

KILOBYTE

MAGAZINE

2020/2

MAINFRAMES FOR YOUR SHELF · MINIPET · DAWN OF CRACKS · GOLDEN BOY · HEROES
AGAINST DEMONS (SMS) · ZETA WING (C64) · KNIGHT GUY (7800) · TRITON (MSX) · AND MORE ...



8BIT
ONLY

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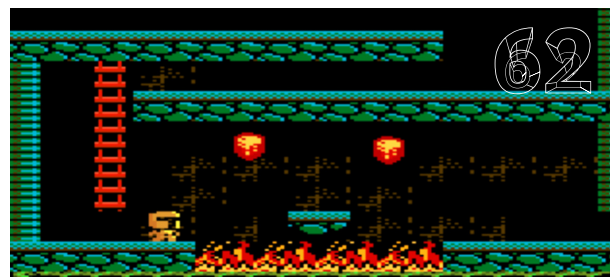
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AND MORE!



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Memorex 80s cassette advertisement

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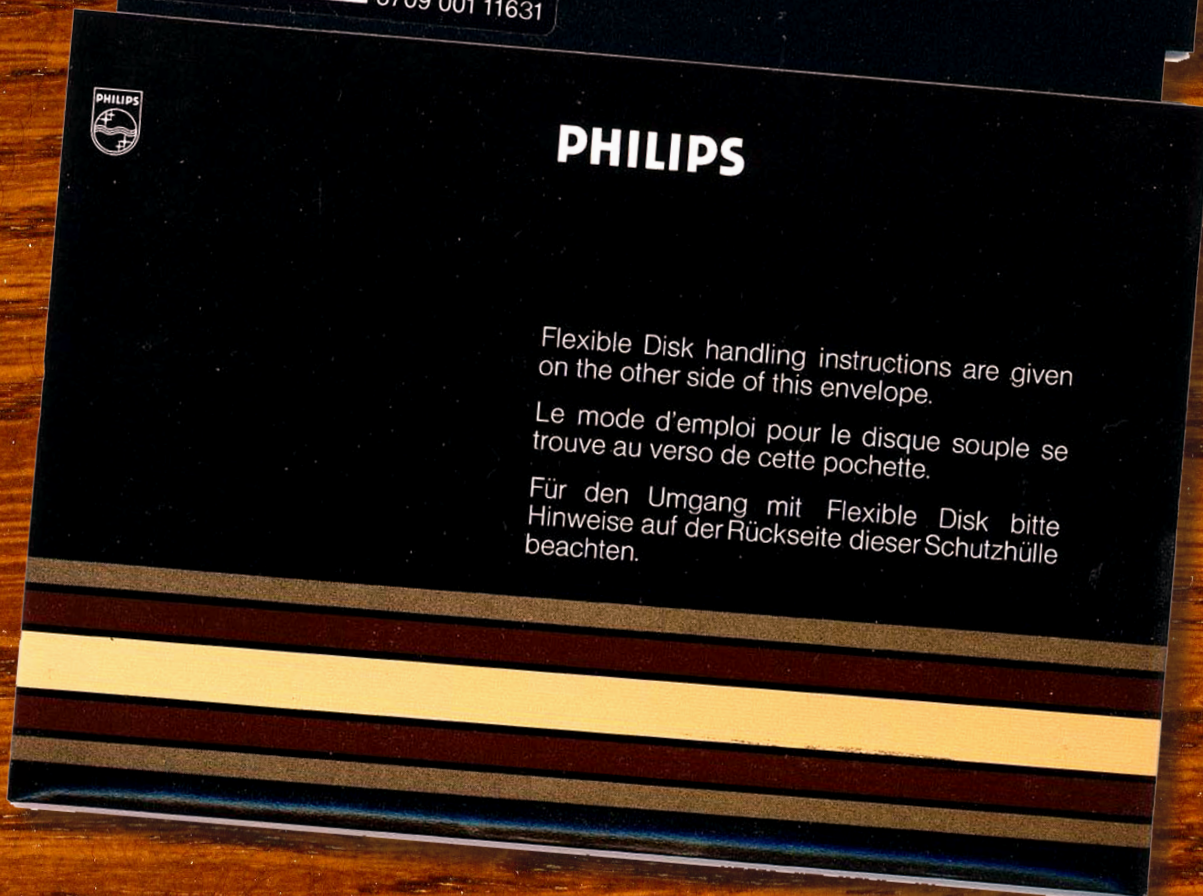
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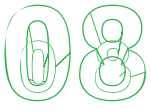
THE ART OF FLOPPY DISK SLEEVES

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A MAINFRAME

HOW A PASSIONATE MODEL BUILDER SHRUNK AN



FOR YOUR SHELF



IBM 1401 WITH AN ASTONISHING LOVE FOR DETAILS



Photo: Nicolas Temese

What's your favorite computer? Sinclair ZX Spectrum? Dragon 32? Commodore 64? Whatever your answer is, the IBM 1401 would probably never pop up. To Nicolas Temese, this big blue giant has always had a certain charm. "When I was young, back then you could always see these type of gigantic mainframes in science fiction movies, they looked so impressive and powerful", he says. Blinking lights, spooling drives and the delectable humming make for a very special atmosphere. This was what the future looked like. And it certainly looked impressive. But who could afford to buy one for the home? Who would even have enough space to have one at home? If you buy a ZX Spectrum, you can easily put it in a drawer to store it. But an IBM 1401 mainframe computer ... now that would be a commitment. So Nicolas Temese came up with an idea how to get this impressive beast into his home: he simply shrunk it. Well, not exactly like you saw in the movies you're thinking of now. But by building a model. "I've always been fascinated by old computers and their history. The 1401 is very iconic and I thought if I was to make a computer that would be it", says Temese. He has a passion for models that are uncommon, so don't expect him to sit down and build any Airfix or Revell kits. The challenge, to him, is really creating the model all by himself. "I worked on it for about six months. I

have a day job and I can only work on it during weekends and evening, a few hours here and there.” And although it does not look this way, nothing in his model is 3D printed. That is a testimony to his love for details. “Everything is hand made, it’s kind of the challenge in a way, everything is done by hand using polystyrene sheets. Since I make everything from scratch, I can make anything I want, which is what makes it interesting to me.” Because there is no template to follow, the idea of modeling a mainframe computer becomes even more challenging. Especially as Nicolas has never seen a 1401 live. So what did

he use as a reference, you may ask. Well, this is what: “All the pictures I could find on the internet. A lot of references comes from the Computer History Museum 1401 restoration team website, they have a lot of old documentations that were very useful to help me figure out the size of lots of the pieces, but I had to do a lot of guess work.” Thankfully, Nicolas Temese is a good observer. The level of detail, from the punch cards to the tape drives to even the office chair, is impressive. But that is not all: the machines actually do stuff. The tapes are spooling, lights are blinking – this is not just a nice but lifeless diorama. It is truly a one

