

The Interface

"Taking 8-Bits Into The 21st Century"

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Remember, Always Choose A Designated Driver...

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Newsletter of the Fresno Commodore User Group – Fresno, California
www.dickestel.com/fcug.htm



THE EDITOR'S GODZILLA

by Lenard R. Roach

DISKS HOLD HIDDEN TREASURES

When I was growing up, my brothers and I would play a game called “Treasure Island” where each of us would get an empty box of kitchen matches, put a couple of dollars and some loose change into it, and then bury it somewhere in the backyard of our childhood home. We would then go and draw up a “treasure map” detailing exactly where the illustrator hid his “treasure chest.” We would then exchange maps, and each one of us would try to find where the other brother hid his “treasure” and dig it up. The brother who found and dug up the treasure chest would then get to keep the money and add it to his personal coffer. Since I was the youngest of the three brothers, I usually was the one that either couldn't read the treasure map and find the treasure, or I just couldn't find where my brothers hid the matchbox even though the treasure map was as explicit as possible. Therefore, I was the one who was always broke at the end of the game and went crying to mom that I had lost. Fast forward to the 21st century where it appears that I am still playing this game of Treasure Island, but this time I am playing it against myself.

When I started work on my upcoming book, “Load/Run” (scheduled for release in March of 2022), I was seeing this as my last Commodore retro-computer book that I would ever write for quite a number of years until I could find time to

amass more stories, articles, and essays out of the recesses of my mind. Even though this was looking rather true from a Commodore perspective, I was also concerned that this would become true as well for my non-Commodore work, i.e., my skit and play books. I assembled the various one-hour plays and quarter-hour skits from my various flash drives that I had stored in the Commodore computer room for the new release, “The Fourth Equinox.”

Usually, my most used disks that are in an open cubby that is built on the top of my worn-down Commodore desk. When I need a disk, all I have to do is reach up into a selected cubby, pull the disk down, remove it from its dust jacket, insert it into the 1541 or 1571 disk drive, and load and run the needed program.

However, this time I opened one of the three cabinet doors that I had on the Commodore desk and found some of my very old 5.25” Commodore floppy disks stored in a couple of dusty disk file boxes. The old disks had been sitting quietly in the lower cabinet of the Commodore desk probably for the last ten plus years. I reached into the cabinet and slowly pulled out one of the disk file boxes, lifted the lid, and began to slowly rifle through the disks, making sure to read each disk label and trying to remember the contents.

Way back before I was divorced, the wife and I (well, more me than her) would go to the magazine rack of our local grocery store and browse the selections, looking for the latest Commodore magazine release. When I'd find one, I would place it on the cashier's register conveyor belt and purchase it. In the evening we would read through the magazine. If there was a program one of us wanted, she or I would take the time and type in the printed code so we could have the program for our own use or entertainment. Sometimes one of us would find something that would further educate one or both of our two boys in a certain study, and we would type that in as well. Each typed-in program was

Technically, alcohol is a solution . . .

saved and verified on the Commodore so that we confirmed everything was correct to make the program run.

Some of the disks had nothing but document files on them, created in either Speedscript or GeoWrite, and these poor disks were not listed by program but by a heading that read something like, "Writings Geos Format," or "Lenard's Writings Geos Format Disk 1." There were many disks labeled with my writings. Most of them were files that were created for the old Commodore User's Group of Kansas City newsletter, "Ryte Bytes," of which I was editor for a few years until the club closed its doors back in the early part of the 2010's. Most of those were labeled, "Ryte Bytes Jan-May 2009," or something to that effect.

In this pile of disks, I found one disk labeled, "A Baker's Christmas." I remembered writing this story way back in 2004 in my son's hospital room while he was undergoing chemotherapy treatments for his AML leukemia. After the story was finished, I printed off a copy and submitted it to the choir and drama director of the house of worship where my family was attending at the time. Even though the skit was good, the director rejected it, giving back to me. I filed the hardcopy in the big file drawer in my bedroom and stored the disk in a file box in the lower cabinet of the desk, where neither was supposed ever to see the light of day again.

I was excited to rediscover A Baker's Christmas and instantly stopped the process of preparing The Fourth Equinox. Dick Estel of the Fresno Commodore User Group emailed me the instructions to successfully convert the Commodore Speedscript text to PC, and I prepared the skit for insertion into the new book. My sister-in-law Wynn, who has been the story content editor ever since the release of my third professional book, "Skits For 2nd Hand Puppets: Adventures In Courage," did the editing. My cover designer Tim, of Montee Graphics and Photography in Keytesville, Missouri, made

changes to the back cover to include a blurb about the new skit. The Fourth Equinox was released to the general reading public on March 16, 2021.

With The Fourth Equinox's final release and Load/Run scheduled for a March 2022 release, I had some time to meticulously go through each of the above old disks. I read the file titles as found on track 18 of the disks, trying to remember why they were written in the first place, trying to remember why the projects had been abandoned. As I went through each disk, I found that many of the stories and skits had already been presented and produced by the individuals who requested them. Most of the stories were mainly short, five-minute skits written for pre-teenage children with short attention spans. I left them alone, because at the moment they really had little value to me. Some of the skits actually had good storylines, and I pulled them out of the file box and put them aside for possible file conversion in the future. I wanted to study them to make sure I would categorize them under titles that would best describe their genre.

As I was going through the disks, I came across one disk that I thought I would never see again. In fact, I had forgotten completely about it. The title on the disk was, "Tabitha Arise." It was a play – a very long one if I remembered correctly – that was based on a story found in Acts 9:36-42. I was impressed that this section of the New Testament seemed to feature a cast of all women and no men, with the exception of the apostle Peter. Putting my imagination to work to create a possible scenario that would best explain the events that led up to the actions that were depicted in Acts 9:36-42, I sat down at my Commodore and GeoWrite word processor and began to go crazy, writing both act one and the first half of act two. I converted the text to PC by using Big Blue Reader (back then I knew how to run the software without outside help) and submitted it to Sandra, the president of the women's group of the church I was attending. Weeks later, I got an email from her stating that

even though the partial play was imaginative and definitely good, there were presently not enough women in the women's group to put on such a production, especially a production that appeared at the time to run longer than twenty or thirty minutes. Feeling dejected, I halted all progress on Tabitha Arise and shelved the work, again another piece of Roach-created literature that would never see the light of day.

As I looked at the disk, I wondered what I had exactly written. Since my son Gabriel went to all the trouble of fixing my Commodore 1902A 40/80 column monitor by resoldering all the solder points on all the boards (a job that took him more than five hours), I thought I would boot my copy of Geos and GeoWrite and examine any documents on the disk. Before long, I was reading my personal text of Tabitha Arise, originally written way back in February of 2013 according to the Geos time stamp on the file. I had found my new writing project for the future.

