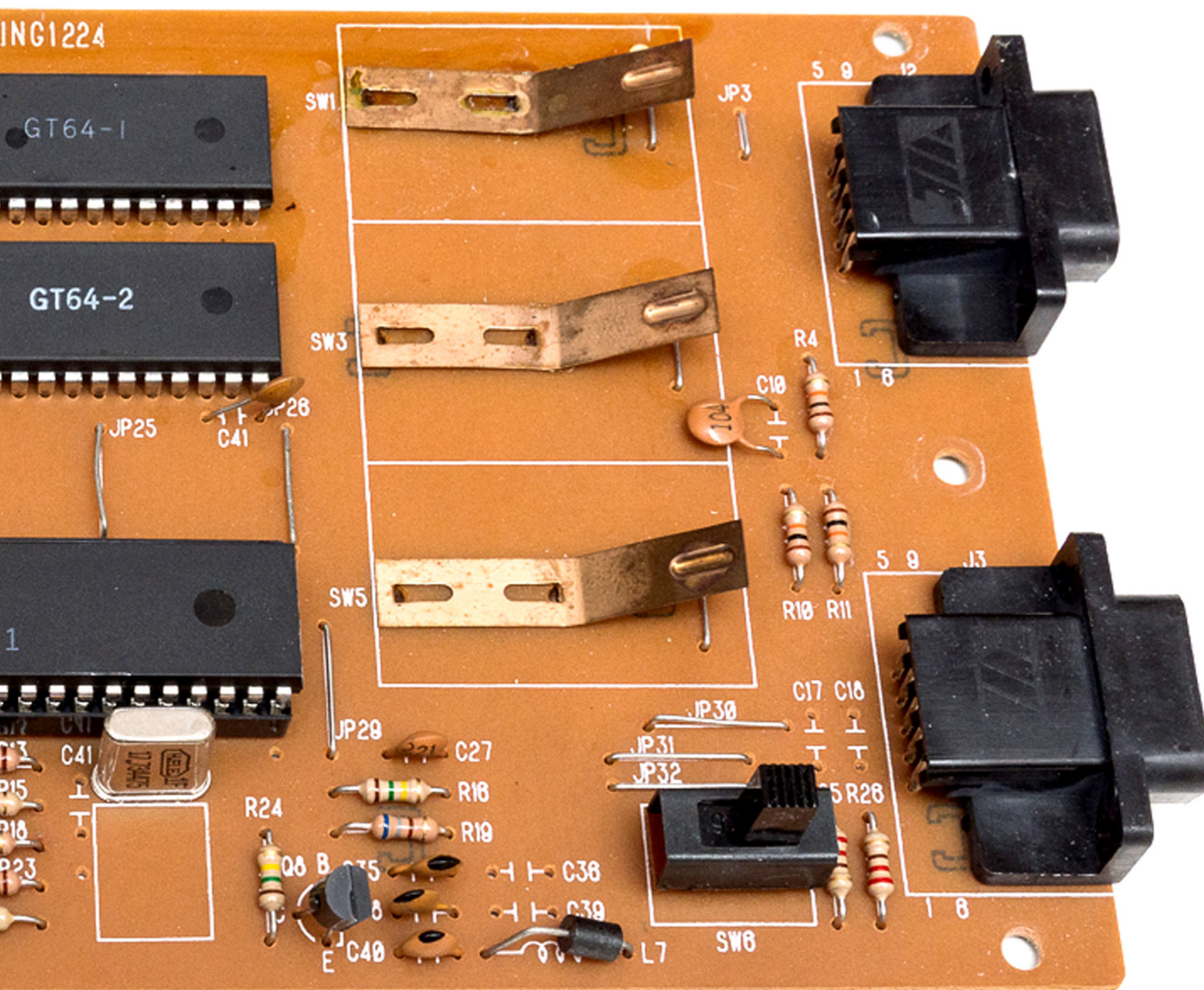
chips labeled GT64-1 and GT64-2. The computing magic is happening inside the 6591 chip which is basically a VCS-on-a-chip. There is no cartridge port and the 6591 does not support analogue inputs, so paddle games are out of the question here. "The console seems reasonably well-made, though it's a bit disappointing that the manufacturer elected to use a sequential counter system for its games rather than having a menu system built into the ROM. This means that to play any game in particular, one must cycle through the game list by powering on and off the console. Pretty obnoxious to say the least, especially when you're dealing with 64 built-in games! That being said, Atari Corporation did the exact same thing when it produced its pack-in 32-in-1 game cartridges bundled with 2600 Jr consoles sold in many PAL territories." *(rw, bk)*
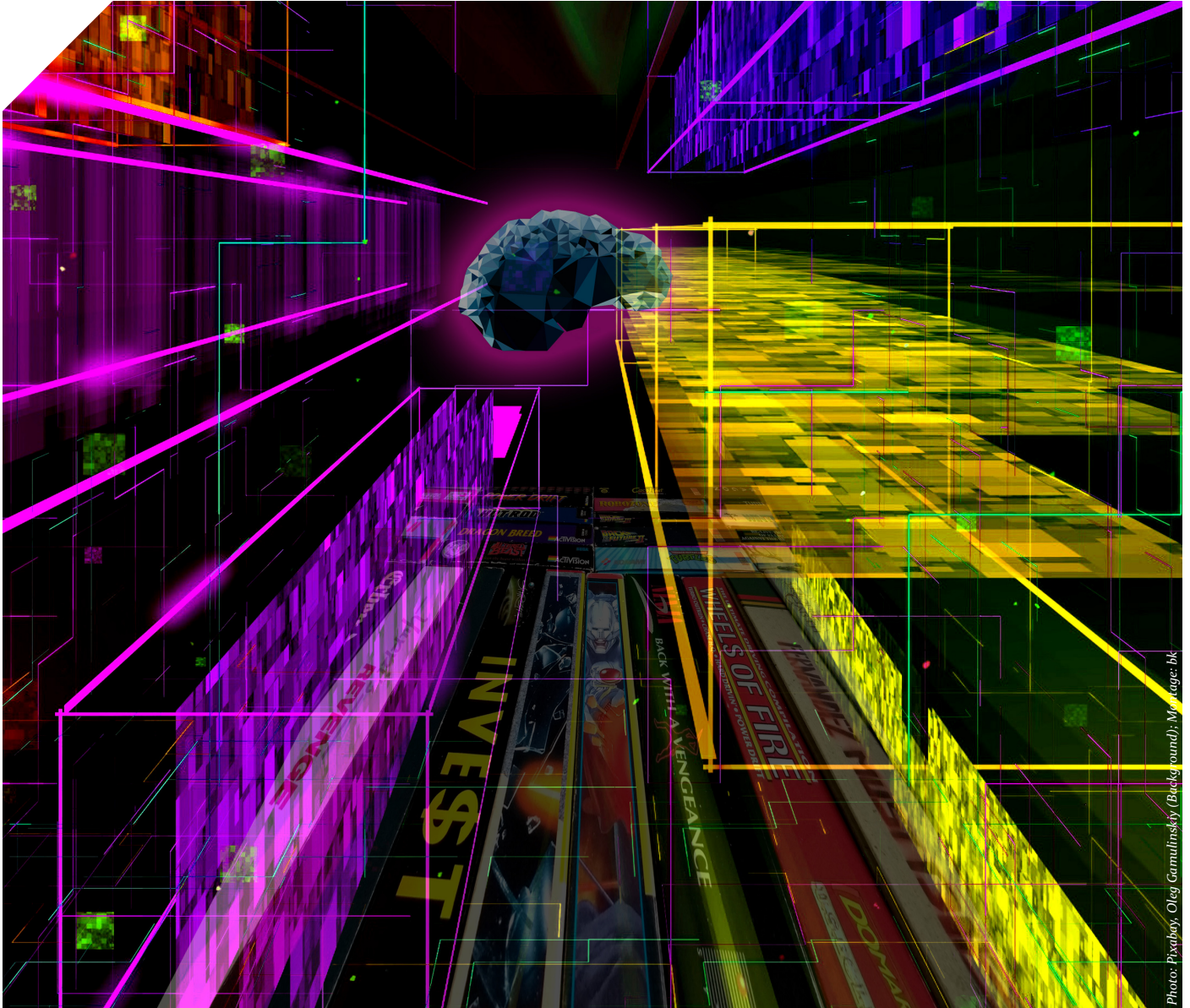
HAPPY COLLECTING