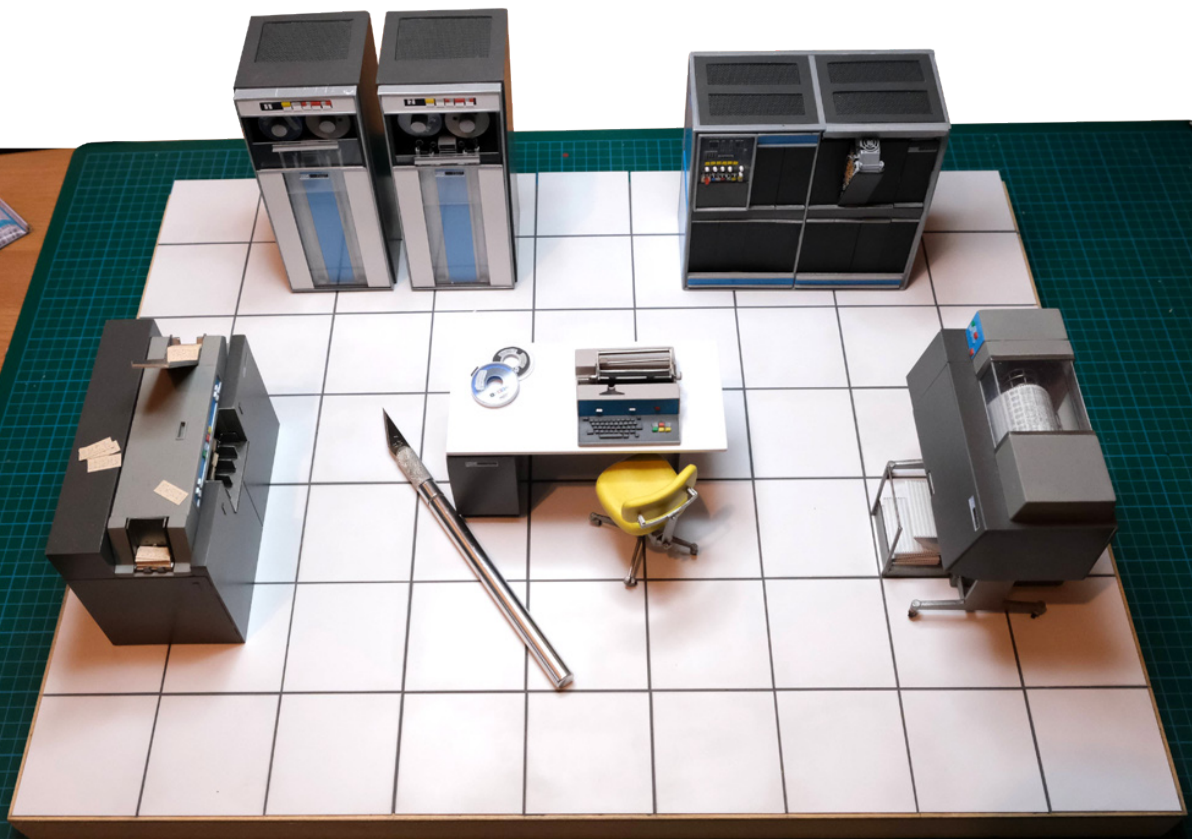




Photo: Nicolas Temese

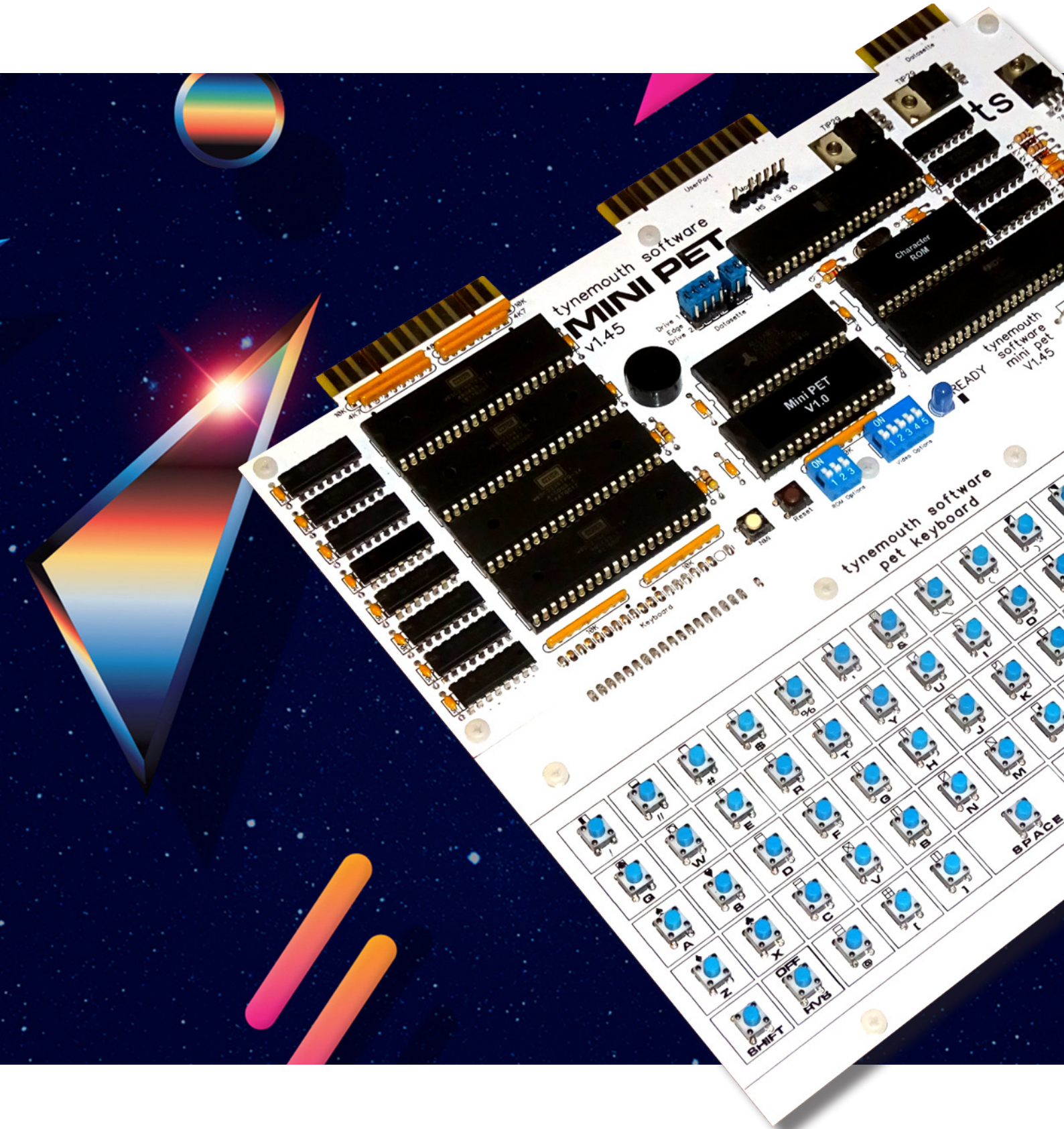
of a kind piece of art. And after he finished it, posted it online and got a lot of press coverage, he thought it would be the best thing to do donating this model to the Computer History Museum in California, which he then did. And it gives Nicolas another reason to visit the museum, something he has yet to do. But don't you worry, he already has tons of ideas what to do next. Over on Instagram, he already showed another computer model, a HP264X Terminal. It even has a working display in it! "The HP was a bit of fun, I wanted

to see if I could make a convincing model using an oled display and since the HP264X had a widescreen display back then, I thought it would be a good match with the oled I had on hand." And it certainly looks like it. So what will be next? "I take a long time to research everything before starting to work on a piece to figure out how to make it. I think half of my time I spend just staring at my desk trying to figure out how to make things, I like to plan everything ahead of time." So to keep in touch, best follow him on Instagram. (bk)

