

ColecoNation

THE BLUE SCREEN

Being "cool" for a day.
by Nathan Kozlowski



The Arcade Machines



The Pinball Machines



The Main Floor



AtariAge's Set-Up

We all like to be understood from time to time, but when it comes to our classic gaming interests we seem to rarely find people that "get" us. Sure, there's people on the forums and at websites, but it always seems that our day-to-day acquaintances fail to grasp why we still play games on the old systems. No need to fret, because that's where the conventions come in. I've never attended a classic gaming expo before this year, however (since attending the Midwest Gaming Classic) I've been intently planning my next event.

The Midwest Gaming Classic was held during the first weekend of June (3rd and 4th) just outside of Milwaukee, Wisconsin. I took a day trip up to the expo to see what it was all about and to see if I could find any ColecoVision deals. The show was set up in two large convention rooms.

The first room was where all the vendors, arcade games, and pinball machines were set up. It was also where the pinball competition was being held. There was a great collection of arcade and pinball games to play on. While most of the arcade games were a little too modern for my taste, I was able to play some rounds of Donkey Kong and Tutankham. There was enough machines available at the expo to allow anyone to play a game without having too long of a wait.

There was also a decent amount of vendors present at the show. A dozen or so video game dealers had booths, while about the same amount of dealers were there representing the pinball enthusiasts. Most of the prominent, on-line classic video game dealers were there as well as two homebrew dealers, AtariAge and Packrat Video Games. Video Game Collector was also present and had all the issues of their magazine for sale.

In regards to the ColecoVision, around five vendors had loose game cartridges for sale at the show and they weren't all commons either. Rarer games could be found at most of the booths, including the Brazilian, SpliceVision version of Looping (titled Spitfire). AtariAge had all their ColecoVision games for sale, as well their debut of Cosmo Fighter 2 and 3.

The second room was where people went to play games on a wide range of systems. Consoles were set up either in the main room or in the museum. This allowed the visitors to test out their favorites or ones they've never played on before. JagFest was also held in this area and allowed Jaguar fans to meet with each and play the latest (and greatest) games for the system.

The museum had a wide array of video game oddities and nearby was the lecture room. I wasn't able to check out any of the convention's speakers and it was a shame that they were removed from the action of the main conference room. It would have been nice to hear what was being presented while still being able to walk through the retail booths and arcade games.

While all the video gaming hoop-la was great, what made the expo truly worthwhile was the people that I met. It was great to finally put a face and voice to Albert of AtariAge and Shawn of Video Game Collector. You can trade emails with someone for months, but it seems that you can never truly get to know the person until you meet them face-to-face.

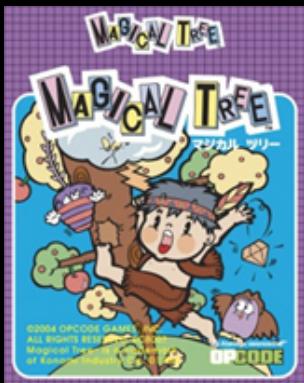
It was also great to meet up with others who shared my interest in classic gaming. These were people who understood what I was talking about and had their own stories to tell about what it meant to play and collect classic games. Most of what was for sale at the show could be found on the internet, but it's this opportunity of interaction that adds the most value in attending a convention.

I plan to return to the Midwest Gaming Classic next year and at least another one hopefully before then. If you can make it happen, I strongly suggest that you attend one of the upcoming conventions. You won't be disappointed. [\[02\]](#)

ColecoNation

THIS JUST IN...

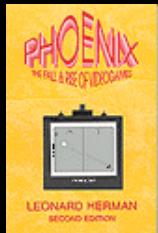
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IN PRINT

Phoenix: The Fall & Rise of Videogames
by Nathan Kozlowski

author: Leonard Herman
published: Second Edition [1997]



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The Return of Maze Maniac? www.mazemaniac.com

Rumor has it that additional copies of Maze Maniac will soon be produced. We weren't able to verify this information at the time of publication, but stay tuned for further developments.