WHY COLLECTING FEELS SO SATISFYING

By Paul J. Gilbert, Psychotherapist and collector

Let me start by saying that I consider myself a retro-gamer. But what does that actually mean? Well I have quite a few systems that are considered of that genre (currently PSone and PS2, SNES, GameCube, GameBoy, GameBoy Colour, Game-Boy Advance, GameBoy SP, DS. I have also acquired the ZX Spectrum Vega, NES Mini and Megadrive mini). Allied to this, I find that I can rarely walk past a charity shop

without at least wondering if there may be some rare game inside that I must have. That's quite an admission and indeed a collection for a 52-year-old man in a professional and responsible occupation. It would appear to the reader of this, that there has been a considerable effort expended in amassing these treasures. That is absolutely correct. You might further imagine from reading this account, that having expended so

much time and energy into purchasing those lusted after items, that I must derive a great deal of pleasure from playing these hard-sought acquisitions? Well here's the peculiar thing. I don't find that I tend to actually play them all that often. In fact, the last time I played any of the aforementioned devices was probably four or five months ago. And the last time I looked for something to buy? Well that would be a near weekly occurrence. So why would that be? What is this slight discrepancy in the purchase and playing? Why is it that I can seemingly derive so much initial excitement at buying a GameBoy game from a second-hand shop or Amazon but then seemingly go months before I plug it in to actually play with it?

LOOKING FOR THE NEXT FIX_____

The feelings and emotion that can be associated with the purchase of a retrogame or system is something that goes beyond the sphere of actually playing the titular creation itself. These emotions that I experience when purchasing a game or system, appear much akin to those of a photograph or an old song. I remember with nostalgia and a rose-tinted view of what I was doing at the time and who my friends were, along with all the pleasurable experiences of that era. It is precisely this aspect in retro games that can likewise evoke seemingly vivid memories which have become cleverly edited in our minds and

reworked into nostalgic experiences. This sense of nostalgia is a powerful drive in the human brain. This is potentially so prevailing in us, that it can fire up the pleasure centres of our brain, lighting up an MRI scan like Blackpool illuminations. It is this very stimulus that energises me to get down on my knees in the local CEX and reach for my glasses to try and peer through the murky smeared glass display case to the bottom shelf (why is it always the bottom shelf? Surely, they know that by definition, 'Retro' means an older audience, with likewise older knees?) and see if there are any GameBoy cartridges that I might get my next fix from. I use the term 'fix' here quite intentionally as the feeling that evokes in me psychologically, mimics exactly the same sort of responses in the limbic system of my brain as a narcotic can in an opiate addict.

REMINDER OF THE PAST_____

Clay Routledge, assistant professor of Psychology at North Dakota State university has studied and written on the phenomena of retro gaming. His views are that "... retro gaming actually has little to do with the specific games ..." Rather he believes that the games themselves serve as a cue or reminder of past experiences we had in our youth that were significant and fulfilling for us on an emotional level. Understanding from this context can shed light on a twofold experiential element of a

>> *The feeling that it (finding something new for my collection) evokes in me psychologically, mimics exactly the same sort of responses in the limbic system of my brain as a narcotic can in an opiate addict.*
Paul J. Gilbert

particular game. For myself, I can have a fond wistful look in my eye as I reminisce back about one of my favourite games, 'The Hobbit' Text adventure on the ZX Spectrum. It was an outstanding example of its genre for sure and an industry yardstick against which many following adventures were measured against. It is however in the broader context of playing this though once again, that I feel Professor Routledge is alluding to. Upon loading the game up, I am immediately transported back to 1983 and memories of being seated in my bedroom at my Speccy, hooked up to a portable black and white TV, surrounded by maps I had patiently drawn over hours of gameplay with paper and pen. The sensations of my excitement come flooding back to me, as I remember solving a particular puzzle and wanting to get to school the next day to boast about it to my circle of fellow text adventurers. I had never seen anything quite like this before and the sense of wonder and freedom it afforded to a 15-year-old boy in exploring this mythical landscape via my home computer, was intoxicating.

GROWN-UP PROBLEMS_____

It is precisely these memories that I am chasing, and I hope to recapture them when I play one of those seminal games. It is however, sadly rarely experienced in anything like the longed-for magnitude that I had hoped for. This then drives me on to further seek another game, convinced that this next one will be the one to give me that experience. This sense of nostalgia is exacerbated by the period of development that we as human beings were typically going through at that time. Mine was as an adolescent who was exploring his own growing independence but still associated with and hampered by the constraints of living at home and surviving on my paper round money. These two factors, whilst limiting in one aspect, afforded me the actual free time, absolved of financial responsibility as I was, to devote to these gaming experiences.

HIT ME ONE MORE TIME_____

Today as a busy Psychotherapist, father and grandfather, laden down and burdened with various responsibilities, I stand little chance of ever finding anything like the time that I once had in abundance to enjoy again playing those games that I loved so much. But man do I wish I had it! These games represented a simpler and far less complicated time in my life. The fact is though, that I didn't recognise that then as I didn't have anything else experience wise as a frame of reference. 'I wish I knew then what I know now', seems an appropriate phrase to me. Now let me get back to those retro gamer forums again, there must be some chat about a sighting of a rare Pac-Man Cartridge for a GameBoy Advance somewhere. I need another hit!