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MINI PET

A NEW PET KIT WITH ALL NEW OLD PARTS



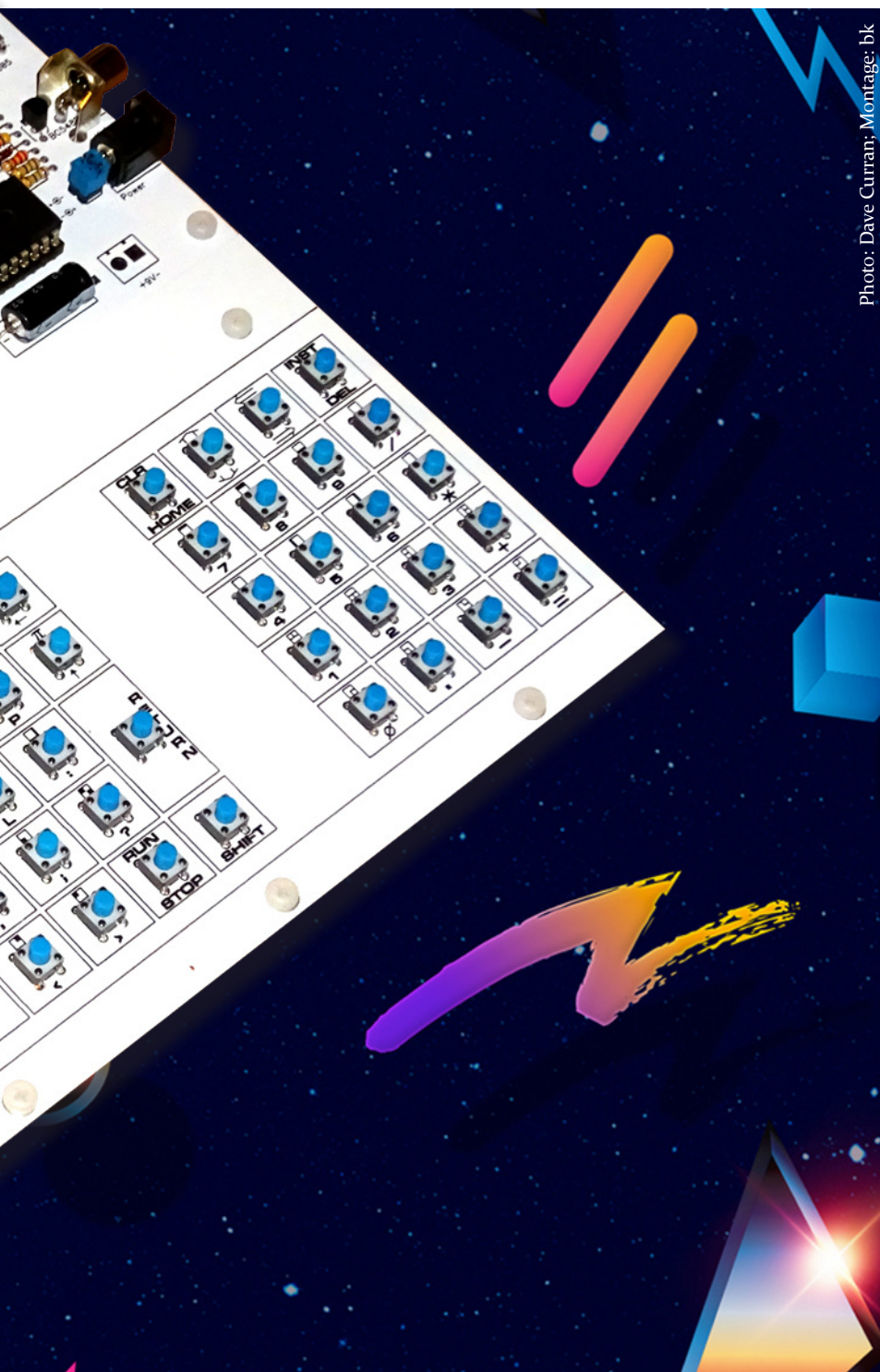


Photo: Dave Curran; Montage: bk

Tynemouth is a nice town at the North East coast of England. It has a marvellous sand beach and a rich history. The Ancient Romans already settled here and installed a signal station. But there is another thing Tynemouth is well known for, at least in our retrosavy circles: soft- and hardware. Because the city where the river Tyne enters the North Sea is home to 45 year old Dave Curran, better known for his projects by the name of Tynemouth Software. Recently, he came up with the MiniPET, a board that houses all new chips to allow you to build you own PET – or replace a defective old board in your machine – in the 21st century. KILOBYTE MAGAZINE interviewed him.

The MiniPET wasn't your first venture into making mini boards for old computers, was it? What sparked it all?


I got my first computer back in 1982, a 16K ZX81 on which I learned BASIC and Z80 machine code. In those days it wasn't retro computing, it was just computing. My passion hasn't changed, just the name. That ZX81 broke after about a year, and with the help of one of my Dad's friends, we got it working again (it was the 7805 regulator), and that sparked my interest in electronics. I suppose it all goes back to that first ZX81. I've built various Z80 and 6502 computers over the years, and a while ago, I wondered if I could build a ZX81 on

a breadboard. I did, and it sort of worked. That was cheating a bit as it used the ZX81 ULA, so I then built a version of a ZX80, which used on standard logic chips. That also sort of worked, but breadboard was never ideal for the high frequency signals. To get around that, I designed a PCB version, and the Minstrel 1 was born.

How did you get the idea to start building a replacement board for

Commodore PETs? Do you maybe have a machine that needed new life?

I think I have about a dozen PETs at the moment, maybe one or two more, alongside most of the machines from the 8 bit era, and a few 16 bits. Most of which have working boards in them at the moment. When repairing PETs, I have been making ROM and RAM replacement boards for a long time. These replace all the onboard ROM and



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*** MINI PET BASIC 4.0 ***  
31743 BYTES FREE  
READY.  
█
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RAM, apart from the video RAM and character ROM. As part of diagnosing faults, I had built a couple of boards which generated a copy of the PET screen by reading the video RAM. The first drove an LCD, and later a composite video output. It seemed logical at that point that if I could replace all the ROM and the RAM and the video circuits, all I needed to do was add the IO circuitry and I had a replacement PET mainboard. I already also had a replacement keyboard PCB, so building a whole new PET or a replacement board for an existing PET sounded like an interesting idea, so I built one.

Are all necessary chips for this board still available in 2020 and where do you source them?

Yes, that's one of the key aims with these kits I make. I only want to use new parts that are still in production. They come from various suppliers, Digi Key, RS, etc. I do not like the idea of relying on out of production parts. There are too many fakes and remarked chips and it opens up all sorts of problems. Designing something new that relies on a finite supply of a custom chips that could otherwise be employed keeping existing machines running seems like an irresponsible thing to do.

What were some of the difficulties designing the board itself so that it would be fully compatible?

The most difficult bit was replacing half a board full of TTL chips that generated the video on the original PET with a simpler circuit based around a dual port RAM chip and a simple microcontroller acting as a counter, timer and related decoding logic. It's still fairly true to the original design, as the screen is drawn, each character is read out of RAM. That is used to address the font ROM, and the bits that make up one line of that character are output via a shift register to the monitor. The CPU was also a challenge as the modern WDC 65xx series chips are not quite compatible, and I had to rework the way the clock was used around the board and the ROM and RAM timing.

What is the difference in these new WDC 65XX compared to the original 6502?

The W65C02S is not pin compatible and has some different timing requirements. They seem to have made various 'improvements' to all the chips which makes them more or less compatible. They have a W65C51S, which is an updated version of the 6551 UART, unfortunately that has a broken bit in a register which does not clear when it should, that makes it incompatible with any old software that used polling of that register to check when a byte had been sent. It's great that they make W65C21N and W65C22N are NMOS versions and



fairly close to the original 6520 and 6522s, so those can be used as direct replacement. There are also W65C21S and W65C22S versions which are less compatible and can't be used without more circuit modifications. It's disappointing they don't make a W65C02N, I don't think they realise how big the retro computer scene is, and how many they could sell if they made a drop in 6502 replacement. As it is, they are going for designers of new embedded systems. It was the lack of a direct 6502 replacement that stopped me doing the Mini PET earlier, it was

only when I finally worked out how to get it to work in a PET that it made it viable.

The boards are sold via TFW8b – so how well is the MiniPET received by the retro community?

Generally positive, although not everyone is a fan of the keyboard. That's the best option I could come up with. It could have had something with cherry switches and all sorts, but the price would have gone silly.

What future changes would you consider for the MiniPET? Will it

at some point be possible to display 80 columns and thus replace boards in 8032 and others?

80 columns is a possibility, but it will add a lot of complexity to the video circuitry. The current pixel clock is 8MHz, which gives the microcontroller 16 instructions to toggle all the latch and enable pins to read the next character and get it ready to latch into the shift register. 80 columns would need a pixel 16Mhz clock, given only 8 instructions for each character. Commodore did this with two sets of RAM, one for the odd and one for the even characters, to try to keep up with the speed. There isn't much 80 column software available, mainly spreadsheets and text adventures, so it would really need to be 40/80 switchable, and that would be even more complicated. Similarly, I could have 64K or 128K of extra RAM, but so little software supports the extra RAM in the 8096, it's probably better to stick with the standard 32K. The way I normally look at it is I can give you a list of hundreds of games that will run on a 32K 40 column PET. How many can you find that would need to run in 80 column mode or could use the extra RAM?