AtariAge Announcements www.atariage.com

Cosmo Fighter 2 and 3 both made their AtariAge debuts on June 3rd at the Midwest Gaming Classic. Marcel de Kogel's space shoot-em ups come with the cartridge and a box and are now available at their online store. While visiting them online, you'll also notice that they now have a whole bunch of loose ColecoVision carts for you to peruse. Have fun, but remember to save some money for the groceries.

Good Deal Games Goings-Ons www.gooddealgames.com

Good Deal Games will also soon be including boxes with the purchase of Cosmo Fighter 2 and 3 (the same ones as AtariAge). Also, if you already bought a copy of either of the games from them, they'll be happy to send you its box free of charge (except for the shipping). Good Deal Games is also planning the release of three new ColecoVision games. One is completely finished and in the manufacturing phase. Another is almost finished with the programming and the third is about halfway through the development cycle. You can bet we'll be reporting on any developments with these games the second we hear of them.

Opcode Games Odds and Ends www.atariage.com nwcge.org

All of Opcode Games titles are now back in stock, including the much-anticipated Magical Tree. This newest title, as well as its elder siblings; Space Invaders Collection, Sky Jaguar, and Yie Ar Kung-Fu, can be found online from both AtariAge and the NorthWest Classic Gaming Enthusiasts. Be sure to pick up Space Invaders Collection, because this will be the last batch that you'll see of them for a while.

Phoenix, initially released by Leonard Herman in 1994 and followed up by a couple of updates, is considered by many to be the definitive history of the video game industry. While I've never read another history book on video games, I can't argue with the statement. The author not only seems to have a strong knowledge of the multitude of video games and systems that were released over the years, but he also shows an understanding of the behind-the-scenes events that occurred with every company that chose to enter the ring.

Moving in chronological order, Leonard Herman starts us at the very beginning with the earliest of computers and brings us through to the mid 1990's. Along the way he writes about the ColecoVision, of course, and its his coverage of our favorite system that I'll be commenting on. A good portion of Phoenix is dedicated to Coleco and its history with electronic games. The company's heavyweights, such as; the Pong units, the head-to-head handhelds, and the table top arcades are all mentioned. However, the ColecoVision gets most of the press. The author writes in detail about Coleco's battles with Atari, in the stores and in the courtrooms, and he carefully documents the major milestones of the ColecoVision, its games, and its accessories. The ADAM also gets its due and the errors of that product are once again relived. Coleco's story is well represented in the book, but unfortunately the companies that inherited the ColecoVision are not. Official information on Telegames and what they did with the license would have been greatly appreciated. The book covers other companies' falls and rebounds and more needs to be told of the ColecoVision's post-Coleco life.

Phoenix is strongly recommended for the classic gaming fan and one hopes that a new, updated version will be published soon. Much has happened since 1996 and a fourth edition will allow more people (especially those newer to the hobby) to get their hands on this hard to find, out of print book. [\[03\]](#)

ColecoNation

COLECO CHAT

Paul Jaquays

by Nathan Kozlowski

Paul Jaquays' Website

www.jaquays.com/paul



Table Top Pac-Man [Coleco]

There's a good chance that Paul Jaquays worked in Coleco's ARD Group longer than anyone else. From 1980 to 1985, Paul climbed his way up the Game Design corporate ladder while working on products, such as; Table Top Arcades, the ColecoVision, and the ADAM. Still working in the video game industry for Microsoft Games Studios, he was kind enough to respond to our long list of questions.

Nathan Kozlowski_ Could you talk some about your beginnings at Coleco?

Paul Jaquays_ My tenure at Coleco began in late 1980 through a chain of related events. At the time, I was working as a freelance artist and adventure game designer. Most of my clients were role-playing game companies and I attended game conventions to make new contacts with potential employers and meet fellow peers. At one of these, I struck up a friendship with Michael Stackpole, a would-be novelist who was writing game adventures for the Tunnels & Trolls role-playing game. A few weeks later Mike called me. He had secured a temporary contract working as a game designer for Coleco in Hartford and they needed another designer who could do the same thing. In short order, I flew out to Connecticut from Michigan, interviewed with the ARD (Advanced Research & Development) director Eric Bromley, was offered a 15 week contract, and was surprised that they were surprised when I told them I wasn't prepared to start work then and there. I flew back to Jackson, Michigan, proposed to my girlfriend, repacked my bags and almost immediately turned around and flew back to Connecticut. I started work in ARD in early December of 1980. My initial reaction was that they were offering me a lot of money (only by comparison to the pitiful amount I was making freelance). The money, combined with the opportunity to work with a relatively "big-time" client convinced me to take the job. When I was offered a full time position with the company, I had the title of "Game Designer."