Acting like I was handling the Shroud of Turin, I carefully started to make changes to Tabitha Arise while I was in GeoWrite. Everything was going along fine until disaster reared its ugly head. I had begun work on act two when the problems arose. When I went to save a small edit, GeoWrite gave me a screen message which read: ERROR 1:21. WRITING ERROR. Any edits that I made to act two would not happen because of this little snafu. Since this was the only copy on disk that I had of this script, I felt like I was dead in the water at this point. I got onto my laptop and contacted Robert Bernardo of the Fresno Commodore User Group and asked him if there was a fix to a corrupted disk. Robert replied quickly and suggested using the Maverick copying program to transfer the contents of the damaged file onto another disk; in the copying process, Maverick had the ability to correct some errors. I had a copy of Maverick, but when I tried to boot the software in my Commodore, it refused to load completely. I then came up with the idea to try and convert the act two file from a USR file to an SEQ file by

using Wrong is Write, a program which was a gift from the Fresno Commodore User Group. I inserted the WrongisWrite program and converted the damaged act two to a SEQ file. It had worked! However, I needed to find out if Wrong isWrite repaired any damage done to the file. From there I needed to convert the act two file from Commodore SEQ to PC TXT and then try to read it with the Apache Open Office word-processing program.

The conversion was a success, and the file made it onto the IBM 720K disk as 80-column text. I got my external 3.5" floppy drive and plugged it into my PC. A quick search using the Search bar and I found the elusive act two file on the 3.5" disk. I dragged file icon off the disk window and onto my desktop. Once that was done, I opened the file to read the text. As I scanned the pages that appeared, I looked them over and found missing data within the text.

I began to pray and seek a way to recall all the missing text so I could keep the flow of the script going. My prayers did more than I expected. While praying, I remembered that Sandra, Women's Group president, might still have a copy, even after a decade later. I shot an email to her. She got back to me and apologized that even though she remembered reading the play, the text had been saved to an older, now defunct laptop. There was a slim possibility that she'd still had a copy of the play, but she'd have to look. I waited for a few days. While I waited, hoping that somehow Sandra would find something, I converted the rest of the play to PC format and started writing the remainder of the play, like the second half of act two. I continued my day job and tried to keep my mind off the situation. However, I kept asking myself to recall the details in the play.

On an evening off, I opened my email and saw her name in my inbox with a couple of attachments. Her note was short. "I found these. Hope it helps." I opened each file, and as sure as the sun rising everyday, she had found and

emailed me both act one and the first half of act two, all in their entirety. I just about fell out of my chair! I quickly downloaded the attachments and saved them both to desktop and flash drive. I even took the extra precaution of starring her message in my inbox to make sure that this file did not disappear in any way. I sent her my deepest thank yous for staying diligent in looking and subsequently finding the files. Later she explained that, even though the files were sent to her a decade ago, they had gone into her archive file on one of her older hard drives. Originally, I had emailed the files to her business account, and all business hard drives were saved back, whether they contained personal mail or not.

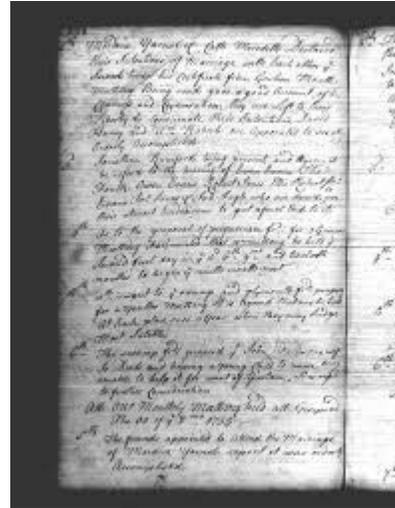
I told her that these files were so important that I now had them saved just about everywhere in my house. I offered to take her and her husband out to dinner sometime to celebrate this victory. She declined. No matter. I had gotten the files. I needed to get Tabitha Arise finished, edited, and polished before the end of summer. I really didn't understand my urgency in this project, but at least I had something to do instead of moping around the house on my days off.

I haven't reviewed the other document files, because I've been busy getting other projects finished. There is a movie screenplay I had attempted to write. I may take it off the disk and run it through my PC to make it into a book as well. That would be another future project.

While I rediscover all of these projects on the 5.25" Commodore disks, I will still be writing more stories for Commodore magazines and newsletters. My goal is to keep adding Commodore content to these various mediums, and hopefully by 2025 or 2026, I'll have another Commodore compilation book ready for the printer.

As you can tell by this narrative, by searching through my old Commodore disks and finding all these story treasures, I no longer feel pressured. I can produce quite a number of books after 2022,

now that I have my choice of material to research. I can now relax and let the ideas come to me in a more tranquil fashion rather than trying to force an idea out of my head in a frenzied manner, trying to meet some deadline. I exhort you, reader friend, to get into your very own Commodore disk files and find great Commodore things that were long buried and forgotten.



MONTHLY MEETING REPORTS

by Robert Bernardo & Dick Estel
January 2022

Most of the regulars and a couple of our occasional attendees made up a group of five for the first meeting of 2022. These were Robert Bernardo, Roger Van Pelt, Dick Estel, Randy Stoller, and Bruce Nieman.

It was noted that Robert had been president for 25 years. Most small organizations like ours are held together by the efforts of one dedicated member, and we appreciate that Robert is filling this role.

We had planned to hold the Commodore LA Super Show (CLASS) in mid-May, but the venue was not available, so the dates will be June 25 and

26 (a change from the dates we discussed at the previous meeting).

The CLASS location is the Burbank VFW hall. More information is available on the event website, <http://www.portcommodore.com/class>, the Commodore Forum at <https://www.commodore.ca/forum/viewforum.php?f=6>, and on Facebook at the Commodore Los Angeles Super Show – CLASS page.

Robert had set up the Commodore Amiga 500 with Vampire 500 accelerator. Usually, our meetings were very 8-bit oriented, and member Bruce, who was a big Amiga fan, listened politely to that talk. However, with the emphasis on Amiga this time, Bruce's interest shot up.

As Robert spoke of how an Amiga 4000 was repaired at CLASS 2021, Bruce chimed in on how his Amiga 2000 needed repair, too. Randy jumped into the discussion by asking what was wrong with the A2000 with Bruce answering it was having hard drive problems. Robert said it could be cured by replacing the drive mechanism with a solid-state solution, the SD2SCSD board (SD card to SCSI connector on the A2000). Bruce also wanted certain programs found and restored. Robert and Randy said that .ADF (Amiga Disk File) archives were on the Internet and that .ADF's could be run like a disk from a Gotek drive, essentially a unit which took USB sticks and ran the .ADF's off the sticks. Bruce didn't know about .ADF's and Goteks; Robert said that he would bring his external Gotek for Bruce to try out at the next meeting. In fact, Bruce said that he would bring his A2000 to the next meeting... no easy task because of the computer's bulk and weight.

One game for which Bruce had been looking was found on Robert's A500/V500. The game was part platformer, part exploration. Though Bruce played it on the Robert's A500, he really wanted it back on his A2000. Robert and Randy assured him that the game could be found on the Internet

as an .ADF or as a WHDLoad game. Bruce didn't know what WHDLoad was, and Randy explained that they were formally disk-based Amiga games which had been converted to run off a hard drive.