So far, most of your designs are about 8bit computers. What makes them special to you?

I like the simplicity and the ingenuity required to get the most out of a limited system. It's too each to be

sloppy and wasteful in coding when you have effectively unlimited RAM and processor cycles.

After the ZX80, ZX81 and PET, what other computers are on your list to get the Tynemouth treatment next?

I have also recently made the Jupiter Ace compatible Minstrel 4th. I'm not sure where next. If I want to stick to only using new chips, then that rules out most of the later machines. There are no 8 bit compatible video chips or sound chips still in production, so I am limited to what you can do with discrete logic, maybe with a little bit of help from a simple microcontroller. I'm not really interested in going into FPGA type things, it seems like you may as well be running an emulator.

Thank your for your time!

Dave Curran is also the designer of the renown Penultimate Cartridge for the Commodore VIC20, a cart that serves as the all-in-one solution for VIC owners. He also developed the PET MicroSD, a card disk drive for the old commodore minicomputer series that allows for easy file transfer and compensates for the lack of a real disk drive, as well as the follow-up product SD2PET. And besides that, he built a number of upgrades and add-ons for old computers. More at www.tynemouthsoftware.co.uk.

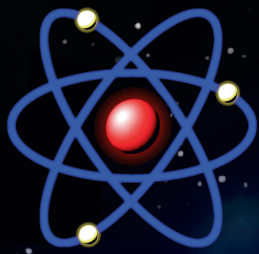
HOW AN ART PROJECT CELEBRATES GAMING HISTORY

Photo: Felix Matthies, www.felixmatthies.com

There is no way you can look at BITBITPLUS' art project and don't think of Goldfinger. And you might also get the message immediately: This was the golden age of gaming. Quite literally, in this case. It is the art project of Gerrit Dreher, who says over on his website that he does this for the preservation of the golden retro games. Games of times gone by, whose every level could be mastered with B, A, Up, Down, Left, Right, and a good dose of perseverance. No autosave, no tutorials. Instead highscores, level codes and trial & error.

Gerrit Dreher is a passionate collector and player of old consoles. His secret passion are handhelds. His favorite collectors piece is

an old Coleco tabletop Pac Man, which was given to him in the 80s by his aunt and has driven his parents into madness from the first beep. And so he went on to give his memories a golden place not only in his heart, but also on his shelf. Next to the golden Gameboy, there is a golden NES pad, SNES and Genesis controller. And with his Nintendo (NES) Bartop with an incredible love for details, it's a nerd's dream come true in beige and white. For one or two players. Too bad his works cannot be bought, especially the latter one. But it is what it is, and it certainly looks nice. Make sure to take a look for yourself, at least virtually, over at www.bitbitplus.com. (bk)



PROTOVISION

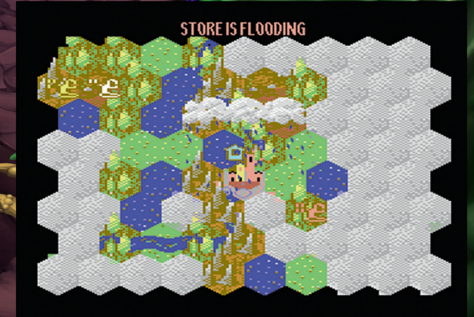
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20

I GOT FIVE ON IT

BUILDING A MODERN 8BIT COMPUTER WITH FIVE CHIPS







Screenshot: Matt Sarnoff

8-bit microcontrollers are still being produced to this day – and they are used in many devices you wouldn’t suspect them in. In automotive, for example, they do their work in powertrain and safety elements, but they are also used in entertainment systems. But there is of course a large hobbyist market that loves the 8-bit RISC chips from company Atmel, like the ATmega1284. It is a low-power CMOS 8-bit microcontroller based on the AVR enhanced RISC architecture, meaning you can make use of 131 instructions, run programs at up to 20 MHz and

rely on 128K of in-system self-programmable Flash Program-Memory and 16K internal SRAM. Sounds like you could actually do something with this little chip? Well, that was exactly what electronics tinkerer Matt Sarnoff thought. He wanted to build a home computer with a 8-bit CPU from scratch. His first choice was a Motorola 6809, but: “I had tried to use as few chips as possible, yet I still needed 13 supporting ICs to handle things such as RAM or serial communications”, he explains in an article over on the geek life section of IEEE Spectrum. So he

wondered how to get the chip count down, and the answer was the ATmega1284. He called his creation “Amethyst”, which sounds rather nice. The word comes from the greek word *amethyein* which translates to “not drunken”. Awesome. Oh, and it’s also a violet quartz. I won’t bother you with what these two things had in common for the ancient Greek people. Just know that the name was chosen after the color of the very first PCB that the creator used. Actually, as Matt states in his video over on Youtube, the board could have been done on a breadboard. And it houses the five chips the system needs: The aforementioned CPU, a USB to serial converter and then four logic chips: 2x 74HC157 quad multiplexers and 2x 74HC166 4bit shift registers which assist the video generation. Yes, that’s it. No specific video chip, so the video output is generated purely in software. “I could set eight pins of the 1284P in parallel and send them simultaneously to the multiplexers and shift registers, which would convert them into a high-speed serial bitstream. In this way I can generate bits fast enough to produce some 215 distinct colors on screen. The cost is that keeping up with the video scan line absorbs a lot of computing capacity: Only about 25 percent of the CPU’s time is available for other tasks”, Matt remarks. With 16K of total memory, the framebuffer of the Ame-

thyst can only handle images with a color resolution of 160x100 pixels, leaving 384 bytes free for other program activities. Which is not a lot to do with. “But that’s three times more than what you got on the Atari 2600, so maybe it’s not that bad”, says Matt. If you go with black and white, the resolution goes up to 320 monochrome pixels per line. And while this might not be the best machine for running or programming demos (but who knows, we’ve seen great stuff run on less capable machines over the years), it’s still somewhat useable. “And the ROM?”, I hear you ask. Well, that’s flashed on the Atmel CPU. There is also no dedicated soundchip. The Amethyst utilizes one of the AVR hardware PWM channels, allowing for a single sound channel that plays pulse waves – which makes for a very basic experience similar to what the infamous old PC speaker sounds. One thing that sets the Amethyst apart from most home computers of the glory days is the choice of the operating system. It comes with Forth instead of BASIC. “You can do a lot in a very small amount of space”, Matt explains. “Because the 1284P does not allow compiled machine code to be executed directly from its RAM, a user’s code is instead compiled to an intermediate bytecode. This bytecode is then fed as data to a virtual machine running from the 1284P’s flash memory.”

Last but not least, there was the question of aesthetics when it came to the case of the Amethyst. And it looks rather polished with its nice keyboard with Cherry MX switches and the woodgrain look.