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STILL ON TAPE

THE QUEST FOR THE LAST CASSETTE RECORDERS

Photo: bk

If you are into vintage technology and regularly zapping through Youtube, you certainly know Techmoan. As he pointed out in his video about Boomboxes from Aldi over in the UK: As far as the cassette part of every new tape recorder is considered, every company is using one cassette mechanism originally made by Japanese manufacturer Tanashin. He goes into detail in his video why this TN-21 called mechanism is a very basic thing and if you don't happen to have seen it yet, do so now. And sure enough, if you look at the website of Tanashin, you can see that they are seemingly still producing cassette tape mechanisms for cars. So do they still produce them

and how large is the market for this? KILOBYTE MAGAZINE wrote to the company to learn more about it – after all, there are several tape recorders out there you can buy that seem to be well-suited for use with 8bit machines like the Sinclair ZX Spectrum. But as it turned out, Tanashin stopped manufacturing this product a while ago. Marcelo Inoue from the Audio Business Sales Department wrote in response: "Yes, our TN-21 series was a worldwide top seller cassette mechanism. But its production stopped over ten years ago. And we no longer produce any cassette mechanism ever since." What does top seller mean in this regard? Inoue continues: "The production of our

model TN-21Z started in 1987 and finished in 2009. Total quantity produced was 146,979,000 units." So this makes room for the question: If Tanashin is not producing this mechanism anymore for some time now, then who does? The answer leads to China, as Inoue explains: "We definitely did not give any permission to a third company to produce our mechanisms. But there are indeed copy makers in China that might be producing similar product without any authorization." There you have it. Probably, as many technology firms did, Tanashin moved their production to China at some point in time to further reduce costs as the demand for these mechanisms declined over the years. And sure enough, their manufacturing process was copied and thus continues to this day. Which is unfortunate on one hand as it is a budget mechanism that is reliable, yet delivers not a very good audio. But it is sort of lucky for cassette producers, as even in 2019, new cassette devices are made available – which ensures continued sales. But if Tanashin is out of the picture, which company still produces them? There we come to the point where things get fuzzy. According to Made-in-China.com, there are around 26 companies that produce products that include or are associated to cassette tapes. And the vast majority of them is located in Guangdong. This province is considered to be the backyard of Hong-
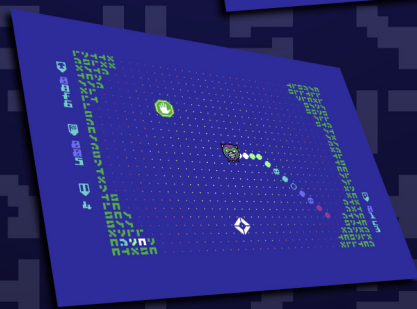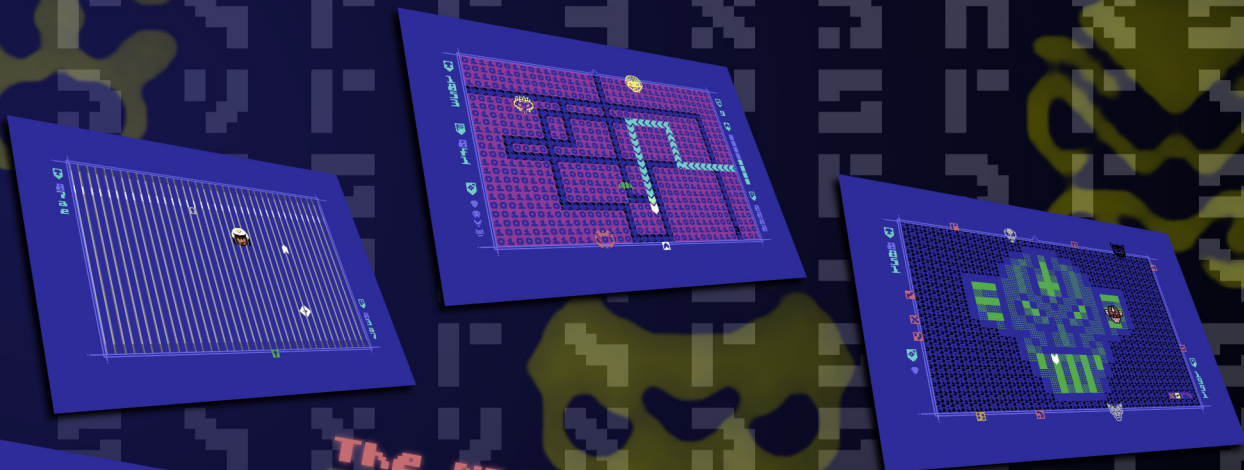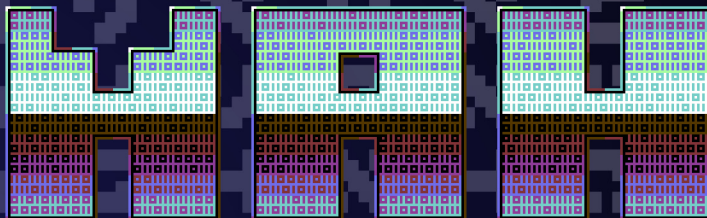
The Tanashin TN-21 cassette mechanism is the most-used to this day. However, it seems to be the only option for years, no matter what player you choose.


Tanashin's website shows that they still produce car cassette tape mechanisms when in fact they stopped their production ten years ago.

kong, Macau and Taiwan and has a very high concentration on electronics. Only a very small percentage of the companies there are owned by the state itself. But can there really be 26 independent companies still producing tape recorders in 2019? Is the worldwide demand for them still this high? Well, we may not apply Western standards in this case. Although it is very difficult to find out the addresses for all of those companies without being able to read Chinese, it is common practice that devices are being produced in one large building complex and then sold under the labels of different companies. There would be at least one for export matters, for example. Is is highly unlikely that all of these companies are independent, as they usually claim to have more than 10.000 square meters of production space and 700-1.000 employees – which points into the direction that they are all relying on one or two manufacturers instead. But without an insider, it is next to impossible to say how many companies exactly are still producing the TN-21 mechanism today. There are two that might be doing it on their own, considering all the information they are willing to share online: Shenzhen Chaobotao Electronics Technology and Dongguan Wanjiang Mingjia Electronic Factory, the latter being the producer of the Aldi Boombox Techmoan reviewed. Digging deeper, there seems to be only one manufacturer of magnetic tape

heads left in China, which is called East Sun Electronic. As you see, there is nothing definitive to be said in this matter. Inquiries via e-mail to those Chinese companies stayed unanswered. It is however very likely that their number will diminish as well soon. Next to none of them are dependent solely on selling tape recorders. They also produce CD and Bluray players. Cassettes are a niche that seems to be attractive to them still, but as the products are not well-suited for hifi-enthusiasts and even the average listener will notice that the sound is rather noisy and dull, they will perish like the last iteration of VHS players did. And even as a retro computer enthusiast, being a niche in the niche of tapes itself, you can't rely on the new cheap cassette recorders. Some users tried to get something out of them in connection to a ZX Spectrum, but the machines couldn't even deliver that. So while cassette mechanisms are still being produced, it is questionable for how long this will continue. New stereo tape heads are already on the bring of extinction as all new mechanisms only seem to include the cheaper mono heads. There are rather new products from Panasonic and Sony that at least seem to have overcome that, delivering stereo output. But they, too, rely on the same tape mechanism that Tanashin introduced in 1986 or 1987 and that continues to live on as an unlicensed copy from several companies in China.   *(bk)*

