VIC-20

Year released: Japan: October 1980 (69,800 Yen), US: May 1981 ($299.99), UK: September 1981 (£199.99)

Buy it now for: £10-15

Associated magazines: Vic Computing, Commodore User and C&VG

Specifications: MOS 6502A processor running at approximately 1MHz; 5K RAM as standard (3.5K available for programming) that could be expanded further via memory cartridges; Tape and disk interfaces as standard, one joystick port, one user port; Four sound channels in mono provided by the VIC chip itself: three melodic, one noise.

VIC-20

ACCORDING TO NEIL HARRIS, WHO JOINED IN EARLY 1981 AS PART OF THE AMERICAN PRODUCT LAUNCH TEAM, COMMODORE WAS A $50 MILLION PER YEAR COMPANY WITH BARELY ANY PRESENCE IN THE US. THE VIC-20 COMPUTER WAS ABOUT TO CHANGE ALL THAT. WE TAKE A LOOK AT THE MACHINE DESTINED TO LEAVE COMMODORE'S FIRST FOOTPRINT ON VIDEOGAME HISTORY

The VIC-20 was such a success in the West that it led to the creation of the Commodore 64 and then the purchase and production of the Amiga. Of course what happened to the company several years down the line is now a major part of computing history, but we're getting ahead of ourselves here. Let's go back to the start, indeed before there was any thought of the computer itself.

One of Commodore's most stunningly brilliant pieces of acquisition had been to buy MOS Technology, creators of the 6502 CPU used in many electronics for the next ten years, in 1976. Two years later, in 1978, the VIC (Video Interface Chip) was designed by Alan Charpentier for third-party sales to arcade manufacturers. Although it could produce both graphics and sound, no one was interested. Their loss. It was kept in-house, awaiting some project to come up that it could be used in.

Although the VIC-20 had many notable people working on it, the most prominent and the person to whom a lot of credit should go is Mike Tomczyk. Hired in April 1980 as Jack Tramiel's assistant, within a month of joining he had managed to visit both Germany and Japan, fired the entire marketing division and come up with the outline to the machine that would eventually turn into the VIC-20. He would become known as the 'VIC Czar'.

His first day at work would be one that defined the rest of his career, due to his attendance at the now infamous meeting just outside London. Tramiel outlined his vision, possibly inspired by Sinclair, of producing a low-cost colour computer to complement the existing PET series. Most present were in favour of continuing the high-end business line, questioning whether such a move was economically feasible. Only a few supported the idea, including Tomczyk himself, Kit Spencer (head of Commodore UK) and Tony Tokai (head of Commodore Japan).

Tramiel listened to the arguments, pounded the table and announced, "The Japanese are coming, so we will become the Japanese." He had reason to worry, however. While Commodore was number one in Europe, it lagged behind Apple and Radio Shack in the US, and Texas Instruments was gradually nudging out its calculator business. Tramiel was worried that the wave of subsidised mid-priced computers in Japan could arrive in the US and do the same to his computer business. And so, he planned a pre-emptive strike to counter this threat.

As was the case when later designing the Commodore 64, the company was not averse to examining the competition and 'borrowing' good ideas from them. Tomczyk's visit to Japan proved fruitful, the function keys of the NEC line, for example, ending up on the VIC-20 but vertically instead. By the end of the month he had typed a 30 page

INSTANT EXPERT

The working title for the VIC-20 was Vixen.

However both 'VIC' and 'Vixen' sound like swear words in German, so it was called the VC-20 (or Volkscomputer) there. Commodore had considered this title for use worldwide but decided against it.

The VIC-20 was designed and launched to stem off potential Japanese competition to Commodore's computer business, going as far as launching in Japan first (as the VIC-1001).

It was the first home computer to sell one million units worldwide, beating the Apple II by a couple of months.

Jeff Minter's career arguably took off with a little game called *Gridrunner* when published in the US, and Satoru Iwata (now head of Nintendo) converted *Galaxian* (aka *Star Battle*) in his formative years with HAL Labs.

William Shatner was hired to promote the computer just before he signed on to play TJ Hooker as his fees were quite low at the time.

During its peak Commodore was manufacturing 9,000 units per day to cope with demand.

Memory expansions were available officially in 3K, 8K and 16K sizes, and although some third-parties produced bigger than this, no game ever needed more.

Commodore released a disk drive for the VIC-20 called the 1540, but it was hardly supported and no games were written (at the time) to take advantage of the format.

Although production of the VIC-20 was halted in late 1984, software companies continued programming and publishing commercial games well into 1985.