It's not by accident that this little machine looks like something that Atari could have produced back in the day, as Matt chose the wood-grain design after the VCS. The complete schematics, PCB files



and system code are available in Matt's GitHub repository, linked here. This way everybody can build an Amethyst of his or her own. And if someone is up to it, one might even find a way to fur-

ther reduce the chipcount by one or two chips. This was not his first computer, as Sarnoff also worked on a 68k-nano design and an Ultim809 homebrew 8-bit computer. Check out his work! *(bk)*



26

DAWN OF CRACKS

WHY CRACKING NEW AND OLD GAMES IS STILL A THING



Background photo: CenTech advert from 1984; photo of soil with cracks: Peter H, pixabay; montage: bk

Many of us played them back in the day. We grew accustomed to see intros with greetings and colorful pictures before our favorite games started, be it on the C64, Atari 8bit, Amstrad CPC and many, many other machines. Cracks, as they are called, were immensely popular amongst a target group that consisted mainly of students with very little pocket money. Their desire for playing games naturally outweighed their financial capabilities. Besides the fact that a whole demo scene grew out of what began with crack intros, cracks are still popular today. At least on some platforms. But why? What drives people to crack old and new games for 8bit systems in 2020, when most of us don't have a stable income and new games are mostly cheap if not free? KILOBYTE MAGAZINE asked some sceners about this. And while the C64 might be the most prominent platform to look at in this regard, let's turn our attention to another 8bit system first: The Amstrad GX4000. Cyrille Gouret, known as Ayor61 amongst fellow sceners, is best known for cracking CPC games and adjusts them to run on Amstrad's little GX4000 console. He also is part of the Amstradiens group over on Facebook. One reason that cracks are still a thing, he explains, is this: "With a personal and professional stabilization, we probably have more time to allocate to our passions. And I've always been passionate about Amstrad,

this is my first family computer." There are new games coming out for the CPC, but the GX4000 is another thing. With only 64K of RAM and no keyboard, it can't play all CPC games. It has a small but enthusiastic fanbase, and Cyrille is part of it. "What is close to my heart is to be able to contribute to really improve porting games to onto GX4000. A console of heart, which at the time I could not have for Christmas, because my two brothers preferred to have the Nintendo NES and influenced my parents", he explains. What motivates him nowadays is the fact that most games for the system were quick shots: "The GX4000 has possibilities and above all, apart from the original creations, the majority of GX4000 games have been transfers of the identical old CPC games." So he did a lot of improvements for games like Game Over, Cauldron 2, Invasion of Zombie Monsters, Red Sunset XMAS 2018 demo, Phantomas 2.0 and many more as well as the latest game from Retrobytes Productions called Jarlac. "Other epic games that are still work in progress are Barbarian 2, Chase HQ, Gryzor, Renegade and Target Renegade which will be fun for enthusiasts", he promises. But are these really cracks or rather ports? Well, as he not only transfers them, but changes the color palette (CPC+) and modifies them with optional trainers in some cases and making cartridge images out of tape or disk games, I'd say that qualifies

as cracking. What adds immensely to the fun for Cyrille is the fact that he can share his passion with others. “There are numerous enthusiasts who are also driven by passion and by sharing something positive. Like the duo GGP, Markus DevilMarkus, José Antonio Xenomorph, Benjamin Yoris, CPCWiki forum members and many more.” Creating something enjoyable for a community that appreciates this is what makes cracking a special thing for him to this day.

The most vivid cracking scene amongst 8bit systems has to be on the C64. Each year, a plethora of new games are released for the breadbin. And each of them gets cracked by at least one of the groups that are still active. One of them is Excess. Alex, also known as “TheEnemy” within the scene, got back into coding on the breadbin in 2015. It was a year when he spent much time remembering the joy he had with his brother back in the golden era of C64 gaming and well into the 90s. For him, those were not just memories of nice games. It were memories of quality time he spent with his brother, listening to Metallica, Iron Maiden and Fleetwood Mac while playing games and putting together SID compilations with their own group called “Threshold”. It was a way of remembering better times when his brother was still around. “I still do cracks on the C64 for the memory of my brother and because I can change games the way I want

them to be”, he explains. While playing around with the titles he liked, he realized that something was missing in them: “I played and played and what I found was ... I wish this game saved the high score, I wish this one even allowed a high-score.” And so he looked for ways to improve the experience. He joined Excess in 2018 and while he first tested games that were cracked by other groupmates, he soon learned to take matters into his own hands, starting in the very same year with his first crack of Guardian II with an added hiscore saver. It became kind of his trademark and many more classics followed.

For his group mate Mike, better known as “Knight Rider”, the actual games themselves were more of a by-product, as he explains: “For me the game itself was never interesting. Cracking the game was the game”, he says. “I would be fascinated how the game was copy protected and transferring it [from tape] to disk was the challenge for me. Once done I was rarely interested in playing the games.” Living in Formby north of Liverpool in the 80s, he met like-minded people on shows in London, exchanged ideas and ultimately formed FCG, the Formby Cracking Group. He moved on to Amiga in 1988 and at some point, lost interest in the whole home computer cracking scene. And then, a few years ago, he took a trip down the memory lane: “I think in 2016 I started showing my kids VIC20 and

C64 games on an emulator but they were not very interested. So around December 2016 I started buying old C64s and VIC20s as the emulator wasn't reminding me enough of my youth. I tried again programming and cracking, reading books and forums and I made a few cracks and trainers and released them on csdb." At this point, he had not yet joined any group, but his cracks, especially EasyFlash releases, surely attracted some attention. "I made a few releases and Hokuto Force, Onslaught and Excess approached me about joining. I decided for Excess", he remembers. As for the reason he still cracks games, he puts it this way: "I still get great satisfaction on reverse engineering the old and new games, trying to improve on the old games (Lemmings, IK, Speedball to name a few), making them more playable and enjoyable for both old and new users. But I am not so much interested in the cracking scene and I don't care much for the race for the 1st releases ... intend to stay away from this part", he explains. But why the passion for EasyFlash? "EF gives the C64 instant loading times and really the possibility to make more than 64K available for the old machine."

The race for being the number one cracking group is something that drives some people in the C64 scene. With all its rules and points for each release, it seems that the 1980s never ended. Cracking is a serious business, one might think. But Enrico,

better known as "E\$G" of Hokuto Force, puts it this way: "The first law about cracking videogames on an 8bit machine is to have fun!" He adds: "Our small micro world of cracking and demo scene consists of a crowd of 800 to 1000 active sceners and more than 2000 followers. Since the beginning, the C64 has been representing the biggest portion of the 8bit scene." He co-organizes the activities in Hokuto Force. What does an organizer do? Well, he explains it simply this way: "We follow all the steps that lead to the final result: the release." Sounds easy enough, right? There are a lot of steps to be taken, let me assure you: "It works like this: we get an orrie – that's how we call an original videogame –, then our crackers remove the protection if there is any, then they study the code and find an empty area where to add a menu with trainer options that would alter the code itself to affects the original game behaviour (like unlimited lives, fuel, ammo). Then we need also some free bytes to add some code instructions in the game that allow jumping to the next level, or another empty space might be required to add an highscore table and save it on disk. We can also decide to alter the obsolete loading routines on disk and replace them with more efficient and fast ones. When possible, a document with instructions or a map with all game locations is added, an original pixel image, or a new one is drawn by our

pixel artists who are members of our group. An NTSC fix can be included for our American friends and sometimes bug fixes are applied for a version of the game which ends to be even better than the original.” So why all the hassle, you might ask? “We do that all for free and for the respect that a group and a cracker will gain. But all the above won’t happen if there isn’t a final test of the full game. In the past the tests were performed in a very short time (like checking if it started ... and that’s it), as the game had to be released as soon as possible in order to beat other groups with a first release. It often resulted in crappy cracks, as you can imagine! Anyway, to complete the crack we usually add an intro before the game, with a message scrolling from right to left which shows the credits to whom participated and the greetings to a list of other groups as a way to show respect to them.” His group mate “flavioweb” put it this way: “I like working with 8bit computers, and with the Commodore 64 more specifically, because they represent the origin of modern information technology and computer programming. These are computers that allow us to optimize our coding routines (way over certain known limits, in some cases). We also like to deal with technical challenges which are simply improbable to have on more powerful modern computers. It is due to the fact that in this case it is not possible to perform low

level programming of the hardware components and at the same time to write some software which is really useful for something. According to me, people can’t be defined real programming experts if they have no knowledge about how old computers work.”