WAH

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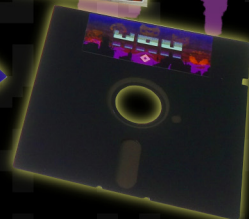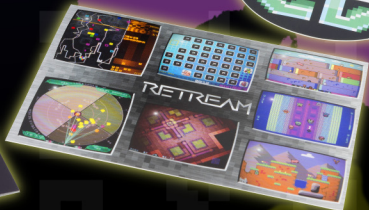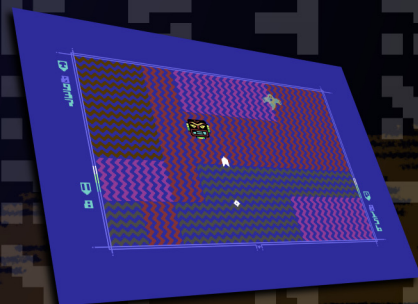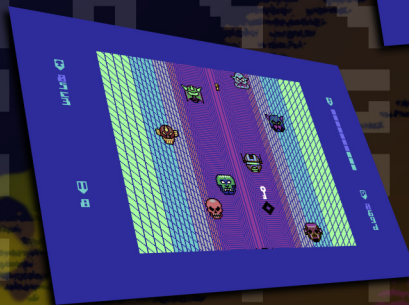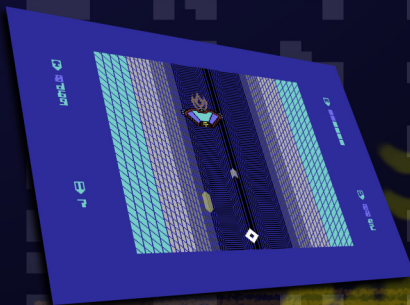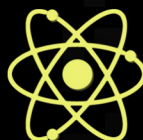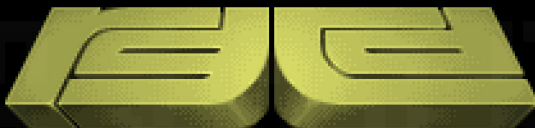
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GAME ON

HANSE – A GREAT GAME YOU PROBABLY NEVER HEARD OF

Photo: pixabay, Achim Scholty

It looks nice, doesn't it? The Holsten Gate in Luebeck, Germany. It is perhaps the most iconic landmark of the city and was also pictured on the old 50 Deutschmarks note. Luebeck is a beautiful city indeed, and this might have inspired two young kids to make a game with the goal to become Luebeck's mayor. "We were playing some *Kaiser* back in the day", Bernd Westphal remembers. "And about a week later, Ralf Glau came to me with his idea for a game. When I asked him what the goal of this game should be, he just said: Becoming the mayor of Luebeck – and I burst out laughing." But it was not a joke. Ralf Glau was determined to make this game a reality.

To become mayor of Luebeck, the player was set back in time to the 14th century, where he had to try his luck during the time of the Hansa. Luebeck belonged to this federation of cities back then. The player basically starts shipping salt to different locations around the Baltic Sea and trade it for other goods that he can sell at a profit back at home. It's a quite basic economic simulation, but it is entertaining and can be played with up to six players. While Ralf Glau programmed the original version of the game on his Schneider CPC, Bernd Westphal was doing the conversion for the C64. "I had to imitate many Scheinder commands as subroutines, because they were

not available on the C64 by default. But the internal calculations, arrays of variable names were probably the same." Westphal programmed the game in BASIC and then used the Basic64 Compiler by Data Becker. Sadly, there are no decompilers available for this one, so that it is next to impossible to recomile it for translation nowadays. The C64 sources are sadly lost in time. Westphal remembers how often they met during the programming sessions: "We met very often and talked and tested together. Ralf Glau designed all the graphics, I was responsible for the controls and internals." There is an element of chance built into the game. It regulated if the ships will face stormy sea (and thus lose precious freight on their way home), what happens when you get ill or how often one of your storages will burn down, among other things. "At the heart of the programme was a magic formula with lots of SIN and COS. It was very, very long, developed and refined by Ralf Glau by trial and error. And this controlled everything."

to turn up. And sure enough, after three weeks, there is was." For the two young programmers, everything seemed possible now. But while Ralf Glau went on to make more refined games like Vermeer and Patrizier, with the latter never seeing a 8bit release, Bernd Westphal did not continue his journey in the gaming industry. And if noone is willing to write a decompiler for Data Becker's Basic64, the only other option for a translation would be a HEX editor. But due to the syntax of the game's sentences, it is next to impossible to do this whilst maintaining the char limit and keeping the output tidy. Now becoming mayor of Luebeck might not be everybody's cup of tea, but it is a nice little game for its time. And one last remark about the Holsten Gate: It is pictured on the box cover of the game as screenshot, but the C64 version does not include the photo. It might have proven a tad too difficult to recreate even with a slightly altered BASIC charset for Westphal back then.
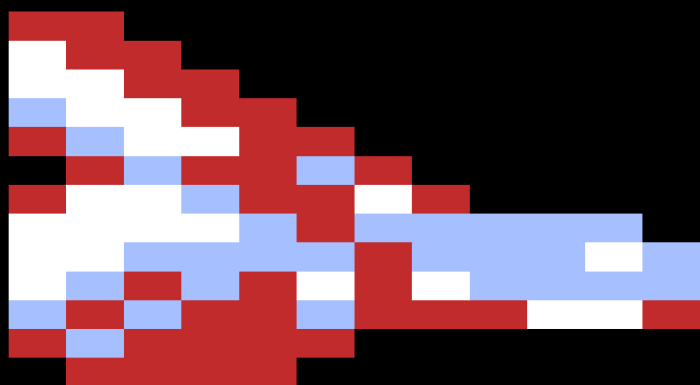
(bk)

Hanse is not an easy game. Most of the time the sea is stormy so you lose goods, some of your employees steal money from you and so on. But it is very entertaining to see the map drawn at the beginning of each round. It reveals how successful you last business was.

THE BIG HIT
With their finished game for two computer systems, they went to Ariolasoft to get Hansa published – and succeeded. "Ralf Glau managed all of that", admits Westphal. Asked about how many copies the game sold, he replies: "It must have been tens of thousands. And we were anxiously waiting for the crack

ALPHARAY
∈plus/4

R-Type, Gradius and Salamander were the biggest inspirations for Alpharay. Quite a mouthful to say about a shooter on the Plus/4!

The Commodore Plus/4 was never intended to be a gaming powerhouse, but a cheap computer for small businesses. Positioned in the same market segment as the Sinclair ZX Spectrum, it has no sprites, no hardware scrolling, no dedicated sound chip – but lo and behold! The last three years have seen quite some impressive games coming out for the Plussy. All thanks to the hard work of the artists formerly known as Bauknecht. And sure enough, this year at Evoke demo party, they presented another hit entry in the library for the Plus/4: Alpharay. A shoot 'em up? That's right! After they have shown the world what the little computer can do with