OTHER VERSION

VIC-1001

The original hardware is not very different from that released in the West. Aside from the foil and Japanese symbols on the keys, the only other extra is the Japanese ROM inside. In addition to the three standard character sets, by holding Shift and the 'C=' key together on power-up it would instead switch to 'katakana' mode.

Those 'banned' games?

Much has been theorised regarding the fate of two of Commodore's titles, but in light of some recent new information, here's the most likely series of events. Commodore actually had the licence from Namco to convert *Pac-Man*, *Galaxian* and *Rally-X* to the VIC-20, these cartridges do indeed exist. However because Namco had licensed the arcades for distribution in the West to other companies, this deal solely applied to Japan.
Not one to let a minor triviality such as this get in the way of profit, Commodore released *Galaxian* as *Star Battle*, and transformed *Rally-X* into *Radar Rat Race* by way of altering the graphics. While the latter appeared to avoid the gaze of Bally Midway, the former did not and its sale ended up being restricted. Most likely as a way of placating Bally in this situation, Commodore set up a deal to officially convert some of its other arcades including *Seawolf*, *Gorf* and *Wizard Of War*. More was to follow for *Pac-Man*, now called *Jelly Monsters*, as the home licence was owned by Atari and it directly took out an injunction against the game. Curiously enough this was levelled against Commodore UK rather than the parent company; either Atari felt it better to use legal means in this country or the origin of the game was European (there is a rumour it was written by Handic not HAL Labs).
Regardless of all the actions taken out against Commodore neither is that hard to find, certainly a lot less rare than many people make them out to be.
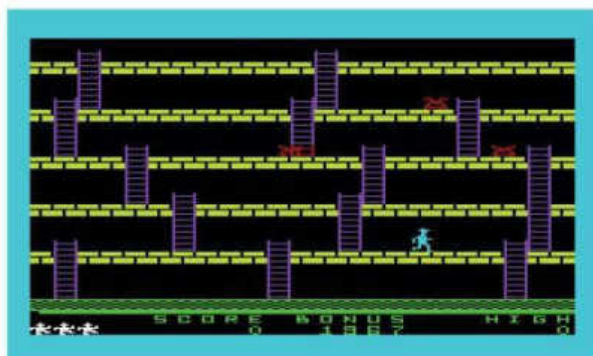
» Most machines got a version of *Space Panic*, and this was no exception (but no apples in sight).

memo to Tramiel outlining everything that needed to be done to turn the idea into an actual computer. Tramiel's sole response was to tell him to "make sure all this gets done", effectively making him head of the project.

In response, two teams at Commodore began work on producing a prototype utilising the VIC produced earlier. Within MOS Technology itself Robert Yannes, who would go on to design the SID chip, cobbled together one prototype from spare PET parts and a desktop-calculator casing. His aim was to promote it as a games machine, a concept that was carried forward to fruition.

The other prototype was constructed by Bill Seiler and John Feagans, literally from hacking bits of other machines together.

"FIFTEEN YEARS BEFORE SEGA KILLED OFF ITS OWN HARDWARE (THE SATURN), COMMODORE DID THE SAME BY RELEASING THE COMMODORE 64 IN AUGUST 1982"

The graphics half of the PET motherboard was removed and replaced with the VIC, and then a 9-pin joystick port and cartridge slot (à la Atari 2600) was added. Seiler felt the machine should be a computer, not just a games machine and insisted on having a BASIC language installed for programming. In the end, the finished prototype was a mixture of ideas from both teams.

With the machine receiving overwhelmingly positive feedback at the June 1980 CES, the PET engineers were corralled together to complete the final design in under a month. Although the cost of the computer could be kept low due to Commodore's vertical integration, only 5K of RAM could be installed per machine to keep it below Tomczyk's proposed $300 price point (and leave enough margin). While the design was being finished, the team in Japan were busy putting together the first set of software titles for launch. The machine was truly a combined effort and would not have succeeded without either. All that was left was to decide on a name.

At the beginning it didn't have one except MicroPET, probably because it was created from hacked parts. Many people dubbed it the 'Vixen' as an extension of the VIC name, Tomczyk going as far as doodling little fox logos. In the end though he decided to name it after the primary chip inside. However, 'VIC' sounded incomplete

on its own; he felt it needed a number afterwards. Tomczyk doesn't know why Tony Tokai chose the '1001' number for the Japanese launch, but he chose '20' because it sounded friendly. This was a theme he was to pioneer.

The VIC-1001 debuted at the Seibu Department store in Japan in September 1980, taking over 100 orders by the end of the month and officially launching in October. While Tomczyk calculated that NEC and other Japanese companies would take a few months to digest this new offering, it would give his team time to prepare for the US launch and hopefully arrive before the competition tried to conquer America. Having worked for two years in Asia he was familiar with their business practices. It was a tactic that worked.