As you can see, there is no one answer as to why people still like to crack old and new games for 8bit systems. But no matter what the platform is, today it’s mostly about making a game better by adding something to it, like unlimited lives, unlimited ammo, invincibility or even a documentation with hints. Not every 8bit scene is as strict and bustling as the C64 one. But as Cyrille shows, there are still fascinating things done on other platforms, and without their enthusiasm and work, there wouldn’t even be much to play on certain systems – like the Amstrad GX4000, but also on hardware additions like the EasyFlash for the C64. Cracking has always been a part of the gaming scene, and it sure looks like it will stay this way. Probably as long as there will be new releases coming out on old systems, there will be someone looking at them, thinking: “Why not add a highscore?”, or something like that. It’s not something everybody is capable of or will even enjoy doing, if one could. But it is most certainly something every gamer enjoys, as it makes games more accessible and less difficult. So cheers to you, crackers! And thanks for the memories. (bk)

SCENE WORLD



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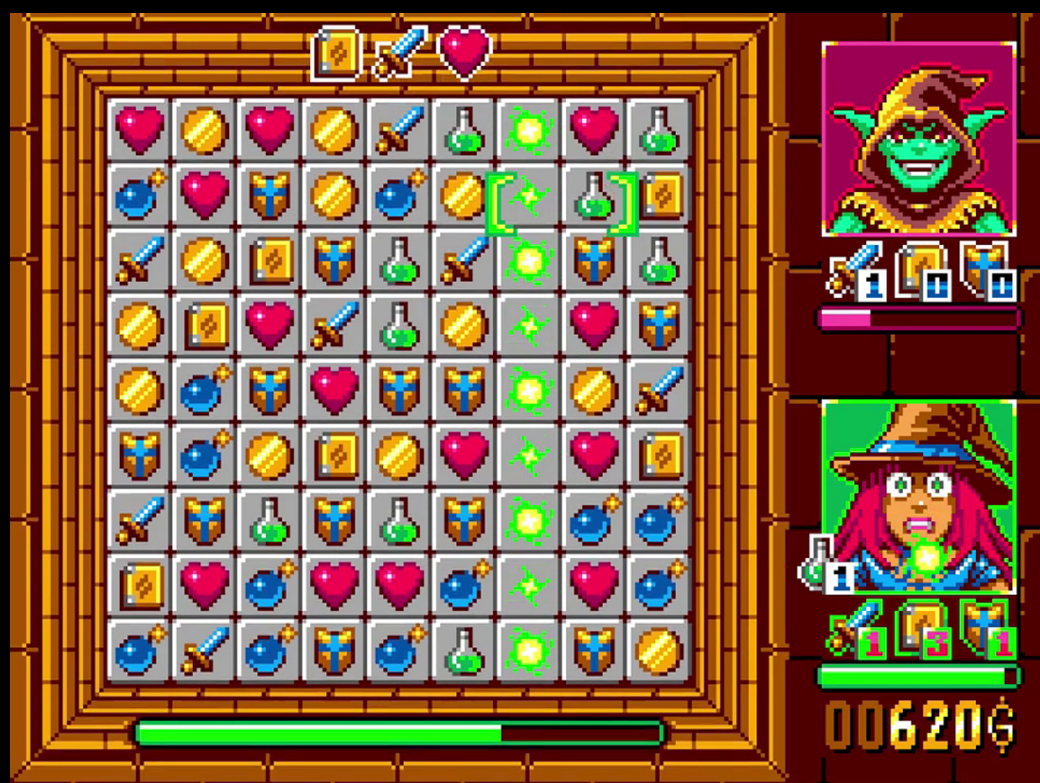
Puzzle games – they have something calming and relaxing. Think of *Columns*, for example. Sometimes, it’s just nice to sit down, turn your console on and play a few rounds of a nice puzzler, focussing on the challenges right in front of you or just letting your mind voyage while enjoying something that keeps your hands busy and passes the time. Every once in a while, a new puzzle game for an 8bit platform appears that is a worthy addition to the system’s library and would certainly have sold well back in its heydays. One of these games is *Heroes against Demons* on the Sega Master System. Released for

the SMSPower competition 2020, it won the first place, and rightfully so. There even was a boxed version in limited quantity that one could buy via developer’s website, but it sold out pretty quickly.

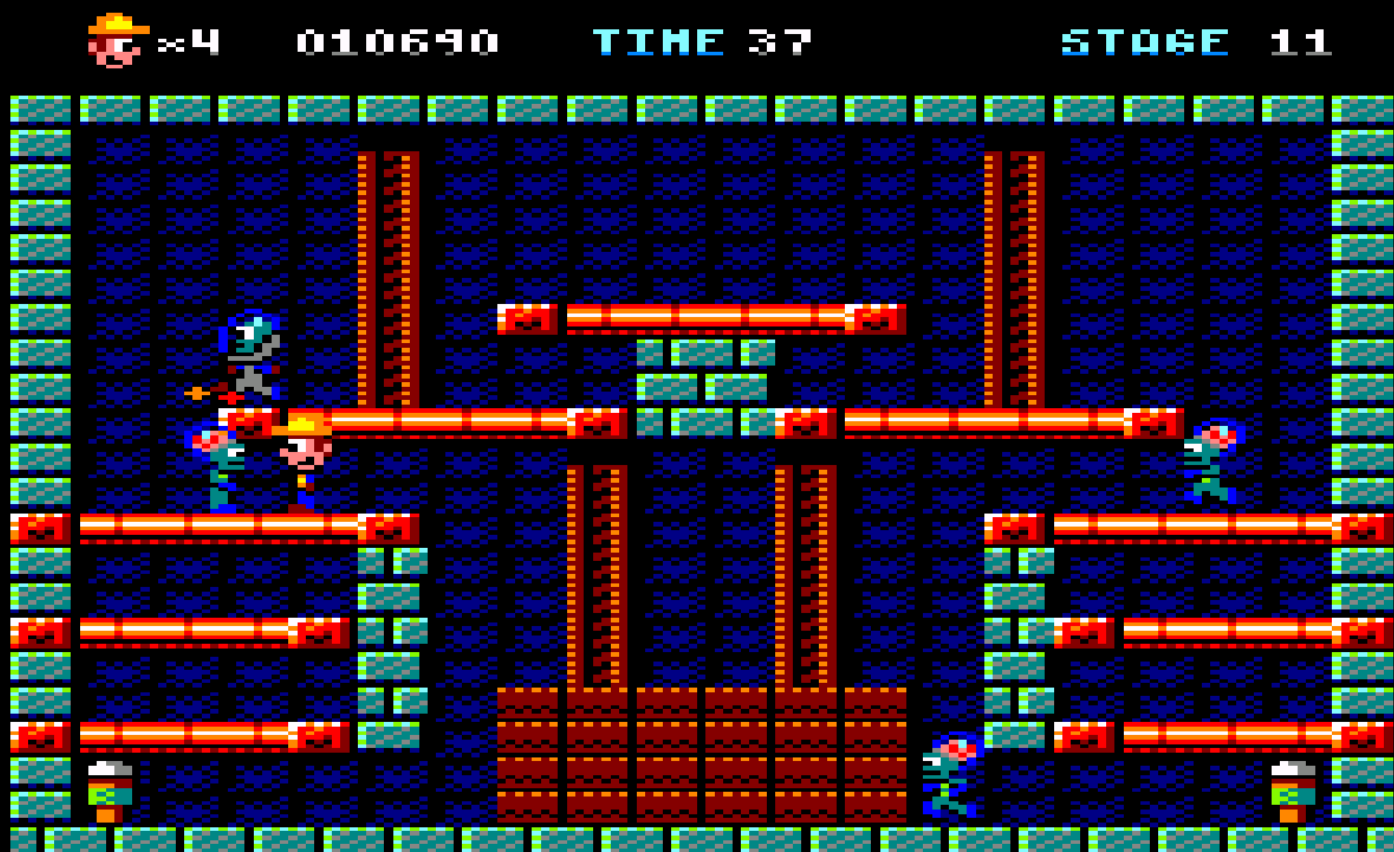
So on to the game itself. There is indeed a story to be told: “The demonic Death is about to conquer the human world. His greatest wish is first to bring down the peaceful kingdom of Amalore, the only obstacle to his plan. In the past, he had already been pushed back into the limbo of chaos by the Sacred Guardians. Stuck in his palace, Osric, the Great King of Amalore, thought all hope was lost when his last champi-