NK_ What were some of the first projects you started to work on?

PJ_ Mike and I were specifically brought in to develop a simple role-playing game for a toy that combined speech chip technology and a bar code reader (both of which were relatively new technologies in 1980). The player fed large cards (about the size of computer punch cards) through a scanner bed which read the simple bar code and output a scary synthesized voice. We made a bunch of game prototypes for this device which ultimately went nowhere. At the end of our contracts, Mike and I were offered jobs as game designers. I took the job and stayed at Coleco. Mike declined in order to pursue a career as a writer. For the next year, we kept ourselves busy by developing Table Top Pac-Man, the first of the table top arcade games. That time period also saw the decline of ARD. One of the constants at Coleco throughout my time there was internal political strife. My boss, Eric Bromley, had a rivalry going with the head of the Engineering department. Not long after I was hired, ARD lost one of those battles and our department transferred all but one of our technical people to Engineering.

NK_ How involved were you with the design of the ColecoVision?

PK_ I had next to no involvement in the initial design of ColecoVision. My contributions would come later. I remember my friend Jay Belsky working with another engineer from another department to put together a spec for a game machine built out of essentially off-the-shelf electronic parts. I only remember the other Engineer's first name, because Jay used to refer to their presentations as the "Jay and Bob Show." The first games that I worked on were Donkey Kong and Smurf. Before the Toy Fair of 1982, ARD was still a very small operation. Other than me, our team had no artists and no one else had the title of "game designer." Jay Belsky and I played Donkey Kong endlessly to analyze gameplay, diagram the play fields, and spec out character and enemy behavior. Initially, this research was put to use as the design specs for Table Top Donkey Kong, for which I created the art used for the vacuum display tube. I also did the first pass on the pixel art that was used for the Toy Fair demo of Donkey Kong and did an initial design of the Smurf character. All this was done without really understanding what the TI graphics chip could do. Our art was on graph paper. [04]



Smurf: Rescue In Gargamel's Castle [Coleco]



Mouse Trap [Coleco]

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COLECO CHAT

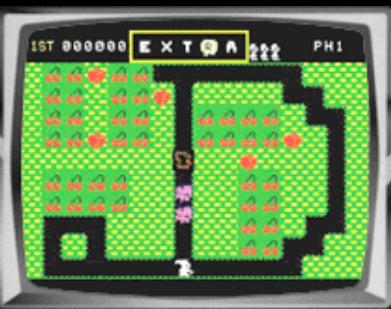
Paul Jaquays [continued...]



Lady Bug [Coleco]



Gorf [Coleco]



Mr. Do! [Coleco]

NK_ What were your impressions of the ColecoVision?

PJ_ I thought the idea was very cool and looked superior to what was being done on the Atari 2600 and the Intellivision. The original name for the console was a bit lame though. The first packaging we saw called it the Coleco "SuperVision" console. The idea of doing arcade games was probably a good marketing idea and played off our success with the Table Top Arcades. However, it was also disappointing that we weren't doing original games. And on top of that, most of the arcades conversions that we did were second-tier games. Not that they weren't ultimately good games for the ColecoVision, just that most weren't high profile arcade games. Other than the two Donkey Kong titles, they weren't games you saw in your local arcade (we'd pick up a few of those again later on). Instead of Pac-Man, we got Mousetrap and Ladybug. Instead of Galaxians, we got Gorf. Instead of Dig Dug, we got Mr. Do! When we did get to do something original, it was often hamstrung by licensing restrictions that affected how video game characters could be displayed and behave. The owners of the Smurfs objected to the blue color that ColecoVision could create, it wasn't exactly "Smurfy." The play structure of Tarzan was defined by the insistence of Edgar Rice Burrough's widow that Tarzan could never die.