ALPHARAY

◇ DIFFICULTY: NORMAL
START GAME

NERO

SPACE ← → SHIFT
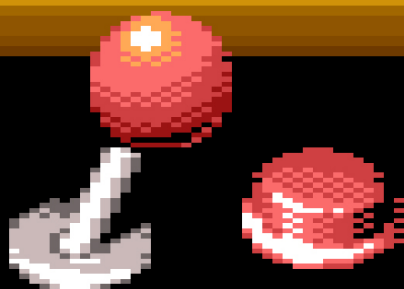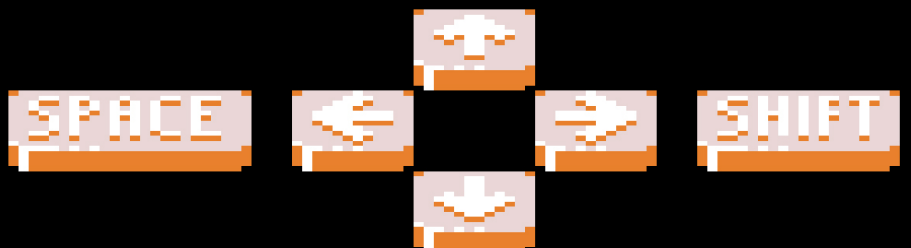
Pets Rescue, this time they present a stunning shooter. It starts with a great title zoom which clearly tells you, if you didn't already know, that these guys are rooted in the demo scene. The way the intro is designed reminds a bit on Thunderforce IV for the Mega Drive, but it's not that fast-paced, of course. Nevertheless, it sets the right mood for the following gameplay. "I took inspiration mainly from R-Type, Gradius and Salamander", says coder Stefan Mader. And indeed, the player's ship looks like it could very well fit into R-Type as well – as do the more organic-themed levels that grace the screen later on. Some small
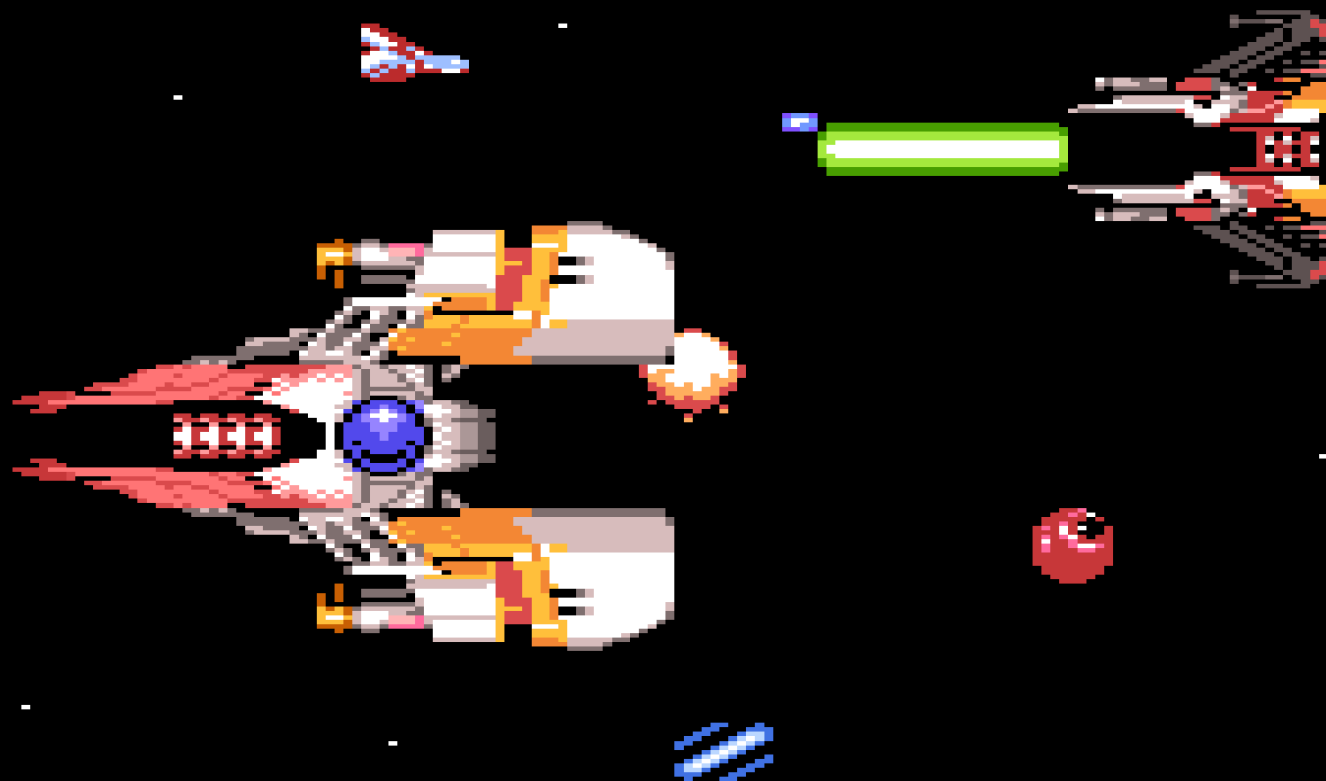
ships will remind you on IO, and the one pictured above looks like an upgraded version from Gradius. But enough with the similarities to existing games. *Alpharay* is certainly more than an hommage to these classics. But let's take a look at the story first. Because no great shooter can come without one, of course.

MAN VERSUS MACHINE_____
Reading through the introduction makes one feel as part of a shooter inside some sort of space strategy game where some player seems to have gotten the upper hand. The people of Archeron are living in constant fear of a robotic threat: "It is said that automated companies

The last level, called Fleet, delivers exactly what its name promises. But it's insanely hard to get that far.
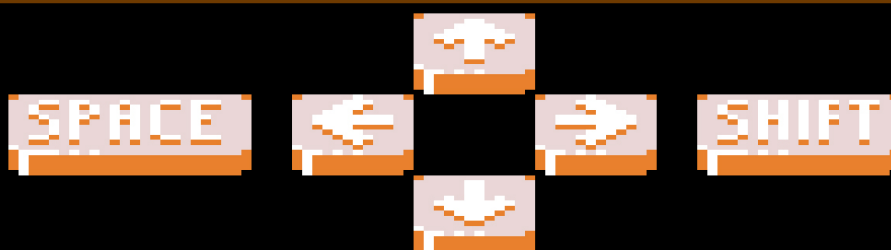
If you want to master Alpharay, you will have to put some hours of gaming into it, learning attack waves, perfecting your control of the ship. It's a tough game for sure, but it's also quite beautiful and rewarding.

are building these robots for interstellar domination. It is said that these planet size companies have already produced an endless supply of these robots of war. But times are changing and the Archeron people are hoping to stop these robots from devastating the sector." Help comes in form of a science project: "The students of the interstride university created the interstellar ship Alpharay during a science project. The first test flight in a nearby Star System ended in a skirmish where the Alpharay outclassed hordes of enemy robots." Which sounds quite promising. So there is the technical side of things. But who would be crazy enough to fly this newly developed thing? Well, the answer is naturally: You. No pressure: "The future of the Archeron people is on your shoulders. Alpharay must become a huge success. Failure is not an option." And so the game begins with an arcade-like explanation of the controls. A joystick and a fire button are basically all that is needed. And