on was defeated. It was then that the three Sacred Guardians, powerful protectors of the forces of evil, appeared before him, vowing to once again repel these creatures from the chaos. A great battle is about to begin ...” You can choose between three characters with different strengths: magic, defense or attack. The character you pick affects the way you play. You select tiles with different symbols by changing two of them either horizontally or vertically. Three of a kind do something for you: three bombs will hurt you, three shields, swords or tomes will hurt your opponent. Hearts replenish your health and magic potions make your attacks more effective. Don't wait too long, as you get constantly hit by your enemy. There is also an RPG element to the game, as

you gain experience for each triple you select. This boosts the unique skill of your character. And by collecting gold coins, you will be able to shop between enemies to increase your abilities. The game looks great and it even sounds awesome! The Master System is not known for the quality of its soundchip, but the soundtrack by Polaria Poyon really makes you tip your toes while humming along to the catchy tune. It plays great, but is challenging. If you want to see all 17 monsters and see on of the three different endings, you'll need to get “in the zone”, as Atari players would say. It's just a fun game that can be downloaded for over free here: <https://heroes-against-demons.2minds.fr>. Get it, enjoy it. And please beat those demonic forces, will ya?” (bk)



BRICK RICK (CPC)



There are heroes who want to make the world a better place. They do extraordinary things not because they have to, but because they choose to do what's right. And then there is Rick. He is an average guy, working at an average construction site with 50 levels, doing his best not to screw up too much while avoiding to do more than he has to. When he started his shift, he had no idea that suddenly an intergalactic invasion would get him into some trouble. He has no guns, no laser beams or x-ray cannons to repel the alien invaders. Just his wits and his bricks. It's a simple and quite addictive little game from Juan J. Martinez, who some of you may already know from past games on

the Amstrad CPC like *Night Knight*, *The Dawn of Kernel* or *Rescuing Orc*. *Brick Rick* was clearly inspired by *Bubble Bobble*, as you will notice withing the first few seconds of playing: You throw a brick at the aliens to stun them, then run right into them and kick their butt, after which they will spin around and finally disappear, leaving nice little goodies for you to collect. It's a single screen arcade game that controls nicely – exactly like you would expect it to. The graphics are sweet and while little Rick looks a bit like *Fix-it-Felix*, the eight different types of aliens seem to be pretty original. I especially liked the ones that had skulls of glass through which you can see their brain. Or maybe

IN THE WALL

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those pink little things shimmering through are bubblegum? Nobody knows for sure and there is no time for asking them. Talking isn't Rick's strong suit after all. He's more into throwing bricks. Some aliens don't take that too well and fire back at him, so you will have to look out for them and try to hit them from behind. The game gets challenging, though it's never unfair. The graphics are nice and with 50 stages, it offers enough entertainment to be very pleased by this little construction worker. However, the music is a bit too repetitive and gets on your nerves pretty soon. There is just one tune, and while it's pretty darn jolly and fun for a while, you won't want to hear it nonstop for an hour. So it would have been awesome to have a selection at startup: Choose music or sound effects. Instead, you can select between keyboard and joystick input and redefine keys if you

want to, which is fine. So anyway, as you play along, it's getting more and more important to watch the timer. Some enemies drop extra time, some dynamite – which will stun all the guys on screen for you to kick – and some drop coffee. Yes, coffee. It's not only refreshing, but it also earns you some extra points. However, you will need to hurry to get to the extras, as they will flicker and then disappear after a short while. Exactly like in *Bubble Bobble* or *Rodland*. Brick Rick is available for free from www.usebox.net/jjm/brick-rick, but you can also buy a physical collector's edition on 3" disk (28,27 EUR), 3,5" disk or cassette (24,37 EUR each) for from Polyplay. It comes with a A3 poster, a printed manual and some stickers. If you like arcade platform games, you will certainly like to play Brick Rick. So glove up and put on your hard hat: It's time to kick some alien invaders! (bk)



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WHAT A BLAST!

ZETA WING (C64)

ZETA WING





Background photo: Peter Fischer aka Papafox, pixabay.de

This is the shmup game you've been waiting for if the C64 is your favorite platform. And that's a lot to say about a vertical scrolling shoot-em-up. Programmed by Sarah Jane Avory, who already got some attention for her previous game *Neutron*. This one, however, easily tops that. You might know her name from a whole different game genre however, if you are regularly on Twitter and follow the retro gaming development on there. Sarah got a lot of attention for her work on a Japanese style RPG based upon her very own *Briley Witch* series of novels. She posted a lot about her progress with the development, sharing screenshots and even short clips of the game running, and if you don't follow her on Twitter yet, do it right now! It's worth your while. Anyway, her JRPG is not yet ready, as she took some time off to attend to some side projects. One of those was *Neutron*, the other one is the recent release of *Zeta Wing*. "Now wait a minute", I can hear you say, "I know that game from somewhere!" And you are right, there has indeed been an arcade inspiration with the name of *Gemini Wing*. It's also a vertical scrolling shooter, and *Zeta Wing* sure looks, feels and sounds like something that fits very well in that universe. It's somewhat disappointing that the game gives you no background story or anything to stir up your imagination as to where and when this takes place, at least in-game. The itch.io page gives you a

little bit to work with: "Strange mutant creatures have appeared across the surface of planet Earth! Earth needs a hero to stop them ... one like you! So strap into your fighter and blast off to end this infestation for good!" And that's all. No lengthy intro in the game, no scrolling text at the beginning while the game waits for you to press your firebutton – nothing like that. It's somewhat strange, but if you take into account that this game was more or less a distraction for Sarah and she went back to her JRPG project afterwards, it's a little bit more understandable. But still, a story would have been nice, but that is about the only complaint you might have here. If you don't care about stories in shmups, then you might not even notice this. So on to the most important part: how does it play? Very good would be the short answer. At first glance, it felt strangely familiar, but not because of Gemini Wing, but because of Galencia. Insect-like creatures that attack earth? Check. Your ship and the first few enemies you encounter look like they would fit very well into Jason Aldren's shooter as well, but not only is that another sort of game. The resemblance ends after a few seconds, as the enemies get more exotic, their formations more varied. Some enemies leave and "P" after they've been blown to pieces. Collect it and fill up your firepower that way. Sounds a bit like Nemesis, but while that was something you had to select manually,

this works just by collecting stuff. It's a more relaxed way of powering up your ship, and that's precisely right as you won't have time to look at your powermeter in later levels. The first stage does a good job and you get to know what everything works. Nothing too fancy going on here, the enemies are rather tame, you have the whole screen to move around with nothing in your way, and the stage boss, a giant dragonfly, won't make it too hard on you either. The second stage introduces some new enemies, one of which seems to be shooting seizure-inducing lightballs. You can already tell that the enemies are getting more serious. Tutorial time is over! The real fun starts in level four, where you fly over an bottomless abyss in space with vertical parallax scrolling. Take a moment and let that sink in. I'd have to think for a long while and still could not say with certainty that I've seen something like this before in a C64 game. It is absolutely stunning! And there are seven layers – so to speak – that are moving at different speeds here. I died a couple of times just because I was too fascinated by what I saw in the background. And just like that, the game turns from what was a better Xevious until now to something very unique. The enemies demand your full attention now, as they not only shoot better, but some of them even speed up right into your direction, willing to take you out at all costs. The following three levels use that

vertical parallax effect again, though they cover it up partially under a surface that reminds one of *Commando* (level five), transform it into a greenish narrow tunnel that makes you feel like you're in a bioorganic world (level six) and finally put you into a blue world that looks like you're under water. The final boss is quite spectacular and – naturally – the hardest you encountered so far. Beating him gives you the well deserved satisfaction you'd expect from a shmup. And even if there was no introduction, the game gives you an end screen, though it leaves some things to be desired.