Tomczyk's prime directive to marketers and developers at Commodore was to promote the VIC-20 as a "user-friendly computer", going as far as to trademark the phrase "the friendly computer." Part of this push was to make the VIC-20 available at general retail outlets instead of specialist dealers, putting it on a competitive front with consoles. As it turned out the VIC-20 was advertised positively, comparing its features to consoles as there were no computers available in the same price bracket.

The aim was that if an 'ordinary' person bought the computer, then it should be simple enough for them to understand. Tomczyk himself was responsible for a number of features including the use of symbols and the name of each colour of the front of the keys. The team attempted to make the user manual as friendly and uncomplicated as possible for new computer users, leaving the technical nitty-gritty to the Programmer's Reference Guide.

Helping Tomczyk for the American launch were some new recruits including Andy Finkel, Neil Harris (his eventual second-in-command) and Englishman Paul Higginbottom. They were responsible for preparing manuals, fixing the Japanese software for Western launch and getting new games ready. To assist, Tomczyk hired a group of 'hackers' dubbed the 'VIC Commandos' who wrote the initial batch of 12 tape games to complement the higher-priced cartridges. Finkel later wrote a number of games for the VIC and C64, while Higginbottom became one of the main product managers overseeing the computer's success.

Come the launch of the VIC-20 in the US and Europe during 1981, everything seemingly fell into place. The computer was a huge hit with the public and garnered mainly positive reviews from the specialist press. Promotion of the VIC-20 as a 'user-friendly' computer had struck a chord, helped by the use of a familiar face (William Shatner) in prominent TV and magazine adverts. Most major retail chains had their own VIC-20 demonstration display for potential customers to try out. Commodore really was operating at full throttle to promote the computer.

People saw the VIC-20 not only as a games machine, but a device that could help in everyday life by way of the available
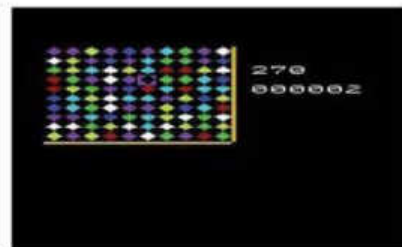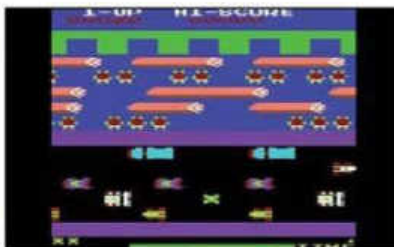
» Many new games are still being developed today as evidenced above by *Dragonwing*, *Frogger '07* and *Jewels Deluxe*.

COMMUNITY – THE BEST VIC-20 WEBSITES

Denial
http://sleepingelephant.com/denial/

Denial may seem a strange name (it's an anagram of the site owner's surname) but it definitely is the focal point of most VIC-20 activity today, especially the forum where details, reports and developments of everything current and past can be found.

Cosine Systems
www.cosine.org.uk

Although it's not Commodore VIC-20 specific, Cosine has been responsible for a number of high-quality demos and games in recent years, all available to download for free from its site. On top of this, the site also features a great links list and C64 downloads.

Digital Archaeology
www.digitpress.com/the_digs/vic20/

A lot of work documenting and archiving everything VIC-20 related was undertaken by Ward Shrake and his team during the Nineties. Now retired from the retro scene, this is a record of everything that is still (mostly) relevant today.

VIC-20 Online
www.eskimo.com/~areed/vic/

VIC-20 Online is a new site, with mostly personal related material featured, but there are a lot of really interesting and detailed scans from magazines and publications from the early Eighties relevant to the VIC-20. There are also reviews of a number of VIC-20 accessories.

software (or by creating their own programs). Programming was no longer confined to the hobbyist or professional as computing was brought into the homes of a wider demographic. As the Spectrum was about to do in the UK, the VIC-20 became a starting point for many people who would later go on to greater things.

Assisting Commodore's profit margins was the assertion by Tomczyk that each unit captured at least another $1,000 worth of accessories and additional hardware. One of these was the VICModem, the first modem to retail at under $100 and responsible for being the first footsteps of many home owners in going online. With the creation of the Commodore Information Network to take some of the strain off telephone customer support, it is no surprise Commodore claimed this board accounted for the largest amount of traffic on CompuServe in 1982.