I found the controllers to be clunky and inappropriate for children's hands. They were large, much larger than the Intellivision controllers, and were both confusing and uncomfortable to use. I think they were controllers designed by a committee. Probably the worst thing about them was that joystick. It was confusing. Many people thought you were supposed to turn it like a dial and the large diameter of it actually made it easy to twist in that manner. Later on I replaced the sticks on my own controllers with a longer after-market part. I think the knob-like top of the stick may have originally been intended to look like the round knobs on arcades, but was cost-reduced down to the final version.

In retrospect, I'm surprised that Coleco didn't shut us down when they discovered that the cartridges would be much more expensive to produce than Atari carts. I remember hearing that the initial pricing for the system had been based on the tiny 4K ROM parts used by the Atari 2600. They assumed the ColecoVision could do the same. Because Atari generated its images based on algorithms and timing calculations (and did not store pixel art in image tables as the TI chip required), the company apparently missed the fact that those image tables required a lot of chip real estate. I think that for the original release of the system, Donkey Kong may still have been housed in 24K of ROM. They quickly got it down to 16K and then contracted an outside firm (Nice Ideas) to rewrite the code in machine language and get it all onto a single 8K part.

NK_ Over the years at Coleco, how did your job change?

PJ_ Initially, I was hired as a freelance contractor to design and develop electronic games. My group came up with ideas for game products or developed games that could use technology that came in from outside toy designers. We focused on the design and playability of the product, not the production or manufacturing side of it. When ColecoVision came along, my responsibilities shifted drastically. I moved from hands-on design to supervision and creative direction of the game design and game art groups, recruiting both the art and design staff. I worked with our human resources department to find people who would be part of one of the first real game development teams (up until this point, many video games were the product of one guy who did everything from game design, to audio, and programming).

I was promoted to Manager of Game Design, then Chief Game Designer. Eventually I became Director of Game Design, though it was probably a case of title inflation. My hands on work with the product was limited to guidance, design document review, and product approvals with an occasional development project to oversee directly. Eventually, I had the unpleasant task of designating which of my staff would go in the first round of layoffs and those that would be whittled away on a week-by-week basis as our projects wound down. [\[05\]](#)

ColecoNation

COLECO CHAT

Paul Jaquays [continued...]



Tarzan [Coleco]

NK_ What was it like working at Coleco?

PJ_ In the beginning, we worked in cramped offices in the basement of Coleco's Asylum Street offices in Hartford. We had a tiny little window that looked up at the parking lot and a pet spider (named Rinky Dinky). As my boss's standing in the company shifted, we moved to a even more cramped space elsewhere in the basement, then into cubicle style offices where we developed ColecoVision cartridges, and then again into our sprawling, new Coleco offices out in West Hartford (an old school completely remodeled into an office complex). In fact, the space next to my office was the old school safe. It had been too expensive to demolish during the remodeling, it was left intact. Eventually the arcade games found their way into that space.

I always felt that I had put together one of those "best and brightest" sort of teams. For the most part we all got along well. The designers all had similar backgrounds and most knew each other already. After hours, a lot of us would get together to play role-playing games like Dungeons & Dragons and Runequest at each other's places.

Unfortunately, the fun times were balanced by working for managers who were not particularly good at managing people or projects. For a job that was supposed to be about making fun, there was far too much handling of personnel and contractors by means of intimidation and humiliation. I lost at least two extremely talented and creative designers because one of my bosses decided he didn't like them and essentially made their lives unpleasant until they resigned.

NK_ Who were some of the people that you regularly worked with at Coleco?

PJ_ Eric Bromley was the director of ARD and who hired me. His core crew was mostly engineers and technicians who had worked with him to design the successful electronic hand-held electronic sports games that Coleco made prior to ColecoVision. Our original group included Tom Helmer (my direct supervisor), John Long (a technical writer), Jay Belsky (an ingenious engineer/programmer/game designer), Mike Stackpole, and me. When development of ColecoVision got rolling in early 1982, we grew the team like gangbusters, eventually peaking at over 140 people with nearly all of the original crew gone by then.