Then Robert showed off more of the capabilities of the A500/V500, the fastest classic Amiga you can get. In the desktop folder of Videos, he ran the MPEG-1 video of a Megan Trainor song. The computer ran the video with perfect sound sync, though there would be the slightest video "stuttering" at times. He hadn't downloaded any MPEG-2 videos to try out, though he surmised that the computer would have a harder time at running them smoothly due to their larger file size and higher resolution.

To finish off the meeting, Robert ran Lightwave v3 on the Amiga. Lightwave was the 3-D rendering program used to create scenes for movies and t.v. shows, such as Babylon 5 and Seaquest DSV. Immediately, Roger's interest was piqued, because he was the default go-to guy for Commodore CAD programs (and knew how to use Blender on other computer platforms). The Lightwave menus were hard to read (which Robert discovered later was the fault of his LCD screen); if Roger stood back, he was just about able to read the menus.

He went straight to loading in an object, rotating it, moving the camera around, and then rendering the object, all at a speed hundreds of times faster than the original Amiga. He was very curious to play with the system even more, but Robert had to leave for Stockton. Robert promised he would bring back the A500/V500 for the next meeting.

Before everybody departed, Robert apologized for not showing the new Attack of the PETSCII Robots for the C128. Though there was an 80-column mode element to the game, the wrong monitor was brought which required a different 80-column cable. However, that did not stop discussion of the game. Inside the game box was

an Super NES controller adapter to connect the controller to the computer user port. Randy explained that the game was far easier to control with the SNES controller rather than with the use of keys scattered across the Commodore. Roger and/or Randy would bring a SNES controller to the next meeting. And Randy gave to Robert a 3-D printed case for the SNES adapter, so it could look more finished.

February 2022

by Robert Bernardo

Traveling from Stockton 2 hours away, Robert arrived first to the meeting place. He was able to start setting up the equipment, and soon member Dave joined him, followed by Roger. They ordered lunch, and near the end of it, Robert commenced the meeting. Having no old business to discuss, Robert went into new business. First new business... the preparations for the June 25-26 Commodore Los Angeles Super Show. Robert had made the down payment for the venue, the Burbank VFW hall. Roger agreed that his CLASS video presentation, C64 Giga-CAD objects being converted to Blender, would be filmed in April or May. Second, Robert said he had applied for exhibit tables at the April 2 City of STEM (science, technology, engineering, math) festival at the Columbia Memorial Space Center in Downey, California. He was still waiting approval for one or two tables which would show off an Ultimate 64, an Amiga 500 with Vampire 500 accelerator, and possibly more. Also in new business, Robert reported that a new, long-distance member had joined the club, and he would need a New Member Disk. A brief look at the New Member Disk directory showed that the opening text file had to be revised (the late 1990's text file said that a free C64 would be given to new members!) and that certain utility programs (which were already on the 1541 Test/Demo disk) could be replaced with something else, like a fun game. Robert made a motion to update the disk, and the members approved the motion

unanimously. Robert would take the disk and modify it.

Robert said that he had ordered the Retro-Printer Module from England. Consisting of a "hat" to be attached to a Raspberry Pi 4b computer, the RPM would let the user use a modern USB printer with Commodore computers. The module itself cost over \$115! Roger was very interested in having new printers for Commodores. Dave talked about the best Epson printers which used individual tanks of ink, thus cutting down the cost of buying all-color-in-one ink cartridges. Dave said the best deal on Epson printers was through Costco. Using the laptop, Robert went to Costco.com and found some likely Epsoms to purchase.

Before going to the hardware/software presentations, Robert showed a few minutes of the "FX-Grabs 3" Tape (Video Toaster "Kiki Effects" raw footage studio shoot)" which was on YouTube. In the early 1990's, NewTek's Video Toaster was the premiere, low-cost, NTSC video switcher for the Amiga 2000/3000/4000. Built into the Video Toaster were special effects that could be overlaid onto broadcast video. The effects included Kiki Wipes (and more), named for actress and Newtek spokesperson, Kiki Stockhammer. In the video, Kiki was directed to go through various motions in front of a whitish background.

Robert only showed about 4 minutes of the 30-minute video; as Kiki went through her silhouetted motions in front of the camera, it was too provocative to keep showing, especially since restaurant goers were passing by! Robert said that if the members wanted to finish seeing the rest of the video, they could go to <https://www.youtube.com/watch?v=jUrj-h3GejA> There was also an 8-minute video of Jack Tramiel, head of Commodore Business Machines, filmed in 1983, but Robert decided to show that at a future meeting.

Robert showed the new Unijoysticle 2+ and a little bit of its accompanying video at <https://retro.moe/unijoysticle2>. The Unijoysticle 2+ was an adapter that connected to the computer joystick ports and would let the user wirelessly use Bluetooth controllers, joysticks, and mice. It worked with Commodore and Amigas (adapters may be needed, depending on the computer). Robert had brought two Bluetooth NES-style joypads, but he forgot to charge them up, and so, the demonstration with the Unijoysticle 2+ was put on hold until the next meeting.

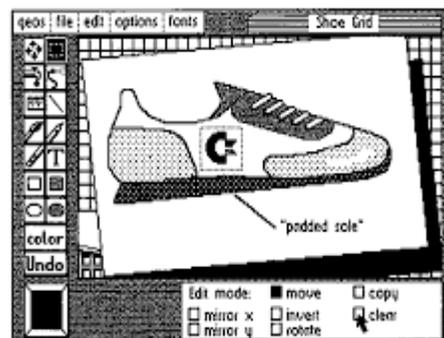
Next, Robert showed off the Muppet Learning Keys, a very large tablet built by Koala Technologies, the same company famous for the Koalapad drawing tablet. Muppet Learning Keys came with a box but with no instructions nor floppy disk for the C64. Fortunately, Robert had downloaded the .D64 of the Muppet Discovery Disk from the Internet, though unfortunately he had not found the instructions on the Net. He connected the MLK to the Ultimate 64 and ran the likely LOAD file from the disk. Though the U64 had a built-in SD drive (i.e., no mechanical drive to slow a LOAD), the .D64 still took a long time to load, and Robert thought this would test kids' patience (young children were the audience for MLK). With a lot of poking at the MLK keys, Robert and Roger discovered that the cursor keys and the RETURN worked but couldn't get the other tablet keys to do anything. Some animal images appeared on the screen, but without the instructions, Robert and Roger didn't know what to do with them. Conclusion – some success with MLK but more had to be learned. (Weeks later on the Commodore 64/128 forum of Facebook, Robert was finally able to find a user who uploaded the MLK instructions to him.)

Last played at the January meeting, the C128 version of Attack of the PETSCII Robots returned, but this time the correct 40/80-column monitor was available. Now the members could see the game in 40 columns, and with the push of

a switch, in 80 columns, too! It was a revelation; not only was there a 40-column opening screen to the game, but there was also an 80-column opening screen. The members saw the game map on the 80-column screen; in fact, they could navigate the game by going through the map and then switch to 40 columns to see the game in close-up detail. Very sophisticated! On the 40-column screen, the robots looked like the Daleks from Dr. Who.