Indeed, 1982 saw Commodore's fortunes go from good to spectacular, the VIC-20 recording approximately 800,000 units sold and revenue of $300 million on the back of a peak production rate of 9,000 units per day. Tomczyk still expected the Japanese companies to launch their computers in the US and they did, but restricted themselves to the high-end market only. With 1983 in its infancy it became the first home computer to achieve a million sales worldwide. What could possibly halt the success of the VIC-20 now? Well, Commodore itself as it turned out.

Fifteen years before Sega killed off its own hardware (the Saturn), Commodore did the same by releasing the Commodore 64 in August 1982. It had always been part of the overall scheme of resisting the potential Japanese invasion that another computer would be released, but in such a short time frame it meant the VIC-20 would die before it had been able to live. It can be argued that it was 'sacrificed' for the future of Commodore and just two years

after its launch was priced at a mere $200 (in the US) or £100 (in the UK), but still targeted as an entry-level machine.

Curiously enough such a fate was not to befall the C64 once the Amiga arrived a few years after, nor did it apply to the Spectrum. Both carried on into the Nineties with commercial software releases, leaving their predecessors choking on what might have been. By the end of 1984 the last VIC-20 had rolled off the production line and in early 1985 the last computers left the shops, although software was still available. Roughly 2.5 million VIC-20s had been sold; cementing Commodore's standing and defining its future.

And that is really the computer's legacy. Not only did the C64 carry on the look and style, but most of the peripherals and accessories that worked with the VIC-20, such as joystick, datasette, disk drive and printer worked with the new computer. Upgrading was suddenly a lot less painful than it used to be, and it was all part of the design, though it did cause some speed issues.

In its wake it left a host of quality titles that hark back to the simpler arcade days of the time and evoke bygone memories when they are fired up to play. It is a pity many of them are very hard to find, so in these cases emulation is something to be grateful for. It proves that the situation then is the same as now, in that sometimes excellent games don't sell. Today there is a small but dedicated group of programmers writing new games and demos; there may not be much quantity but there is always quality about each production. They are the ones keeping the spirit alive in the same way Tom Griner and Jeff Minter did all those years ago.

The VIC-20 may have been eclipsed by its big brother C64 in the end, but it deserves to emerge from the shadow and stand on its own as a machine to be reckoned with.

Turning down Nintendo

In today's climate that would be a rather foolish move to make. Back then though it was an entirely different world, one in which American companies mainly ruled the waves. According to Tomczyk, shortly after the release of the VIC-20 in the West, he was able to begin negotiations with Nintendo regarding converting some of its arcade titles, including *Donkey Kong*, to home formats. Such a deal would have been a coup but as Tomczyk was about to sign, Tramiel told him to cancel the agreement.

Tomczyk believes that because of his enthusiasm in general for home formats, Nintendo decided to have a go itself. The timing would seem logical, as development on the Famicom began in August 1981 and the first wave of arcade conversions of Bally Midway titles (see 'Those 'banned' games' boxout) appeared on the VIC-20 in early 1982. Tomczyk believes Tramiel snubbed Nintendo due to the agreement now in place with Bally.

Atari ended up with the licence to convert Nintendo's arcades to home format, although it wasn't immune to later following suit and screwing up royally on a potential deal…

» Some examples of Tom Griner's ability: *Black Hole* (top) and *Astroblitz*.

» The closest that the VIC-20 ever got to *Wizard Of Wor.* Explore the caves, shoot the monsters and collect all of the treasure.

» Japanese launch advertising for the VIC-1001.

» A range of accessories for the VIC-20.
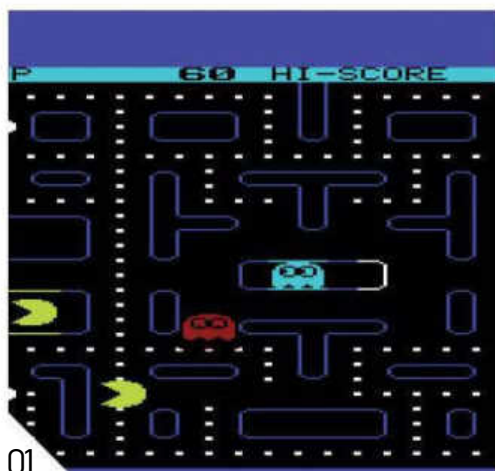
» The six-port cartridge expander module.