Mike Stackpole went back to Arizona. John Long was replaced by Michelle van Schouwen. Tom and Jay both departed not long after the ColecoVision game development got rolling. To fill our desperate need for game designers who could analyze and document the rules and play of the arcade games, the company contracted the services of Dave Arneson (the co-creator of Dungeons & Dragons) and a couple of people who worked for his Minnesota-based role playing game company. They filled the gap while I went looking for designers who could work with us on staff.

The first of these was Lawrence J. Schick, who had been a vice president at TSR. Kevin Hendryx, another ex-TSR designer was next. He was followed by Tom Fulton and Dr. B. Dennis Sustare. Dennis became my right hand man and we worked together again elsewhere for about a year after Coleco showed us the door. This crew grew as the demand for games outstripped our ability to produce them in house. Over the next couple years, Phil Taterczynski, Michael P. Price, John Butterfield, Joe Angiolillo, Arnold Hendrick, Dave Ritchie and Ken Totten would join the design team.

The Art team was even more varied. Given that none had ever created pixel art before, what they produced for ColecoVision was exceptional. First on board was artists Chuck Lockhart, Robin Lockwood, and Mark Painter. The "New Yorkers" arrived soon thereafter, another Robin (Hebb?), Dave Johnson, Frank Lam, Jesse Kapili, and our animator Juan Sanchez. Some time later, local artist Deborah Lazarus would round out the team. This team remained together until the first of the late 1984 layoffs. [06]

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ColecoNation

COLECO CHAT

Paul Jaquays [continued...]



Turbo [Coleco]



Pepper II [Coleco]



Carnival [Coleco]

I remember fewer of the programmers names, simply because they weren't as much a part of my day to day life at work as the artists, writers, and designers. First and foremost is Zachary Smith, the programmer who (if memory serves) wrote the ColecoVision's operating system and programmed Donkey Kong. After that, in no particular order: Michael Dougherty, David Schultz (sp?), Leo Gray, Rob Jepson, Rob Harris (later a designer), and Au Nuygen. Ken Legace was our first audio programmer, later joined by Roland Rizzo and another guy.

Outside of Coleco, I remember the names of a few of our developers: Innoventions (Rocky Boxing, WarGames, and Smurf Paint & Play), Nuvatech (Turbo, Lady Bug and others), 4D (Zaxxon, Pepper II, and many others) who was our best and most prolific developer, the Kitchen Brothers (Steve, Gary and Dan), and Nice Ideas.

NK_ What parts of a game's design process were you involved in?

PJ_ Initially, I was part of the "describe and document" phase and worked with the developers. Later on, I recruited and supervised the designers and artists, reviewed and approved design documents, and had creative direction over the implementation of the entire internally developed non-educational product line. Eventually, the art group spun off under Dave Johnson and the writers under Mary Guth.

NK_ In general, how were the arcade games translated to the ColecoVision?

PJ_ Senior management would let us know what titles they had licensed and arcade games would show up in our offices. There would be no original design documentation or source code included. I would assign a designer who would handle each title across all the targeted platforms. The designer, an artist, and perhaps one of the tech writers would play the heck out of the game to understand it and determine what elements made it a successful game. The designer would work with the artist to create a layout for the screen that adapted the usually vertically-formatted arcade game on to a horizontally formatted TV screen. They would also determine which graphic mode was needed. The goal was to try and make games work in the least RAM and ROM intensive mode that still captured the look of the game. While the designer described and documented all the game play content and action (these documents could be thick), the artist(s) drew on graph paper everything that would appear in the game. They would lay out full screens on specially created large format full-screen sheets and characters and objects on smaller sheets. All of this graphic and written documentation and the arcade game were turned over to the programming team. I'm pretty sure that the programmers used our art (which all had to be hand-coded into the game as hexadecimal numbers) and I'm equally sure that our carefully documented analyses of the games were used mostly to keep coffee cups from staining desk tops. Some months later, we would start seeing EPROMs for games in development and would review and test them. Because we had no way to really test graphics in-game until much later, complicated projects could require several passes to get it right. "Get it right the third time" became one of the catch phrases in the art room. From assignment to turnover to manufacturing, it typically took nine months to get a game out the door.