There was a little bit of confusion on how to activate the Super Nintendo gamepad to be used with the game, but Robert and Roger figured it out by a careful reading of the opening menu. With the SNES gamepad connected to the C128 user port via an adapter, the gameplay was excellent and very convenient. No more poking at various keys on the C128... Just use the buttons on the gamepad.

To end the meeting, the members looked at some C64 games – the new games, Retaliate, Berzerk (PAL), and Santa Force; and the classic games – Pooyan, Katakis, and Boom. Retaliate gave the player no weapons at the start, Santa Force had Santa in his sleigh shooting at enemies in the sky, and Berzerk (PAL) had lots of speech but no background scrolling. Pooyan was cute with the player having to shoot balloons; Katakis had good music, interesting enemies, and a nice background; and Boom, which was a Doom clone, failed to load.



Selecting a rectangular area

Technically, alcohol is a solution ...



THE COMMODORE CLIPPER

(and other 1983 CES tales)

by Guest Contributor Dave McMurtrie

The summer 1983 Consumer Electronics Show (CES) was held in Chicago, IL (USA) at the Chicago Convention Center and two hotels from June 5 through June 8, 1983. 80,000 people attended the event to see 1,200 exhibits spanning 735,000 square feet of floor space.

With the home computer wars at a fever pitch in the early 1980s, new hardware introductions at CES were of paramount importance to the players in the home computer market. At summer 1983 CES, Atari introduced the 600XL and other models, Mattel was showing their newly released Aquarius, and Coleco stole the show by announcing their Adam computer the night before CES began. Commodore was showing their Magic Voice speech synthesis cartridge and the Executive-64 / SX-64. Neither received much fanfare since both had already been displayed at the winter CES in January.



Commodore failed to make an impression with their hardware exhibit, but their big reveal was to be software instead. In April 1983 Commodore officially formed their Software Division and Jack Tramiel appointed Sigmund "Sig" Hartmann to organize, develop and run it. Sig was a long-time TRW executive who had actually left TRW once before to work for Commodore in a role as a general manager. Sig's first stint at Commodore didn't work out, but he accepted Jack Tramiel's invitation to come back to Commodore and run the software division.

Just a few short months after the formation of Commodore's software division, it would make quite a splash at the summer 1983 CES.



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Commodore's major announcement for Summer 1983 CES

Commodore announced that they would be releasing 70 new software programs, all for less than \$100 each. Commodore UK's software team, headed by Gail Wellington, contributed several titles to the list including Easy Script, the well-known word processing software. A complete small business accounting package was licensed from Info Designs, Inc. A team consisting of Sig Hartmann, Andy Finkel, Gail Wellington, and John Campbell visited Microsoft and successfully negotiated a deal for their Multiplan spreadsheet application. At Neil Harris' suggestion, a range of text adventure titles were licensed from Infocom. With the new software library taking shape, Commodore needed to do something such that Summer 1983 CES attendees would take notice.



The Commodore Clipper

On June 5, 1983 Commodore issued a press release to announce that the 'Commodore Clipper' had been christened.

'COMMODORE CLIPPER' CHRISTENED (Chicago, June 5, 1983) -- Editors covering Chicago's Consumer Electronics Show (CES) learned about Commodore Business Machines, Inc.'s newest hardware and software offerings aboard the "Commodore Clipper" today. During the first "floating" press conference in the history of CES, Commodore introduced the first complete 64K microcomputer system (Commodore 64™ microcomputer, plotter/printer, monitor and disk drive), which should be available for less than \$1,000 in retail stores, unveiled more than 70 new software packages, and announced software price reductions, many of up to 50 percent, as well as hardware price reductions, many of up to 25 percent, for trade customers.

For additional information, contact Diane Ottinger, Commodore Systems Division, 1200 Wilson Drive, West Chester, PA 19380.

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The 'Commodore Clipper' was actually the S.S. Milwaukee Clipper, a passenger steam ship and Lake Michigan car ferry originally built in 1904, then reconstructed in 1940. The S.S. Milwaukee Clipper ended its duty in commercial service in 1970. By 1983 the ship was operating as a floating maritime museum and convention facility, and Commodore rented it for use at the 1983 summer CES. The ship was anchored at Chicago's Navy Pier and the 'S.S. Milwaukee Clipper' naming on the ship was covered by temporary 'Commodore Clipper' banners. The "Boatload of Software" pun was unavoidable, especially since Commodore's major thrust at CES was their new software division, and a banner with the slogan was affixed at the entrance of the ship.

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Commodore set up two dozen exhibits on the first deck of the Commodore Clipper to showcase their newly-announced software titles. Upstairs on the second deck, a multimedia slideshow of the story of Commodore was playing. On the main deck of the ship, there was a dining area at one end and staterooms at the other. The staterooms were used as offices and temporary meeting rooms.



MICHAEL TOMCZYK

VIC-20 Developer, Computer Pioneer

by Guest Contributor Tim Santens

(Note: CBM engineer Bil Herd and Lenard Tramiel, son of Commodore International's Jack Tramiel, have been highly critical and dispute Tomczyk's role at Commodore.)

Michael Tomczyk is a futurist, technology pioneer and a leading authority on best practices and

strategies for developing/launching radical/disruptive innovations. He is a popular author, speaker, and consultant to corporations and government agencies. However, he is perhaps best known for his early work at Commodore for his role in guiding the development and launch of the first microcomputer to sell one million units. He did this as the Product Manager of the VIC-20, the predecessor to the better known Commodore 64. He authored the 1984 book, "The Home Computer Wars," which compiled his own recollections and impressions of his time working at Commodore.

Michael is also an authority on nanotechnology. He is the author of the 2016 book, "NanoInnovation: What Every Manager Needs to Know," and during that same year served on the NNI Review Committee (National Academy of Sciences) which reviewed the billion-dollar US National Nanotechnology Initiative, to recommend changes and improvements to this initiative. He has also written book chapters and articles on the future of biosciences, gene therapy, and medical innovations.

I had the opportunity to ask Mr. Tomczyk some questions over email regarding his career, ...the development of the VIC-20, his friendship with Apple founders Steve Jobs and Steve Wozniak, and what he's been up to in the decades since the VIC-20's launch.



Technically, alcohol is a solution ...

Commodore Video Games



TFTC: You became hooked on Star Raiders for the Atari 800, which opened your eyes to the possibilities of computers. Did you continue playing games after that?

Tomczyk: In 1979 I was general manager of a company called Metacolor based in San Francisco, that did special graphic effects for Hollywood movies and for Atari video games. To create our graphics we used a modified piece of surplus NASA gear called a Quantizer. Atari made us a beta site for the Atari 600 game computer and my team wouldn't stop playing a cartridge game called Star Raiders where the player pilots a spaceship while enemy ships keep attacking. Star Raiders was the first video game that had 3D star fields that gave the realistic illusion of traveling through space and allowed objects including enemy spaceships to move toward and away from you. It took me 3 nights to reach the highest level. I recall looking up one morning at 6 a.m. to see a thin shaft of light streaming in through the living room curtains and realized I had been up 3 nights in a row playing [Star Raiders].