PERFECT TEN GAMES

It may have only survived for five short years (four in the West) but Commodore's VIC-20 still had a healthy range of games available on it. So join us as we look back at ten of the machine's best games. If you're planning on entering the world of the VIC, then these are the games that you can't possibly do without


01

JELLY MONSTERS

» **RELEASED:** 1981

» **PUBLISHED BY:** COMMODORE

» **CREATED BY:** HAL LABS

» **BY THE SAME DEVELOPER:** SUPER SMASH BROS

01 **With hindsight it may have been more than just a breach of licence that caused Atarisoft to be so keen to have this game removed from the shelves.** The other reason strikes you soon after you start playing. This is actually an incredibly playable and fun version of *Pac-Man*, far more so than the effort Atarisoft itself later released on the VIC-20. Part of the attraction is the amazingly large software sprites representing the yellow marvel and his foes, as they waltz around the maze after one another. It may not be totally accurate, but then again it was a lot closer than a certain Atari release for the 2600.

OMEGA RACE

» **RELEASED:** 1982

» **PUBLISHED BY:** COMMODORE

» **CREATED BY:** IN-HOUSE

» **BY THE SAME DEVELOPER:** DRAGON'S DEN

02 **Including another arcade conversion in the list may seem strange, for VIC-20 usually only went so far to reproduce the machines.** There are always exceptions. The expertly programmed *Omega Race* by Andy Finkel is one such exception. *Omega Race* was Midway's only vector arcade game, and he managed to retain the complete look, feel, control and playability of the original. Even under the joystick the ship never feels out of control, and the fast-paced nature of the action makes it a greater draw than *Asteroids*. We'd go as far to say this edition was better than the later C64 conversion.
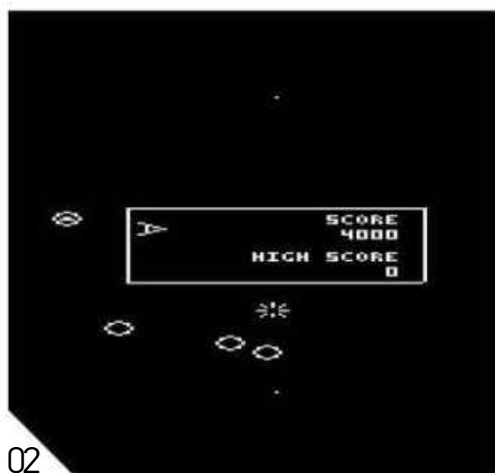
PIRATE COVE ADVENTURE

» **RELEASED:** 1981

» **PUBLISHED BY:** COMMODORE

» **CREATED BY:** IN-HOUSE

» **BY THE SAME DEVELOPER:** VOODOO CASTLE

03 **While the adventures themselves were Scott (or Alexis) Adams' creations, the five licensed to Commodore were programmed by Andy Finkel, who squeezed the originals into 16K each without any loss of substance.** Compression aside *Pirate Cove Adventure* is accepted as one of the best text adventures available, a two-word command assault upon the high seas to solve problems, acquire treasure and return it to the safety of your living room. Most of the puzzles are fairly logical and this will certainly present a challenge to all who attempt it.

MATRIX

» **RELEASED:** 1983

» **PUBLISHED BY:** LLAMASOFT

» **CREATED BY:** JEFF MINTER

» **BY THE SAME DEVELOPER:** SPACE GIRAFFE

04 **Although Gridrunner started Jeff Minter along the path to worldwide notability, its sequel Matrix (aka Attack Of The Mutant Camels in the US) is the better game overall.** It's harder, more varied, can often throw up a few surprises, and fixes some issues from the original (most notably the ability to 'camp' in the left-hand column to avoid the vertical zapper). The Score Panic mode of the camel waves raises the tempo, and the snitch character at the top keeps you from staying still too long. And we haven't mentioned the shot deflectors yet… one of the VIC's greatest blasters.

SWORD OF FARGOAL

» **RELEASED:** 1982

» **PUBLISHED BY:** EPYX

» **CREATED BY:** IN-HOUSE

» **BY THE SAME DEVELOPER:** TEMPLE OF APSHAI

05 **Epyx had already begun the Temple Of Apshai trilogy when Sword Of Fargoal was released.** This was an arcade-like, pared-down version of the dungeon crawler. Your task was to descend through many randomly generated levels in search of the legendary sword, returning to the surface intact. With the ability only to see where you've already explored, it made the game a tense, calculating affair as you decide when to fight, when to run and when to grab all that treasure lying about. Each level was confined to the visible screen, making it feel more claustrophobic in nature. More playable than its C64 cousin.