while onscreen the ships flies in the directions indicated by the pixelated joystick and unleashes a little bullethell on the press of a button, you immediately forget that you sit in front of a Plus/4. The sprite animation is very nice, the ship leans towards the direction it is steered, rushing through a starfield in the background like there was noting to it on this hardware. The question if this might actually run in 50 fps is answered when the first level starts. "By using the singlebuffer-technique, we can draw everything directly onto the screen, save some RAM and can display 50 fps", Stefan Mader explains. Moreover, the levels are decrunched while scrolling. "But horizontal screen positioning is by far the biggest technical innovation on the Plus/4. Something like this is already used on the C64, but this is a big milestone for the future of games on this machine", Stefan says. This all leads to an already impressive performance, but Stefan adds: "I now know some optimizations
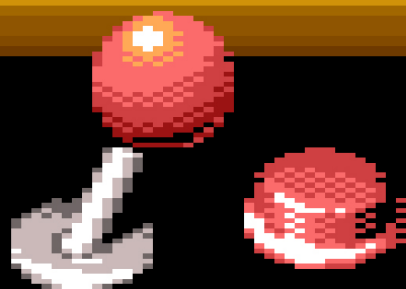
for the bitmap mode we used here, and the Charset mode would also be more performant. So yeah, there is still some room for improvement." Which sounds quite unbelievable looking at this game. The scrolling is exceptionally smooth for a game on this hardware. In fact, if you compare it to the level scrolling of *R-Type* on C64, you will see that it runs at the same speed. Very impressive. However, you will notice some slight judder with the enemy sprites and bullets – keep in mind that

SPACE   SHIFT
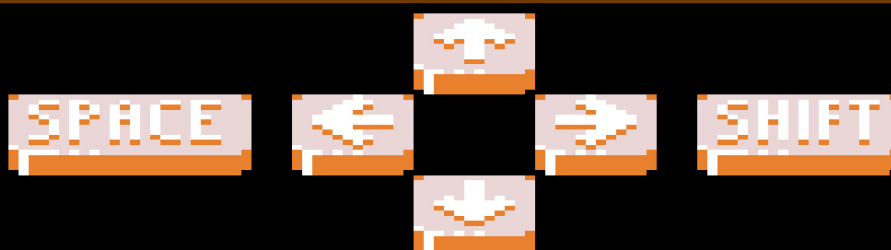
everything going on here is done by software sprites and it comes close to a miracle seeing it work this properly. Talking about inspiration from R-Type, you will notice the upgrades to your ship's cannon that can be powerful enough to turn the screen into a bullethell for your enemies. But there are no satellites and no powerup-savings like in Gradius to choose which upgrade you'd like to have next. It's straight forward and it works good this way. Clearly, the strength of the Plus/4 is its colors. And they are used very well here to create a nice variety of six levels in total that feel more like something you might be playing on a Sega Master System. Adding to this is the great soundtrack composed by Ronny Doll. While the TED outputs nothing that can compare to the SID, this music outclasses some Sega Master System games for sure. With its fast-paced, techno-waves it suits the atmosphere of the game very nice. All in all a must-have for 8bit enthusiasts. Play it to believe it! *(bk)*
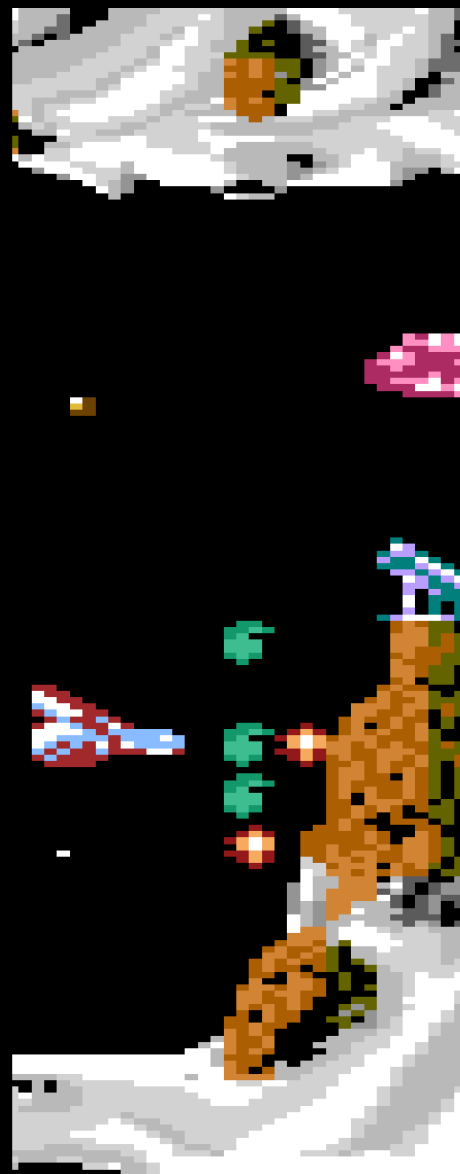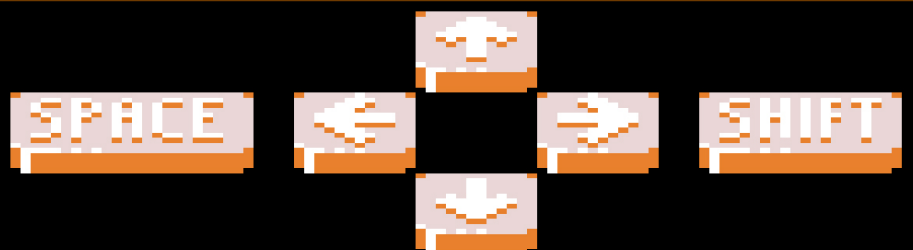
Everything in Mancave is pure, silly, entertaining fun. Which might be no surprise knowing it comes from Megastyle, the guys who brought us *Way of Exploding Fish*, for example. Programmed by Chris Stanley, with cute and funny graphics and animations done by Roy Widding, David Eriksson and Rune Spaans and a catchy soundtrack also provided by Roy Widding, this game builds up a somewhat relatable hero in a very – let's say delicate situation.

VERY RELATABLE_____
From the very first moment the game starts, you can tell that it doesn't take itself too serious: from the nice Psytronik logo that is ac-

comanied by a silly little tune and our protagonist Richard falling off of it to the introduction of the story: "The Mancave – a place where you keep all your favourite things, where you can do whatever you want and no one bothers you. It used to be called you life, but you got married so now it's just a room. You wanted this room to be your own space away from the wife and kids, but now your peace is threatened!" And so it begins. It is adorable how Megastyle managed to make a funny game around the fact that most of us retro gamers and collectors have their own mancave as some sort of meditation area, a backdoor to a life that was not that stressful and where ev-

erything revolved around old games and the stuff from your puberty. Which was a while ago actually, as protagonist Richard is already bald, got used to his potbelly and – having grown up in a time before the internet – seems to be very fond of his collection of adult magazines. And now his nightmares have come true: His kids not only went into his mancave to turn the whole place upside down, but of course they also found his collection of magazines and were spiteful enough to spread them around the house for Richard's wife to find. So from level to level, the player has to guide Richard through the house, collecting those delicate printed materials before his wife finds them, avoiding to get too close to her or his kids, which mean a lot of stress and might cause a stroke.