The SID music is fitting, never annoying, but could have used a bit

more variety all in all. Nevertheless, it's the level design and playability that make this an excellent game on the platform. And you'll be glad to hear that this won't be Sarah's last shmup: "Now I'm working hard to finish a side-scrolling C64 game named *Soul Force*, the main inspirations behind this game being *Thunder Force IV*, and a Mega-CD game of mine named *Soul Star*." That's certainly something to look forward to. *Zeta Wing* is currently only available as digital download and it is yet unclear if there will be a physical copy available by Protovision anytime soon. But at just 3,99 USD, this game is a must-buy for shmup fans on the C64. (bk)



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BACK IN WHITE

RELEVO'S SNOWBOARDING (MSX)





Sport games. Everybody used to love them since pong. And how could you not? With hits like Epyx' Summer and Winter Games, California Games or World Games, there really was no way around them back in our childhood. And on consoles, you played and loved Komani's sports game titles. They were all great fun, allowed for couch coop play and basically everybody had them. But as time went on and the 8bit homebrew community grew stronger and stronger, this genre went into obscurity. Heck, there have even been more text adventures within the last ten years than decent sports titles. Which does not mean that text adventures aren't great. It's just amazing that this genre get so little love, compared to how many people played those games to death. Should that have been it? Hell no! At least that was what Spanish indie developer studio Relevo thought. And they went right to work to make a great new sports title you can't miss if you like to play on MSX computers. It's so good, you'd even wish for a port if you're a C64 or Atari fanboy. But anyway, let's put our helmets on, step in our boards and get ready for one hell of a ride!

So who is Relevo anyway? Founded by Jon Cortazar in 2009 as a homebrew development team, Relevo specializes in creating custom retro video games for 8bit consoles like ZX Spectrum, MSX and Amstrad CPC. So they are around for eleven years

already – which makes them retro in their own way. Relevo is Spanish for change, and change things they did with some nice releases since their foundation. The developers are also the former organizers of the MSXdev, a yearly competition for which homebrew MSX games are developed en masse. Over on the MSXdev website, the team is quoted with this message regarding their latest release: “Relevo celebrates its 11th anniversary by entering the MSXdev’20 with its all new 11th production for the MSX system! A tribute to those good old Konami titles from mid 80s such as Antarctic Adven-

ture, Hyper Rally, Sky Jaguar and all those sporty games MSX users love.” Relevo Snowboarding World Championship takes players around the globe in a contest that has a total of 16 stages. You can configure your snowboarder and select your board. It feels like a great sports game right from the start, building on the strenghts of well-known classics and then some. As you start, you race against the clock while you master different styles such as slalom and freestyle, and experience speed by riding downhill. There is also a mode included to practice your flips and grabs and improve some moves.





“Full of colorful graphics, catchy tunes and smooth gameplay!”, Rel-evo promises.

Sounds all great, but does the game live up to the promises? Yes, it does! And while playing, I not only was reminded on Konami classics, but also on the best of Epyx as well. This came out of nowhere and quite honestly, who would have asked for a winter sports game? There is already a small but decent selection out there, but Rel-evo managed to impress the jurors of MSXdev'20, coming in a close second place after *The Menace from Triton*. The game offers a nice variety for a 8bit sports title: You can play different courses, customize your player, and enjoy the very nice graphics with the moun-

tains in the background zooming in as you approach the goal. Getting motivational messages if you're doing great – and some others if you don't. This reminded me on BMX from California Games. Also, the sprite animations are pretty convincing and drawn with a lot of love for detail. And the music won't bore you either, as the game includes nice whole tracks that you can even download as OST individually. All crammed into 48K. This should have been the winner of the contest, although a close second place is not at all a shame. Still, I'd love to see this game being ported over to other platforms – if might benefit a lot from that. But having no MSX is no excuse! Download it, enjoy it! (bk)

MEET YOUR

THE MENACE FROM TRITON (MSX)



THE MENACE FROM

TRITON

If you ever played *Gradius* or *Nemesis*, you will immediately recognize the inspiration that *The Menace From Triton* drew from the Konami classic. The ship looks quite similar, the collection of weapons and ship upgrades works similar – it is, all in all, Triton on MSX a horizontal Shmup that cannot deny its inspiration. What really makes it stand out: a smooth scrolling and procedurally generated enemy placements. So each time you play, the experience is different. Programmer Santiago Ontañón did a great job here. But let's start with the beginning:

After the the title screen, you are greeted by General Laerte, who lays out the situation for you very briefly. In short: The year is 4418. Mankind has spread across the galaxy and is now under attack from an alien force known as the Menace from the

planet Triton. The Tritons have been watching us for a while now, as the intro explained, and obviously we have gone too far. “Noone but the Triton Empire will rule the galaxy”, a giant head floating in space had explained at the beginning of the hostilities. So, there is really nothing to negotiate here, it's all about shoot or die.

You start at Ithaki, the nearest base to Triton's home (which still seems pretty far away) and get right in the fight. Naturally, you are the only one who can save the human race. Before each level selection, you can equip your ship with upgrades and weapons. But at the start, you just have a few bucks, so the most you can do is improve the standard bullets a bit. And then it's on. Killed enemies will drop containers you can collect and – like in *Nemesis* – use them to

NEMESIS

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upgrade your ship on the fly. And it works pretty much like you would expect it to. The boss fights are also something that will fill the hearts of MSX players with joy, as they are pretty big and give one hell of a fight. The first one, a giant armored eyeball, is already so tough that some gamers might throw in the towel after having died several times there. And this is a pity, as wasn't really necessary to make him this tough. It will likely alienate some players, but then again: If you want an fairly easy Shmup, go and play Solar Striker on Gameboy. This one here is not for the boys, it's for men. Men with a long thread of patience

and skill. But the programmer gives the following hint: "I recommend something like this to start: get a couple of "Initial Speed", which will let you start moving fast, and save power pellets. Then save for your favorite weapon (triple, twister laser or flame thrower are good options) and make sure to equip the weapon after purchase. After that, the most useful upgrade is the "Init Weapon" (towards the bottom), which will make you start directly with the weapon you bought in the previous step, rather than the regular bullet." Sadly, there is currently no way to save the progress, so if you want to beat the game, you'll need time. (bk)



SHINING ARMOR

KNIGHT GUY (7800)



The Atari 7800 is a underrated system – period. It yet has to get a easy to use flash cart like all its console cousins have and it does get some love from the homebrew scene now and then. Not nearly as much as the dear old VCS, but still. And Knight Guys is one of the games that makes this little console shine. Not with graphics we have never seen before. Or sounds that make jaws drop. But because it is overall a very nice, enjoyable and yes, also dif-

ficult platform game. Programmed by Vladimir Zúñiga from Chile, the game's current beta (v11) comes with 80 screens, boss battles and a guarantee that you will yell at least once at your screen because your little knight died, but then try again a few seconds later as if nothing ever happened. Yes, it is one of these games. All you can do is jump to avoid obstacles or swing your sword once you've obtained one. The controls feed nice and tight and you can steer

your little armored fella in mid-air as well. This makes for some great precision like the one you know and love from the first Super Mario on NES. Sadly, there is no music throughout the game, probably because that would require a pokey on the cart (or emulated ROM) itself. So the game makes do with what the console can deliver: a pretty good sound for jumping, some smashes and blops here and there – well, if you ever played Atari, you'll feel right at home.

So what's going on here? Well, you play a knight that enters a castle, avoids traps, kills bad guys and all that while the clock ticks, no score

here. The graphics are pretty cute and well designed. The indicated brick walls on an otherwise black background make for a nicer atmosphere. That being said, some screens appear to be pretty similar in this beta and some boss fights, especially the very first one after you obtain your sword, are unnecessarily lengthy. But if you like to dust off your Atari 7800 (at least virtually), Knight Guy is a pretty good reason to do so. You can find the latest beta of the free game over at AtariAge and it would be a surprise if this game wouldn't get a cartridge treatment at some point in the future. Try it out yourself! *(bk)*





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