02

03

04

05

06

07

08
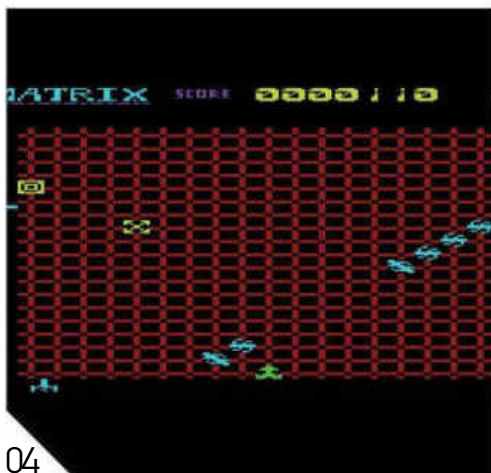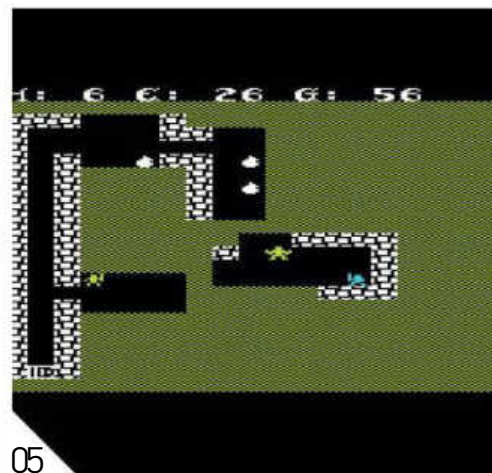
DEMON ATTACK

- » **RELEASED:** 1983
- » **PUBLISHED BY:** IMAGIC
- » **CREATED BY:** IN-HOUSE
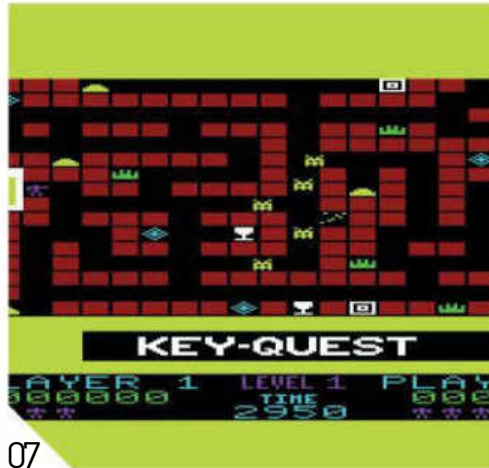- » **BY THE SAME DEVELOPER:** ATLANTIS

06 **"You not good enough for Demon Attack!" screamed the alien in the commercial.** As it transpires, however, the VIC-20 versions of Imagic's Atari 2600 games were good enough, especially this *Phoenix* clone (allegedly). Take control of the lone fighter battling through 84 waves of demon birds that have various different behaviour patterns and quite often split in half when shot. Given the liberal fire that is raining down upon you, this is no easy task after a few waves have been cleared. *Demon Attack* maintains the look and feel of the original game, and, needless to say, it retains the difficulty level as well.

KEY QUEST

- » **RELEASED:** 1983
- » **PUBLISHED BY:** TYMAC
- » **CREATED BY:** COMPUTER APPLICATIONS INC
- » **BY THE SAME DEVELOPER:** N/A

07 **There's only one real downside to this game: there's only one known copy.** Thankfully it's been archived and made available for those who wish to try it out in emulation. It's just a pity it wasn't more widely available at the time as it's a very good game. Much in the style of *Tutankham* you control an intrepid explorer through lots of different mazes collecting treasure, and despatching the continually multiplying enemies though you can only shoot left or right. Gaining 12 treasures in each maze opens the door to the next. Fast paced, challenging and addictive, *Key Quest* well worth checking out.

LASER ZONE

- » **RELEASED:** 1983
- » **PUBLISHED BY:** LLAMASOFT
- » **CREATED BY:** JEFF MINTER
- » **BY THE SAME DEVELOPER:** TEMPEST 2000