Star Raiders got me hooked on computing and led me to quit my job to find a way to enter the personal computer industry. I was 31 years old

and before this I had been a journalist, a captain in the Army, a management consultant in Beverly Hills, and I had an MBA from UCLA. I started taking computer classes at night to learn to program in BASIC and get familiar with word processors and spreadsheets. One night we had a Commodore PET and the next night an Apple and I became ambidextrous, which gave me some keen insights into the advantages and disadvantages of Commodore and Apple.

My first article after leaving Metacolor was an interview with Doug Neubauer, the creator of Star Raiders who was a chip designer. With one article published, I was able to get interviews with Steve Wozniak and I started hanging around Apple in my spare time.

VIC-20 Games

TFTC: What was your favorite game on the VIC-20 or C64?

Tomczyk: I actually didn't play many games after I started product-managing the VIC-20. I was busy writing manuals, evaluating games to license and defining the computer features. Jack Tramiel had made me the "VIC Czar" and I was responsible for major decisions affecting the new computer. Sometimes when we were at the office printing out a manual or some assembly code (which took a long time on a dot matrix printer) I would play a "rain" style game – avoiding falling rain – and we all tried to get higher and higher scores.



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Impact of the Video Game Crash on Commodore



TFTC: You left Commodore in 1984, a year after the video game market in the U.S. began to crash. Did that impact Commodore's sales or were the VIC-20 and C64 completely insulated from that due to them being home computers?

Tomczyk: When Jack Tramiel was ousted from Commodore (by Irving Gould, supported by a group of gray-haired executives who argued that "professional management" was needed) – most of the "family" departed within 6 months. In one week in May 1984, 35 top people left the company – these were what Jack called the "family" – the trusted insiders who understood his tough business philosophy which he called "the religion." As soon as Jack departed, the remaining Commodore executives, who did not understand the concept of a full-spectrum product line, started dismantling and disabling the home computer line including cancelling products like the Commodore 364 which was announced but never produced, and the Plus 4 which had built in software but was not supported. My contribution as Marketing Strategist – which was part of my official job title – was to help Jack

develop a full spectrum product line including 1) the VIC-20, the low-end entry level computer that poor families, elementary schools and virtually anyone could afford, 2) the Commodore PET developed in 1976 that was a favorite in schools, and 3) the Commodore Business Machine (CBM) which was a business-capable personal computer. This set up a progression where a Commodore customer would get into our computers in grade school, graduate to a PET in middle and high school, and move up to a CBM in college or business.

When Jack left Commodore his culture of innovation left with him and the product line lost its cohesion. Also, the gray-haired executives who took over were cliched business managers who saw that R&D was the largest cost center so to reduce expenses they started downsizing R&D staff and projects at exactly the time when R&D needed to be increased – it was a fatal error.

Speaking at Vintage Computer Festival East

TFTC: You were one of the keynote speakers at VCF East, scheduled for October 8, 9 & 10th. Which other speaker were you looking forward to hearing from the most?

Tomczyk: At VCF I had a chance to spend a few hours with Scott Adams, who is still a great friend after all these decades. When I desperately needed games for the VIC-20 I called Scott and asked if he could port over half a dozen games to help us launch the computer. His text-based games didn't use much memory and were perfect. We sold them on cartridges and they helped launch the computer. Scott and I stay in touch on Facebook and it was great catching up in person.

I also had dinner and spent time chatting with Bill Mensch, a true guru who designed the 6800 Motorola chip and 6502 chip – Bill and I had a great time catching up and he said he was kind of surprised to learn about all the things that

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happened behind the scenes at Commodore that many people, even Commodore insiders, never really knew about.

Friendship with Woz and Steve Jobs

TFTC: You were friends with both Steve Jobs and Woz how did your friendship start?

Tomczyk: My first Apple article was a review of an 80 column add-on board for the Apple II, which had a 40-column display. I interviewed Woz and Andy Herzfeld, and met Jobs. After that I started hanging out at Apple, mostly sitting at Woz's cubicle which was right behind the main entrance. One day I was chatting with Jobs and Wozniak and I said, "Hey, I'm not doing this for my health, I'm looking for a job in the industry" to which Jobs replied, "Ok, Michael. Go in the cafeteria, look at the job requisitions posted on the board, pick something you're qualified for and we'll hire you for that." I looked at the job requisitions but they all looked so sterile and official, on pre-printed forms, and Apple also required me to sign in when I visited even though everyone knew me and I had the notion that Apple was kind of bureaucratic.

I started hanging out at Apple, mostly sitting at Woz's cubicle which was right behind the main entrance.

I also felt that I had to choose one of the "three bears" in personal computing. Apple was the papa bear. They had too many geniuses. Atari was baby bear. They didn't have enough geniuses. I got an interview with Conrad Jutson VP of Consumer Electronics at Atari and was offered a job as Director of Software. Jutson said he felt computers were going to be like stereo systems. Atari really WAS the baby bear – most people don't realize that Atari LOST more than a billion dollars in five years. They were not well-managed.

Commodore was "mama bear." Commodore had half idiots and half geniuses. So I got myself an interview with Jack Tramiel at Commodore's offices in Santa Clara, CA. I told Jack about 20 things that I felt were screwed up that I could help fix – bad PR, poor user group relations, 1940s style packaging, essentially no advertising—to name a few. Jack hired me as Assistant to the President and Marketing Strategist.

Apple and Gaming

TFTC: Steve and Woz both got their start working on arcade games for Atari and Woz later held a record high score for the Game Boy version of Tetris. Did video games ever come up in your conversations?

Tomczyk: I never discussed the development of the Apple computers or their involvement in video games with the two Steves. After leaving Commodore, I used Apple computers mostly and at one point got hooked on a great Apple game called Mech Warrior which places the player inside a large robot that looks like the giant robots in the Transformers movies. Today there are robot prototypes that are operated by human pilots, and several types of exoskeletons that are essentially wearable robots. I talk about these in the new innovation book I just completed.

One interesting thing that happened while I was chatting with Jobs and Woz in early 1980, Apple's president Mike Markkula came up to Woz and asked a question about something on a system software entry which was extremely technical and surprised me that the CEO was that much into the software.

Additionally, Woz and I were friendly and chatted during computer trade shows, after I joined Commodore. I also knew Bill Gates and we were friendly and also chatted at trade shows. Later I got to know Adam Osborne and Clive Sinclair, all true gurus and wonderfully charming, intelligent and friendly. Steve Jobs never forgave me for joining Commodore instead of Apple, and he

never spoke to me at computer events, even when I walked up to him, he turned his back on me! He was not a particularly friendly guy.

Starting Out at Commodore

TFTC: What were those early days like working at Commodore?

Tomczyk: My first day was in London around April 1—I flew to London sitting next to Chuck Peddle, Commodore’s Chief Engineer and a true computer guru. Chuck told me what I needed to succeed in a very tough business environment. He told me a meeting with Jack was called a Jack Attack because Jack was so tough on everyone. I said I don’t care about that because I had been a consultant to some very tough CEOs and in the Army I worked mostly for tough general officers. In London I made friends with Commodore’s general managers in Canada, Germany, the UK and Japan. Tony Tokai (Japan) and Kit Spencer (UK) and I especially hit it off.