NK_ Typically, how many worked on a game?

PJ_ One designer typically analyzed, designed, documented, and handled the relationships with the various programming teams for all versions of each game we developed. One to three artists (depending on the complexity of the project) would be assigned to each project. An audio designer (programmers who were all concert musicians) would be assigned to create the sound effects and music. Every in-house programmed game often had one to three programmers assigned to it. Each project would have a project manager assigned to it to track schedules, contracts, due dates, money and so on. A technical writer from our writing group would write the game manual. And of course, all of us managers had our hands on things too. So that would include a design director (me), art department director (Dave Johnson), lead writer (Mary Guth Fulton), head of programming (variously Rob Schenck, David Hwang, George Kiss), and of course, whomever was in charge of the department at the time (Eric Bromley, George Kiss, or Charlie Winterble). [\[07\]](#)

ColecoNation

COLECO CHAT

Paul Jaquays [continued...]



ColecoVision Donkey Kong [Coleco]



Atari 2600 Donkey Kong [Coleco]



Intellivision Donkey Kong [Coleco]

NK_ How much interaction was there between the groups with game design?

PJ_ All the groups were part of ARD (Advanced Research & Development, later known as Electronic Development Group). We worked in parallel wherever possible. Because much of programming went out of house, programmers were often not in the loop except where we consulted with our internal staff while developing the documentation. Art, Design and the Technical writing group seemed to have one of the best inter-group relationships.

NK_ How much of the game programming was done by other developers?

PJ_ All the design for Coleco games was done by our in-house game design team. With very few exceptions, we also did the pixel art design for all the ColecoVision and ADAM games. Developers working on non-Coleco platforms were given color copies of the ColecoVision art designs and documentation. Programming was a different matter. After the first round of ColecoVision titles, nearly all our ColecoVision and ADAM titles were sent outside, as well as all of our Intellivision titles and all but perhaps one or two of the Atari 2600 titles (Rob Harris was the only in-house 2600 coder). Hiring third-party developers allowed us to get a lot of product in the pipeline quickly without having to grow the in-house staff larger than needed. We maintained this workflow throughout the ColecoVision and ADAM product cycle. As I recall it, the in-house programmers did the operating systems and infrastructure for the ColecoVision and the potential peripherals, in addition to the games. They also provided support for the external teams. The research and development of the ADAM ended up consuming most of the programming team eventually.

NK_ Once a game was finished, who tested the game?

PJ_ We had a small, internal test group under David Hwang. My brother Bruce was part of that team. Their method was to repetitively play the game and video tape play sessions. Anomalies would be reported with a time-stamp position on the tape for later review. The team had nothing in the way of error-trapping or debugging software. In addition to checking for errors, the testers would evaluate game difficulty. We set the highest difficulty rating (4) of WarGames by establishing what our best tester could achieve and then tweaking it to be just a bit more challenging, based on the assumption that a younger player would have better reflexes.

NK_ How do you think Coleco differed in operation from the competition?

PJ_ I've no real idea. Trade secret paranoia pretty much kept us isolated from other developers and publishers. Coleco never wanted our names to be associated with game product. Perhaps it was to keep people focused on the brand (not the people who made it), but it was just as likely to keep our identities a secret from other publishers. We had no real clue who worked at the other companies. We occasionally worked with developers who had worked for those other publishers, but they gave no particular insight into their working methods.

NK_ Did Coleco purposely make the VCS/Intellivision versions bad so that the ColecoVision's version would look even better?

PJ_ There was no conspiracy to make the games on the other systems be of poorer quality. Coleco wanted all the versions of their licensed arcade titles to be successful. The Intellivision had a large installed base and the Atari 2600 had a gargantuan one. Coleco wanted to sell every one of these game console owners a copy of every game title. I think Coleco's marketing believed that the mere mention of arcade titles would instantly sell any cartridge linked to them.