08 **Rest assured that Llamasoft barely ever released a dud for the VIC-20, which is why another of Jeff's games features in the list.** Controlling two guns at once, you must defend the outpost against the invading Zzyax aliens. While the C64 version allowed for simultaneous two-player action, the VIC-20 original is again arguably the better and more playable title. It is certainly harder by way of the smaller graphics, requiring more precise aiming especially if one of the nasties manages to land on a gun axis. At higher levels it needs total concentration, almost putting yourself "in the zone", a state quite often achieved with Llamasoft titles.
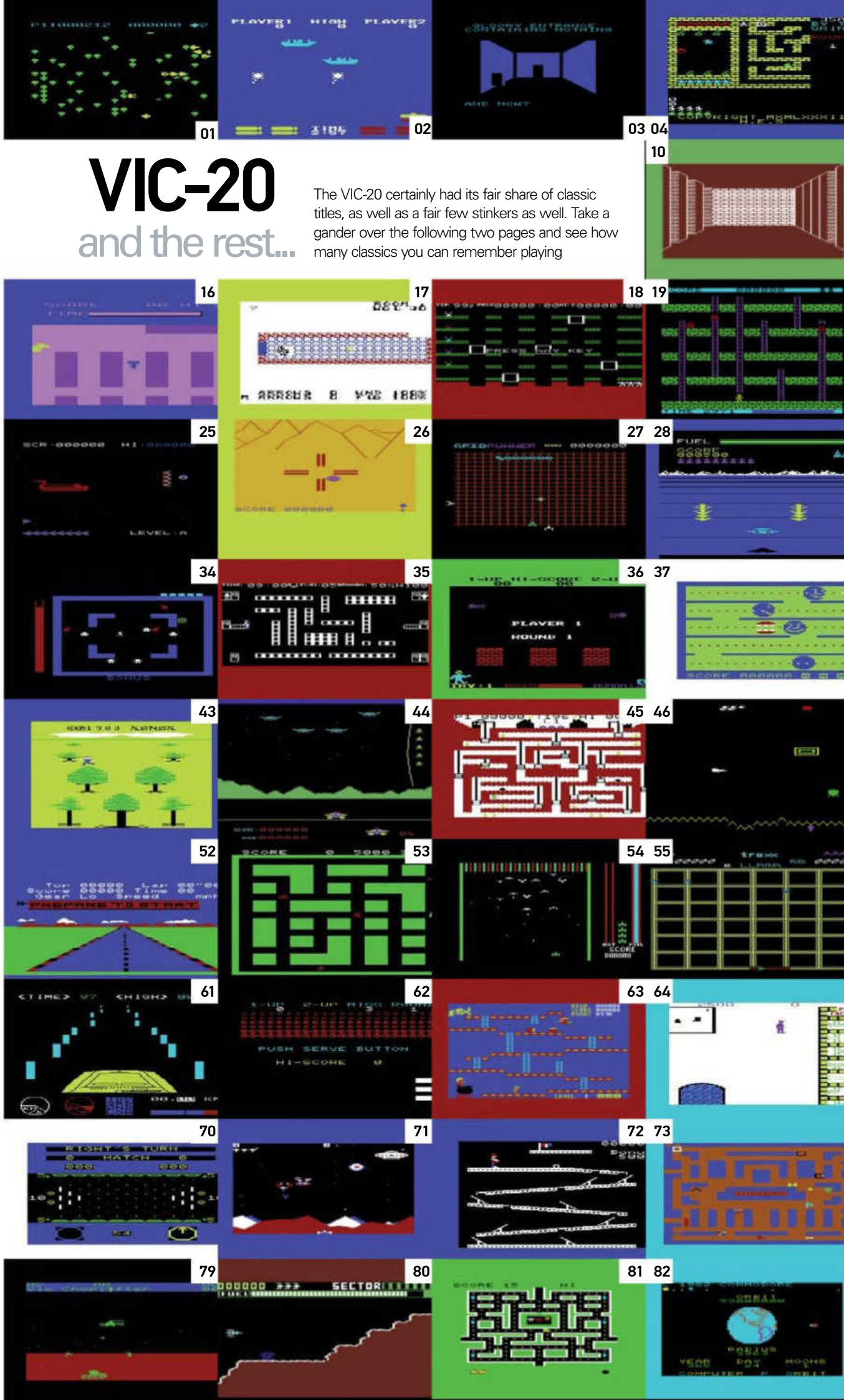

09

ASTRO NELL

- » **RELEASED:** 2004
- » **PUBLISHED BY:** COSINE
- » **CREATED BY:** MATT SIMMONDS
- » **BY THE SAME DEVELOPER:** VICOLUMN

09 **Software Project's Perils Of Willy somehow managed to squeeze in 33 screens of action using the 16K memory expansion.** *Astro Nell*, on the other hand, provides the VIC-20 with a *Jet Set Willy* multi-screen experience stuffed into… well, no expanded memory whatsoever. If you can see beyond the astonishment and wonderment of how this is all possible, you also discover that it is just as tricky, nasty and polished as the game it imitates. This is old-school gaming requiring accurate jumps, paper on which to map out the rooms, and a plan to collect all of the items. So much for concessions based on age.