So how does it play? It's a lot of fun with some serious attention to detail overall. The hires overlay sprites look nicely cartoonish, the house is a great place to stroll around that reminds one of the insides of Little Computer People and the music makes you smile as soon as you hear it. The theme from Married with Children for a little intermission between levels one and two for example is a guaranteed laugh. And the game gives you a little facts carousel on the go, like this one: "Apparently 4,153,237 people got married last year. Isn't that an odd number?" And also wordly wisdoms like this: "Marriage is a three ring circus. Engage-

ment ring, wedding ring, suffering." You can't help but smile about all the neat ideas they came up with to explain the different oddities in each level. It sort of makes sense, it always comes with a good portion of humor and it is just plain fun. The whole concept is refreshingly unconsumed and one feels like it was high time someone made a game around this whole mancave thing, which is, to be honest, a bit absurd to a certain degree, but also the reality of nearly every retro gamer around today. Okay, the part with the adult magazines might be a stretch for most, but hey: without this twist, it would not be as much fun. And as if that was not enough fun, there are some nice bonus levels woven into this one, from collecting beers in your dream to riding your own electrocardiogram. There is nothing quite like Mancave out there on any platform and it is highly recommended that you try it out for yourselves. You won't regret it!   *(bk)*

When it comes to eternal runners on the C64, Canabalt is what springs into everybody's mind at once. It is a very simplistic yet challenging and fun game. How could one improve on that? This seems to be the question that was on Achim Volkers' and Trevor Storey's mind when they came up with *Run Demon Run*. In this eternal runner, the player controls a huge black demon who wears a cape and is on the run from who knows what. The hires sprite is animated with great attention to detail, reminding one on games by Epyx like *Summer Games* or *Impossible Mission*. The demon starts out in a very techy world which might be the reason for

his escape, but with these games, the story doesn't really matter that much. The whole thing might be a metaphor for our present life, being dependent on technology in a way like never before, having degenerated to mere demons who follow these paths mindlessly. Or it might just be a fun title and a great idea for a sprite to work with, without any deeper hidden meaning.

In any case, this fast-paced runner plays great, but it takes a bit to get used to it. Where you had to press just one button in Canabalt, here you can also do some sort of Sonic spin, rolling through narrow passages by pressing the joystick down. Or you'll have to jump by pressing the

button. You can also double-jump midair which is important to make it over larger gaps or to reach some bonus tiles which are indicated by an exclamation mark. Collecting those and killing enemies by jumping on them will fill up your power meter. And if that's done, the game has another surprise to offer: You turn into a huge jet and fly through the level. Nothing can stop you in this mode, but you can collect a few blinking things coming up here and there that will help prolong the flight a litle and ramp up your score. This is a crazy game all in all. It's like *Canabalt* on steroids with some LSD thrown in just for good measure. The music by Richard Bayliss adds nicely to the hectic atmosphere. But as creative and nice as all of this is, the game is very, very hard to master and can be frustrating at times. Reaching a score of more than 10.000 points is hard work. And although there is a highscore, there is no highscore list with multiple entries that is saved, which would have been a very nice addition. The parallax scrolling going on in the background is nice, if you have the time to look at it. The idea of having to collect these bonus boxes is nice, because players will tend to get greedy over time, trying to collect too many and die in turn.

It's a great party game for sure, but it will take a lot of practice.   *(bk)*
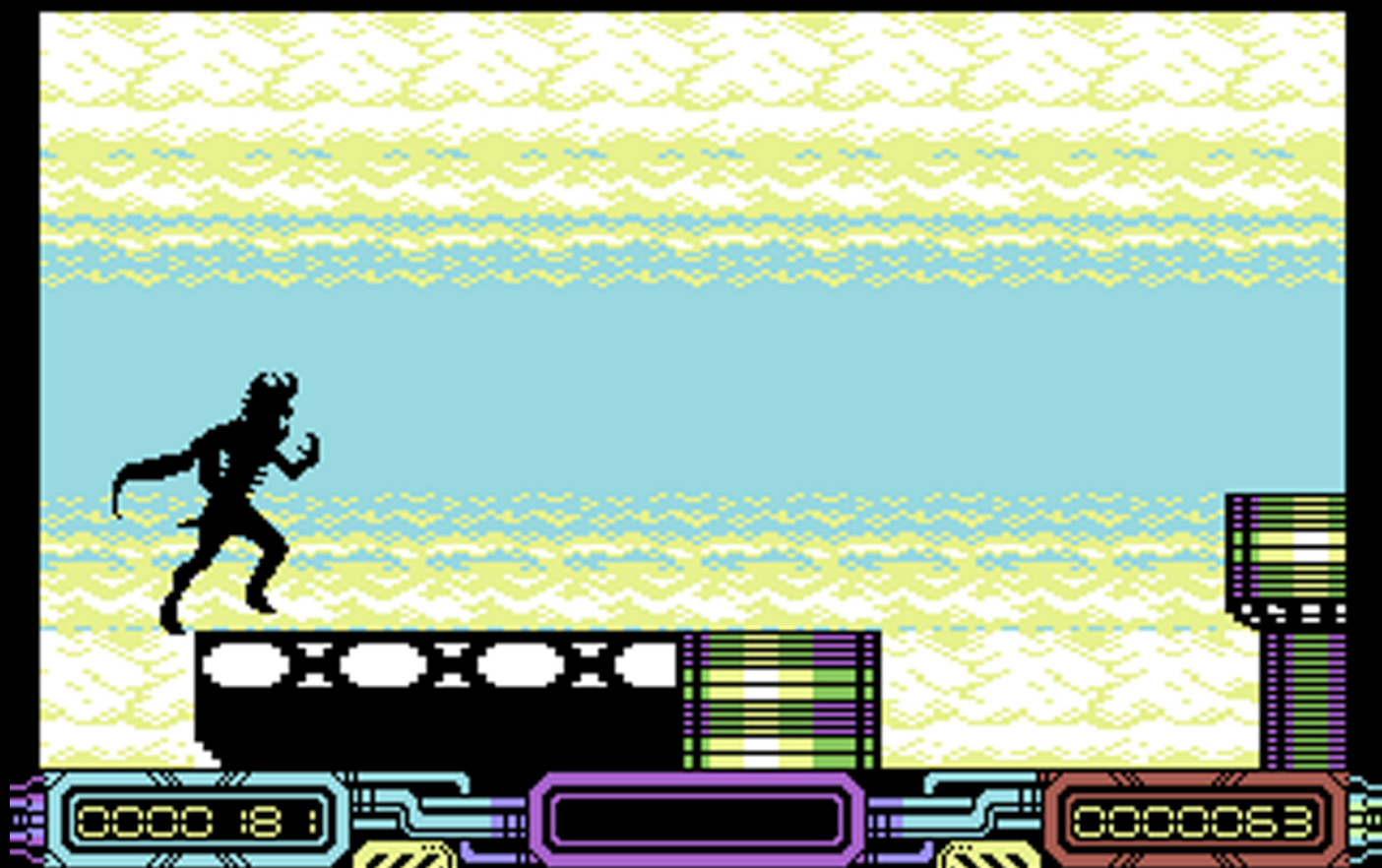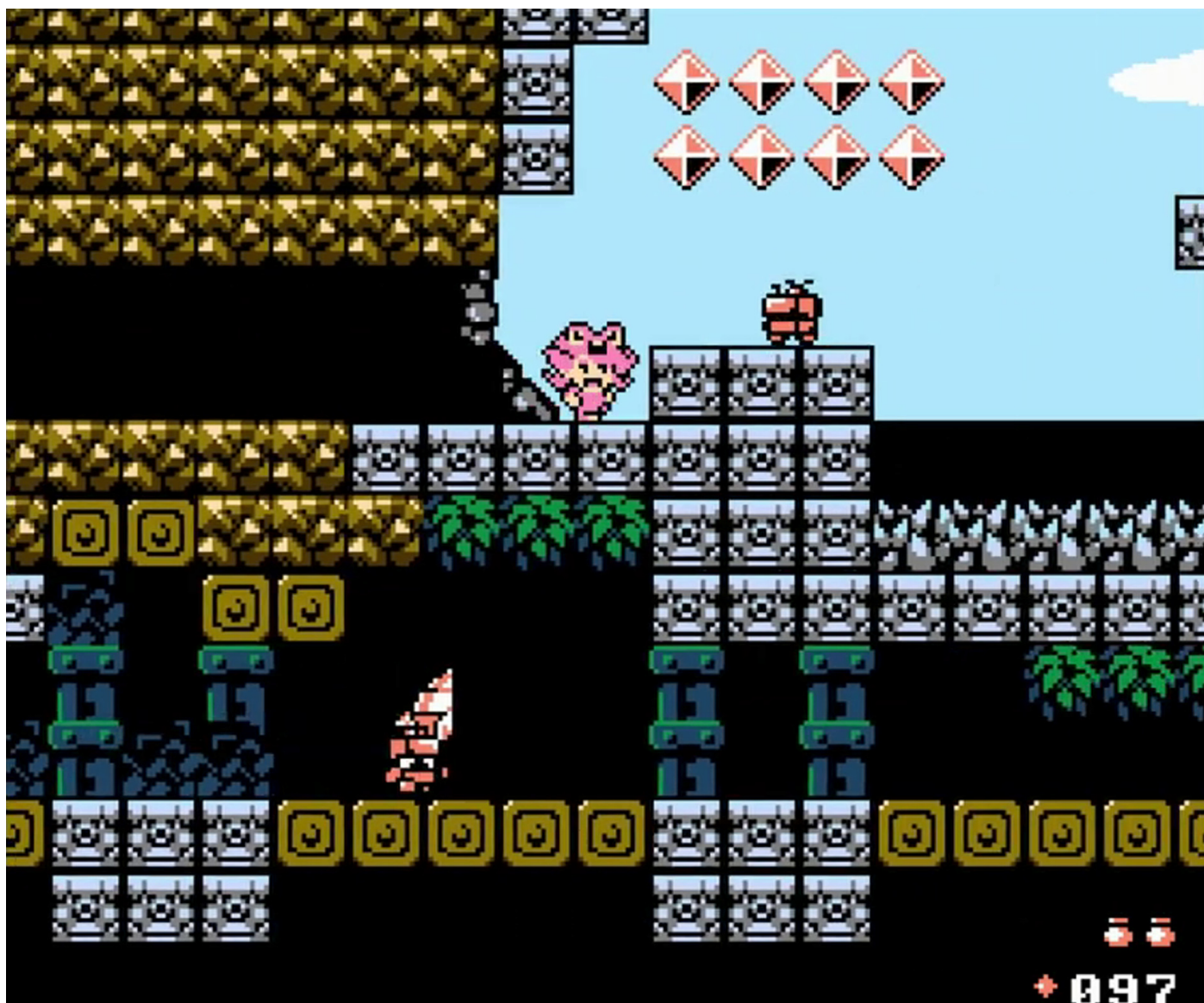
The first time Nebs 'n Debs appeared was during the 2016 NES game dev competition. It took some years and a successful Kickstarter, but in 2019, the full game finally appeared and can be ordered solely as ROM image or as boxed NES cartridge alongside the ROM for use on emulators and the Everdrive as well. In the game, you control a cute little pink-dressed girl with an octopus fused to her head who tries to escape an alien planet by jumping and dashing through twelve levels, searching for the missing pars of your space ship while feeding the octopus on your head with crystals that also prolong the time you have to complete each level. Developer Dullahan Software calls it rightfully a "Run-jump-dashing-platforming-crystal-collecting action" game. That about sums it up. If it was just about running and jumping, there would be nothing special about it. But the interesting thing lies in the dashing.