We worked with our developers to make every game as good as we possibly could. When you create original games for a game system, you design with a mind toward maximizing the strengths and minimizing or working around the system's weaknesses. The Atari 2600 and Intellivision both had fun games that did this and pushed the envelope of what the systems could do. But when you convert an arcade title to work on those same systems, you don't have that option. Attempting to reasonably mimic game play and graphics on the ColecoVision was challenging. Trying to make the same design work on two other systems was maddening. [\[08\]](#)

ColecoNation

COLECO CHAT

Paul Jaquays [continued...]



Spy Hunter [Coleco]



2010: The Graphic Action Game [Coleco]



BurgerTime [Coleco]

In those days game system manufacturers did not encourage development by others. Everything had to be reverse engineered. The Atari 2600's timing based graphics and play could do things we couldn't easily simulate in ColecoVision (like creating rainbows of color), but often came up short when depicting the complex animated characters found in arcades. Intellivision projects were universally considered nightmare projects. The graphic tile sets were massive and clunky. That we got all but the most basic games working seems amazing to me now.

NK_ What were some of your favorite ColecoVision games?

PK_ Lady Bug was one of my early favorites. We were actually able to add some depth that wasn't in the original game. I'm still proud of WarGames and Carnival. I thought our version of Spy Hunter captured the essence of the game and the action-puzzle game, 2010, came out nicely. I also like what we did with BurgerTime, a project we acquired already in development when Mattel canceled it (we upgraded the graphics to better reflect and even improve on the original).

Sadly, we did have games that didn't do what we had hoped. Dukes of Hazard was a license we were stuck with and did what we could with it. I thought Turbo failed to properly simulate the original. Our bosses had dreams of it being like the Atari Night Driver game with its smooth, scrolling roadway and undulating highway curves. The game Victory was shipped broken. Somewhere between when the designer signed off on the game and when it was manufactured, the EPROMs containing the code had become corrupted. The game still operated, but just barely and not like it was supposed to. Coleco management chose to ship the monstrosity, rather than repair it. Finally, there was Destructor. The boss's original vision for the game was one that combined top down driving with a Turbo-like view going through tunnels. He had a general vision, but no real design. So working with an in-house programmer, we prototyped the game and messed with it until we had this game with a massive top-down view scrolling map and the current gameplay. Unfortunately, whoever was in charge of making bad decisions that week mandated that the prototype could not be reworked to have tight clean code and we ended up shipping the buggy prototype as a final product on the largest ROM set ever used for a ColecoVision cartridge, 54K!

NK_ Did you collaborate on the development of any accessories?

PJ_ I worked with Eric Bromley, engineer Jim Nugent (who designed the ADAM keyboard, it's still one of the best-feeling keyboards I've ever used), and an outside industrial designer to develop the Super Action Controller. Bromley was a musician and to him it seemed natural to create a controller that one used like a clarinet. As my memory serves, the controller seemed like it was literally designed to fit his hand. I have large hands with long fingers and I always felt it was too large. So here we are, making games to be played by kids, and we are designing a controller that is too large for even my hand. And what accessory do we include with the controller, but an expander to make the pistol grip even larger! On the other hand, it is visually striking, like no other controller before or since. The combination pistol/cutlass sword grip, the multi-colored finger buttons, the long shafted joystick with the orange knob just makes you want to hold it. The Roller Controller ended up being almost entirely my project. The ball felt great, but in retrospect, I wish I hadn't been thinking so cost consciously and had pushed for a separate key pad or pads built into the console. The hand controllers were difficult to mount in place, hard to remove, and the joy sticks got in the way of frenetic roller action.

NK_ What was your involvement with and opinions of the ADAM computer?

PJ_ The responsibility of my group was developing the game content. It was a product ahead of its time. An affordable, family-oriented computer system that came fully featured in a single box. No one had delivered that package before (the Mac came close, but it was also more expensive) and only recently have budget computer packages come close in price (and they are still not as plug-and-play friendly). However, I think I was skeptical of the company's ability to make the thing happen. Not the ability of the people working on it, but the company's ability. And in the end it failed as a manufactured product, not an idea. [\[09\]](#)

ColecoNation

COLECO CHAT

Paul Jaquays [continued...]