At the meeting, Chuck Peddle presented a new color computer shaped exactly like the Apple II – the form factor was identical. Jack said he preferred to launch a small introductory computer first. He knew that a young engineer named Bob Yannes had developed a prototype based on a chip developed by our MOS Technology subsidiary in Valley Forge. During the debate about which computer to produce first – the Apple II style “ColorPet” or the small home computer – most of the 20-plus people at the meeting argued for the ColorPet. I argued passionately for the intro computer, because we needed it to fill out our product line and provide an affordable path to the other computers. Kit Spencer and Tony Tokai joined me in making this case. Jack had left the meeting and the next day he came back, listened to all the arguments on both sides, then stood up, banged his fist on the table and declared, “Gentlemen, the Japanese are coming – so WE will become the Japanese!” Everyone had to buy his logic because he was right.

Becoming “Japanese” had more meaning than anyone realized at the time, because Chuck Peddle didn’t want to develop the new computer, he had several contentious exchanges with Jack and wound up leaving the company several weeks later, along with some key engineers. Yash Terakura and the Japanese engineering team had to do a lot of the work to make the new computer.

Building the VIC-20

For me personally, the next few weeks were like a whirlwind. After London we went to Germany and asked the government for some concessions so we could take over a failing electronics plant, to make Commodore computers for Europe. I was in the meetings. The Germans said, “Why should we give you concessions?” to which Jack replied, “You owe it to me – I’m an Auschwitz survivor” – then he added – “Besides, it will be great PR for you.” They accepted his logic and gave us the plant which was in Braunschweig, West Germany.

I asked Jack if he held resentment toward the Germans to which he replied, “The German people didn’t kill the Jews. The rules killed the Jews. Germans always follow the rules and if the rules are made by madmen, they still follow the rules.” Another time I asked him how he dealt with the memories of Auschwitz and he immediately replied, “I live in the future.”

After we got back to California Jack asked me to check out the Marketing Department which I had criticized in my first interview. I interviewed 12 people in the department and reported my findings to Jack. One day I came back from lunch and the marketing offices were empty. I asked the secretary where they were and the secretary said, “Jack fired them all just before lunch.”

I scrambled to Jack’s office and said, “Jack, what did you do?” to which he replied, “You said you hated our Marketing Department, so I fired them.” Talk about a guilt trip. I had to admit that they deserved to go, however. A few days later he

announced that I would be serving as temporary US Director of Marketing. “You hire a new Marketing Department, who you think we need, and I’ll hire a Marketing Vice President. We’ll divide up the tasks like that,” Jack told me. This was only my THIRD WEEK with the company.

Becoming the “VIC Czar”

The best known story about how I was put in charge of the VIC-20 involves my famous memo. I wrote a long single spaced memo and put a happy face with a beard and mustache on the cover and tossed it on Jack’s desk. “What’s this?” he asked. “That’s everything that needs to be done with the new computer. Make sure whoever’s in charge does all these things.” A week later Jack threw my memo back on my desk. “What’s this?” I asked. “That’s everything that needs to be done with the new computer. I told everyone that nothing gets done on the new computer without your approval, but none of the people involved reports to you so you’ll have to do this mostly by persuasion.” I told him I could do that.

I wound up giving the VIC-20 it’s name, set the price at \$299.95, forced engineering to use full size typewriter style keys instead of a flat membrane and after a visit to Japan where I saw a prototype (from NEC) with programmable function keys, I added function keys to the VIC-20. I also asked Jack if I could be VIC Product Manager and he said, “I don’t believe in product managers.” “So what can I be?” I asked. At this time we had a gas shortage and the President had appointed an Energy Czar. Jack smiled and said, “You can be VIC Czar.” “Can I put that on my business card?” I asked. He nodded. And the rest is history.

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The VIC-20 was introduced as the VIC-1001 in Japan at Seibu Department Store in September 1980. I had been working very closely with Tony

Tokai and I was there for the launch. I recruited a product team I called the VIC Commandos. Our motto became Benutzefreundlichkeit which means User Friendliness in German. I licensed a half dozen Adventure games from Scott Adams and bought some other games such as Jupiter Lander from hobbyist programmers.

The VIC-20 was introduced at the January CES Show in the US. It became the first full-featured color home computer and the first microcomputer to sell 1 million units. I became known as the “marketing father” of the home computer.

Commodore’s Lasting Impact

TFTC: In John Wick Chapter 2 (2017) the VIC-20 was shown to provide security through obsolescence, for a secret organization of assassins. What are your thoughts about the computer’s continued presence in popular culture?

Tomczyk: I keynoted the Vintage Computer Festival East in October and several people told me they are still using VIC-20s for various functions, which surprised me. Of course hobbyists and retro-computing enthusiasts in many countries keep their VIC-20s and Commodore 64s up and running. I am also gratified (and humbled) to receive one or two emails or chat messages EVERY MONTH from someone, somewhere in the world thanking me for fighting to get this computer made, because it changed their lives.



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Commodore and William Shatner

TFTC: When you showed Shatner the VIC-20, did he try out Star Trek and if so, what was his reaction?

Tomczyk: I was at the first Shatner TV ad shoot in New York and Shatner was friendly, cordial, warm, professional and cool. We sat next to each other during lunch and he told me he should have been a technology spokesperson after Star Trek, instead of becoming a spokesperson for margarine! Actually the VIC-20 wasn't connected to the monitor in the photos of us together because to get a clean screen image we had to do a different type of video feed to the monitor to avoid scan lines. I hold the distinction of being the first person to actually show Bill Shatner a real computer because the Star Trek TV series computers were fake. Also, Bill was so impressed by how we described home computing that he wanted a system so we gave him a CBM computer system and I believe that's what he used to write his first scripts and novels. We had a CBM delivered to his home with someone to show him how to use the software.

I hold the distinction of being the first person to actually show Shatner a real computer because the Star Trek TV series computers were fake.

Two years ago I asked Bill's assistant if he would autograph a photo of him and me and Bill invited

me to send several photos – he signed three. I kept one for my wall, sold one, and am keeping one for the future.

A couple of months ago I sent a message telling Bill that I'm dedicating my new innovation book to him and included the dedication page. He sent me an email back that began "Thank you for your excellence!" That was very touching. I am totally blown away by how "fan-friendly" Bill has remained over the decades, and he even made a trip to the edge of space. He feels obligated to keep promoting space travel and also promotes green energy and climate control which he feels are not incompatible. I feel a similar obligation to keep innovating and I'm still pioneering new technologies because it's an obligation, I think.

TFTC: While working for Metacolor, I read the company used "NASA space technology to do special effects for motion pictures", like Logan's Run. Can you elaborate on that and talk about which effects you worked on?

Tomczyk: NASA apparently had a piece of surplus gear called a Quantizer that converts black and white images to color and can layer colors, which the founder of Metacolor adapted to create creative graphics for movies and games.