Not only is it the one way to kill enemies, it is also important to progress through the later levels by crushing through rocks and prolonging your dash by hitting enemies so you can make it over large abysses. Timing is key here, as the game gives you a tad more time than you need to complete each level. It's not like in Super Mario, where you can practically stand around watching the clouds go by in the sky. This game, especially in later levels, is all about learning patterns and finding the fastest way through them while performing perfect dashes and jumps to land pixel-perfect on platforms. Sounds difficult? It gets even harder once you played the game through. Because then it starts all over again, firing more enemies up and reducing the time to an absolutely ridiculous level where perfection is needed to even make it through the first levels. Nebs 'n Debs however remains, at its easier skill level, not too difficult if you ever played and loved *Mega Man* on the NES. But it will take patience and a steep learning curve to fully enjoy the whole game. Thankfully, the levels are well-designed and fun to go back to.

All programming and artwork is done by Chris Cacciatore with a great musical score by Richard Kulor Armijo. The latter really went for something special here with a hard to describe and pretty unique mix of different genres. What's important to know is that the controls can be frustrating at times, with the reaction of protagonist Deb when touching the D-pad vary from no movement at all to moving just a pixel to running off into her doom. This, too, takes a bit to get used to at first, but it does not mean that the game is unfair in this regard. The controls are just very, very tight.

All in all, this game is for fighters that don't give up easily but are looking for a nice little challenge on the NES. It does not take too long for the difficulty to increase and players who had to manage their anger with games like *Ninja Gaiden* might find this one not that much easier. But it's a great release and definitely worth checking out.   *(bk)*

Micro Mages

PRESS START

Saving the princess – that's what it's all about, right? That certainly is true when it comes to Super Mario Bros. And it also applies in this case: Micro Mages. Four tiny little mages go out to rescue their beloved Princess from the demon fortress. But aside from sharing the very same goal as Super Mario and being the same size of the original Mario game, 40 KB, Micro Mages offers a very different gaming experience on your NES than most other titles. And this is not the least thanks to the fact that it can be played by four players at once, making it a great party game to enjoy. The mages can jump, hold on to walls and shoot some magic to destroy enemies and rocks in their way. While walking through the levels destroying stuff, you also find some crates every so often that contain some useful extras. Like a bird, for example. He will stay on your head and allow you to fly for some time

after jumping in the air. But in the next level, he will be gone. Reaching the end of each level requires the players to get to the exit on top of the slowly but steadily vertically scrolling dungeon. Every three levels, there will be an endboss to fight. And after 12 levels, there is still the final stage to clear. Which will lead to another run in hard mode to finally get to the good end of the game. This final battle takes some inspiration from *Kirby's Adventure,* but other than that the whole game and its feel are very unique on the NES. In fact, it does not feel like an 8bit game, but rather one of those new indie games everyone loves to play. The graphics are cute, the music is great and the difficulty just right for some fun time alone or with up to three friends. Morphcat Games really delivered something great here that would have been well fit the original games lineup for the system. A must-play!   *(bk)*