GAME THEORY

- » **RELEASED:** 2007
- » **PUBLISHED BY:** DENIAL
- » **CREATED BY:** JEFF DANIELS
- » **BY THE SAME DEVELOPER:** ZOMBIE YARD

10 **WarioWare is a fairly new concept but it has already spawned a few imitators. But would you ever believe that one would appear on the VIC-20?** While made simpler to control by requiring only the press (or presses) of the button as opposed to also moving the joystick, it doesn't mean that there is a loss of difficulty. Far from it, many of them are no pushover. Jeff Daniels has also managed to cram a surprising number of different mini-games into just 3.5K, making it a varied and non-repetitive experience. If he carries through his plan for a sequel using the 8K expansion, it should be something worth looking forward to.
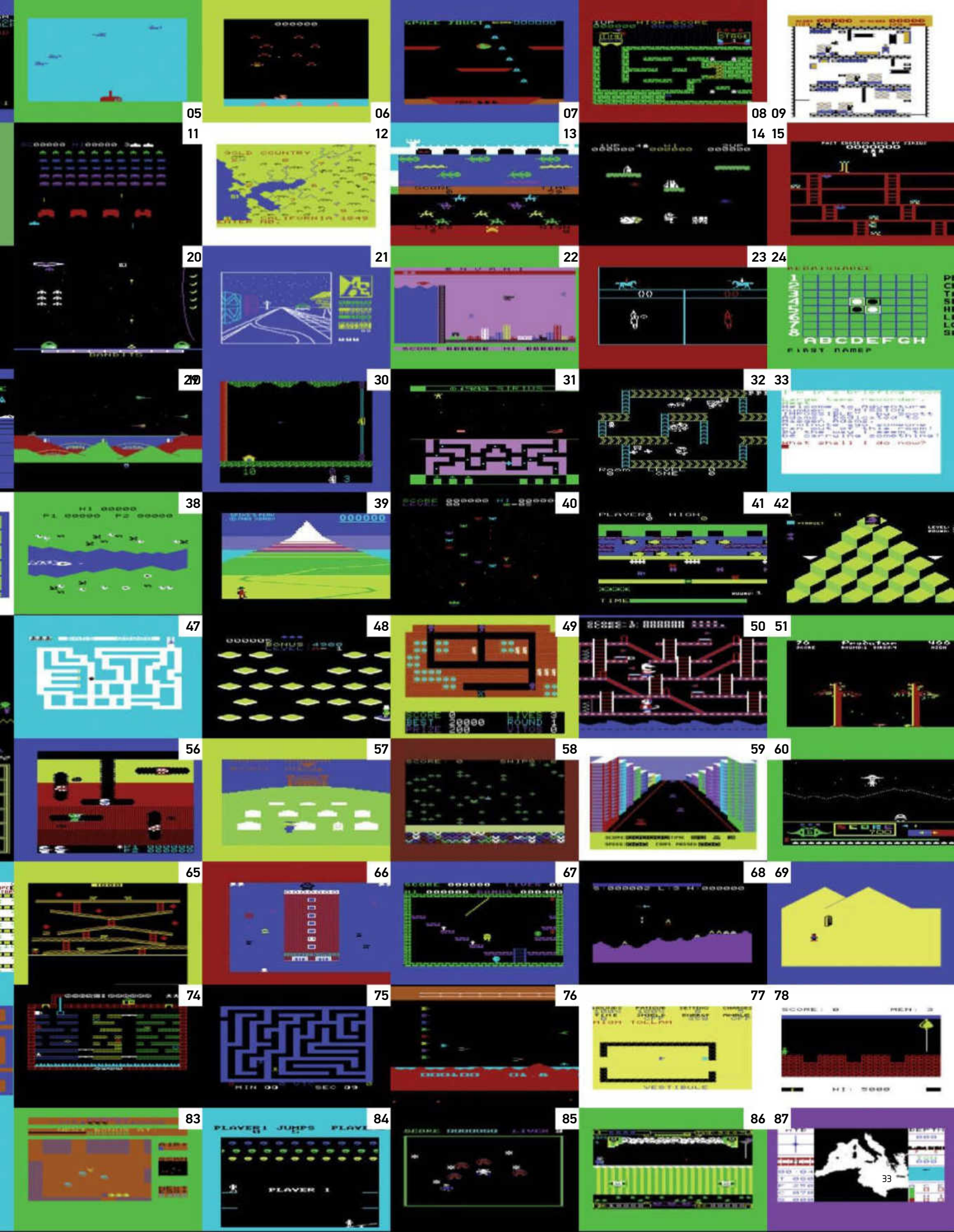

10

VIC-20

and the rest...

The VIC-20 certainly had its fair share of classic titles, as well as a fair few stinkers as well. Take a gander over the following two pages and see how many classics you can remember playing

05 06 07 08 09

11 12 13 14 15

20 21 22 23 24

29 30 31 32 33

38 39 40 41 42

47 48 49 50 51

56 57 58 59 60

65 66 67 68 69

74 75 76 77 78

83 84 85 86 87