The C64 Community Today

TFTC: The C64 has a vibrant community of enthusiasts who update the system with mods like USB ports and Raspberry Pi based floppy emulators. Do you keep an eye on how your computers are being used today?

Tomczyk: I am the co-moderator (with Dave McMurthie) of the International Commodore Historical Society on Facebook and also associated with VIGAMUS the Videogame Museum in Rome. I stay connected with several retro-computing groups and collectors, and I try to make items available now and then from my own collection, to preserve and archive them.

The VIC Modem

TFTC: You helped develop the first modem to sell over a million units. How would you describe the pre-internet CompuServe experience to younger readers who really only know the internet as it is today?

Tomczyk: In 1981 we were getting swamped by customer service calls, mostly from users, so I thought if we could connect user groups on CompuServe, AOL, or the Source (the first telecomputing services which were like pre-Internet communities) then users could help each other. Our engineers were too busy to design a modem so I contracted a small industrial modem company and told them it had to cost less than \$33 so we could retail it for \$99. The key was to make it affordable just like we made the VIC-20 affordable.

One night I came back from a convention in Las Vegas and the engineers were sitting in front of my hotel room door. It was past midnight. “We can’t get it under \$33” they said. They showed me a drawing of an acoustic modem. “Why can’t we do a direct connect modem and put it on a large plus in cartridge, like a video game cartridge?” I sketched something on a notepad. They kind of screamed “Eureka!” and scrambled down the hall like a bunch of meerkats. The result is the Commodore VICModem – first modem priced under \$100, first to sell 1 million units. Then I negotiated free computing time which totaled almost \$200 in free service, and put a sticker on the box advertising that. I also trademarked the phrase “The Friendly Computer” and put it on boxes, in ads and on a poster I asked an artist to design. I still have that poster and made a few copies for collectors which have been very popular.

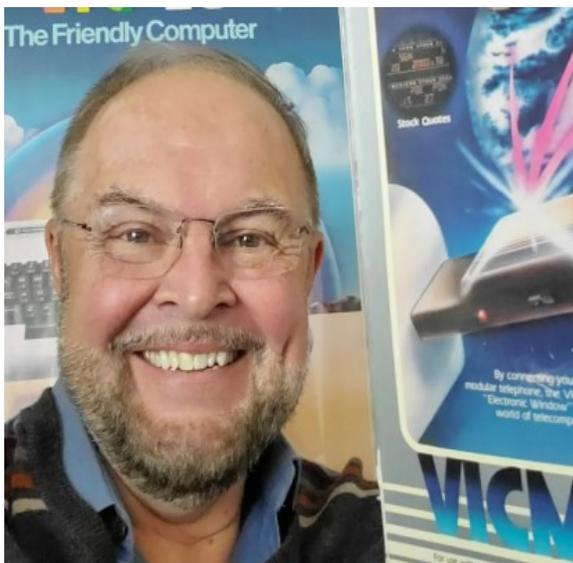
I sketched something on a notepad... the Commodore VIC Modem – first modem priced under \$100, first to sell 1 million units.

Commodore For Learning Programming

TFTC: When it comes to learning programming, do you think that the VIC-20 with BASIC so central to its operation is still a viable tool for introducing programming to young learners?

Tomczyk: Today I think it's interesting that so many retro-computing fans keep working with vintage Commodore computers. While programming was essential to operating the first home computers, software has evolved so far that we now have user interfaces that do not require programming, per se. Today most apps are written with development apps and tools rather than programmed from scratch.

Of course, we still use spreadsheets and word processors and those are pretty much unchanged except now our data and files are portable thanks to the Cloud and wireless telecom. My smartphone is my favorite device and I use it for everything I used to do on my laptop.



Michael Tomczyk—Futurist

TFTC: You are also known for being a futurist, where do you see technology going?

Tomczyk: I talk about emerging technologies that are giving us the powers that used to be reserved for gods, in my new book, which I just completed.

I think we've gone FAR beyond home computing and computing as it was originally developed, in

standalone devices. We are now in the era of convergence. The cloud has made the Internet a computing base. The Internet of Things links devices with computing. Elon Musk is developing Neuralink to integrate computers with the human brain. Humanoid robots exist today and they are being designed to look and talk like real people. We have so much bandwidth and speed now that we have handheld devices that can translate dozens of languages like devices we used to see in science fiction movies. Autonomous vehicles are actually robot vehicles with computers connected to the Cloud that can navigate virtually anywhere and adapt to a variety of situations. Nanotechnology allows us to use atoms and molecules like LEGO building blocks – I wrote a book on Nanotech in 2015, "NanoInnovation: What Every Manager Needs to Know," published by Wiley VCH. Computers have also allowed us to map the Human Genome and carried us to a point where we can now edit genes to cure disease.

Our cell phones have morphed into futuristic devices. We use our phones to take pictures more than we use cameras. Who would have predicted or guessed that would happen? We are all videographers now, and we are all cartoonists, using emojis and bitmojis. There is more computing power in our phones than supercomputers had a couple of decades ago.

Recently at my Vintage Computing Festival presentation, I held up a tiny jump drive on my keychain that is half an inch long and holds a TERABYTE of data! I joked that if you swallowed this little jump drive by accident, you could choke on a Terabyte. That's a scary thought.

Tomczyk on Current Apps

TFTC: Which computer apps impress you the most today?

Tomczyk: I'm totally impressed by how easily my wife and her friends create videos with special effects using all kinds of apps like Tiktok,

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Boomerang, Bitmoji and others. There are apps that allow anyone to create emojis, videos, boomerangs, animations and more. I think the personal computer era was driven by programs and today's devices are driven by apps. Even state of the art CGI used in movies and games is mostly automated.

Nanocircuits in semiconductors and parallel architectures in the last two decades enabled broadband speed, and pattern matching that were needed to create natural language translators, CGI systems used in movies, Cloud computing apps, built-in smartphone functions, flying drones, and more.

My favorite all-time video game is Call of Duty. Call of Duty popularized the concept of massively online multiplayer gameplay, and has always been incredibly realistic, it's like being inside a movie. Lots of people play games on their smartphones. Mobile games are a \$15 billion industry.

TFTC: What technology trends are catching your attention right now?

In the past year, the COVID pandemic has created a variety of digital transformations. Many innovations such as mobile money and digital banking (which I'm involved in) are being driven by the need to avoid handling physical cash. Advanced technologies like crypto currency and blockchain record keeping are accelerating the evolution of the "cashless society." In many countries, entire banking systems are being "re-architected" to allow digital banking.

When I was guiding the development of the first home computers, I always thought it was ironic that I was basically a literature major/journalist from Oshkosh, Wisconsin, who became a home computer pioneer. Today I'm a co-founder of a Fintech startup that will serve global markets in many countries, and a year ago I was barely conversant in Fintech terminology. Innovators don't have to be experts in the technologies they

develop, but they have to be fast learners and able to recognize emerging opportunities. It helps to be a strategic thinker also, since virtually all disruptive innovations were based on creative new strategies as well as new technologies.

In terms of opportunities for innovators, there is still a lot of room for radical innovation, although it's difficult for hobbyists working in a dorm room or garage to develop technological breakthroughs like Jobs and Wozniak, because most innovations today are not standalone devices but are complex systems that involve several technologies. Convergence is a huge innovation driver, which means a world class innovator needs to understand several different technologies and figure out new ways to integrate them into something new and different.

In terms of my favorite emerging technologies, I like smart devices that are still evolving, as well as cognitive computers, brain-machine interfaces, drones, gene editing, nano-innovations and creative ways to extend the human lifespan. Humanoid robots are also interesting although they are still searching for a killer app to make them relevant. Space technology is a field that will grow exponentially in the next two decades since a lot of innovations will be needed to get the first humans to Mars and establish sustainable colonies. Global climate change will require innovations in geo-engineering, to save coastal cities from rising sea levels and we also need better ways to save rainforests, prevent CO2 levels from skyrocketing, preserve ocean reef systems and more. The future is still a great place to live in.

Fintech Corporation IPO

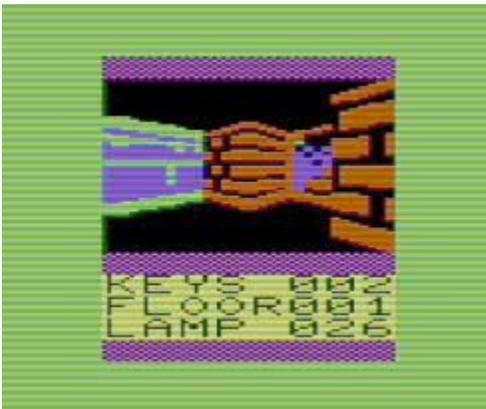
TFTC: You have said you adopted Jack's mantra, to "live in the future?" and you use that phrase to justify your lifelong involvement in emerging technologies. What are you doing now in that space?

Tomczyk: Today I am on the senior management team and a founding member of the board of directors of Fintech Ecosystem Development Corporation. On 19 October 2021, we went public with an IPO and NASDAQ listing (stock symbol: FEXDU). We are bringing a variety of innovations to emerging economies such as Bangladesh, Malaysia, Brazil, etc. as well as to the U.S. and other industrialized markets. This venture involves a great deal of radical innovation, multitasking, negotiation, and business-building—which are my strong points I think.

Our Fintech venture went public on 19 October 2021 with a \$100 million IPO and NASDAQ listing. (stock symbol: FEXDU)

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I believe that if you're blessed with the skill sets to be able to make an impact on the world, you are obligated to keep doing that, your entire life. We have to keep giving people in all countries access to emerging technologies, and it's important to create "ecosystems" that provide technologies, platforms, applications and solutions that help advance civilization. Also, it's great fun!



The Commodore PC Line

by Guest Contributor

Michael Tomczyk of CBM

Commodore began development of their line of PC clones in 1984 near the peak of their success in the home computer market. The C64 was selling like gangbusters and Commodore didn't have compelling motivation to break into the PC clone market. In fact, their 1985 strategic plan called their entry into the field "an opportunistic marketing ploy".

Commodore's first PC clones were their PC10 and PC20 models which hit the market in April, 1985. The PC10 and PC20 were 8088-based PC XT clones produced in Commodore's Braunschweig, West Germany plant. These machines were sold through Commodore's dealer network mainly in Europe.

In 1988 Commodore released the Commodore Colt which was a PC10-III with a new name solely for marketing purposes. The Colt was to be sold through mass-market retailers instead of just dealers.

...I have had sitting [a Colt] in my basement for at least 20 years and never really paid much attention to. I finally took it out of storage and gave it some love. The leaking Varta has been removed. The battery acid was neutralized and the

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PCB cleaned with alcohol. I disassembled and cleaned the keyboard. I added an xt-ide card from <http://www.glitchwrks.com/xt-ide> which will allow me to install a hard drive since the Colt did not natively ship with a hard drive back in the day. Unfortunately I ordered the wrong ide->cf card so this won't be completely finished until that arrives.

Factoid: At one point Commodore was the largest manufacturer of PC clones in Europe.



HOW MANY SX64'S?

by Dick Estel

Recently I stumbled across a listing of an SX64 for sale, which included this dubious claim:

“FOR SALE: Rare Commodore SX-64 in near mint condition. Less than 1,000 Commodore SX-64 computers were produced worldwide, and not many survived in like new condition. Most Commodore SX-64 computers have missing parts, are broken, or just do not work. So, it is extremely rare to find one in this nice condition.”

I asked Robert Bernardo if he knew how many SX64s were produced, but he did not know. Wikipedia provides this somewhat ambiguous information:

"The exact number of SX-64s sold from 1984 to

1986, when it was discontinued, is unknown. The serial numbers of over 130 SX-64s from series GA1, GA2, GA4, GA5 and GA6, with serial numbers ranging over 49,000 for series GA1, 1,000 for GA2, 17,000 for GA4, 11,000 for GA5, and 7,000 for GA6 have been reported."

The “for sale” listing has links to eight other SX64s available for purchase, at prices ranging from \$250 to \$1,500.

Another web site questions a claim of 9,000 units and says that 30,000 to 89,000 is more likely. “Commodore SX 64 production number is only 9,000” says [the current German Wikipedia entry](#). Authoritative numbers are not available, but there are signs that SX64s are not very rare:

1. Other sources about the production numbers put it more on the 30,000 numbers scale.
2. SX64s are the 2nd most frequent computers on my Ebay list, 2nd only to PET 2001s and more frequent than even a QL.
3. This [SX64 serial number database](#) does implicitly suggest that there have been five different batches made, with a total production number of about 89,000 units!”

I think the "fewer than 1,000" claim is just the usual advertising hyperbole, although the serial numbers are probably not an accurate method of accounting. Even though it was not a big seller, we (FCUG) have probably been aware of about 100 units owned by members or known to be owned by others. It's hard to believe that this was 10% of the total number.

If you have any information on this subject, please communicate via email to info@dickestel.com.

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Sale listing:

<https://www.shoppok.com/portland/a,32,197029,Rare-Commodore-SX-64.htm>

Wikipedia:

https://en.wikipedia.org/wiki/Commodore_SX-64

A good argument for larger production numbers:

<https://randoc.wordpress.com/category/uncategorized/page/4/>

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Our disk library contains over 3,000 public domain programs for the C64 and C128. Members are entitled to copies of these disks at no cost if a blank disk is provided. We do not deal with pirated, copyrighted, violent, or obscene programs. Please call our attention to any programs found in our library which may violate these standards.

-The Small Print-

The Fresno Commodore User Group is a club whose members share an interest in Commodore 8-bit and Amiga computers. Our mailing address is 185 W. Pilgrim Lane, Clovis, CA 93612. We meet monthly in the meeting room of Panera Bread, 3590 West Shaw, Fresno, CA. The meetings generally include demonstrations, discussion, and individual help.

Dues are \$12 for 12 months. New members receive a “New Member Disk” containing a number of useful Commodore 8-bit utilities. Members receive a subscription to The Interface newsletter, access to the public domain disk library, technical assistance, and reduced prices on selected software/hardware.

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