The Dukes of Hazzard [Coleco]



Wild Western [Taito]



Tunnels and Trolls [Coleco]

NK_ Can you talk about the unfinished projects at Coleco?

PJ_ We did graphics for a Wild Western arcade game around the same time we were doing the first arcade conversions, but never took it to the code state. One of the features I remember being cut from the original CV hand controller was the spinner. Thank heavens it was cost reduced out of the game, because that hand controller was poorly designed for the human hand as it was and having to whack it to make a spinner spin would have been madness. We created a super version of the Sub-Roc game with essentially just more scenes. We cut a lot of cool, original play fields from the super versions of Donkey Kong and Donkey Kong Junior. As I understood it, Nintendo would not allow us to create original content based on their game. We could only interpret the existing game play. We worked on a puzzle game loosely based on an intellectual property called "Treasure," in which players would seek out clues in the game or in a book to locate a gold horse hidden somewhere in the world. I remember that several of my designers worked out graphic puzzle games that was supposed to be incorporated into the overall set of clues of this massive treasure hunt. Coleco sold Dr. Seuss on choosing them to make toys and games. We showed a demo of the "Cat in the Hat" rolling back and forth on a massive ball. There was no game play, just an animation. Apparently Dr. Seuss thought it was great and that helped secure the deal. Then our management turned around and had us work on Atari cartridge games for the Seuss license (I think it was being handled by the Education design group) and the Fix-Up the Mix-Up puzzle game. From what I remember hearing, Dr. Seuss was not happy with us at all because it seemed like a case of bait and switch. We showed this great, graphic intensive animation by Juan Sanchez, then turned around and developed a fairly static One-Fish, Two-Fish game for the Atari 2600 that was driven by a new peripheral that used a tape player to actually generate controller input.

NK_ How far did Tunnels & Trolls get through design and development?

PJ_ The origin of Tunnels & Trolls in our product listing harks back to the events that lead to both Mike Stackpole and I originally working for Coleco. Rick Loomis, the founder/owner of Flying Buffalo, Inc. (the publishers of Tunnels & Trolls) connected up with a Coleco company officer in 1980 at an educational trade show. That led to the company hiring Mike and me. When Coleco needed a title on the ColecoVision box to make it look like we had a competitive product for Mattel's Intellivision version of Dungeons & Dragons, I'm pretty sure they bought an option on the Tunnels & Trolls name. I sincerely doubt the company ever intended to actually make the game. Once ColecoVision launched, I suspect that Coleco's management couldn't see past the arcade titles and maybe the occasional movie license. They liked properties that were in essence, pre-marketed for them. Tunnels & Trolls never had the public market awareness necessary to seriously interest Coleco in the property. The game was an internal project only, an attempt by the design and art staff to propose a game that we really wanted to make. Lawrence Schick was the designer and a number of the talented artists worked on it. The time frame was probably sometime in 1984. We had a graphic demo that showed an animated title screen and an interactive slide show using the ADAM file tab format, and showing "paper doll" pages that might be used to set up a player character. This was created using the ADAM graphic tools that were finally made available to us. I never remember seeing any working game play. For a while I remember having an early draft of Lawrence's design documents for it in my personal files, but those are long gone.

NK_ What was your involvement with the Super Game Module?

PJ_ I supervised and guided the designers and artists on all of the Super Game projects that were intended for eventual use on the system. I even developed a game sequence for one of them, Gorf.

NK_ What were the highlights and lowlights of working at Coleco?

PJ_ Highlights included putting together a great team of video game designers and artists at a time when those career paths really didn't exist yet; meeting Ralph Baer "the father of video games"; interviewing author Orson Scott Card for a game designer position; going to CES twice a year; designing Wargames. [\[10\]](#)

ColecoNation

COLECO CHAT

Paul Jaquays [continued...]



Victory [Coleco]



Destructor [Coleco]



Omega Race [Coleco]

Lowlights were actually more frequent, but included firing my first employee and being interrupted during the unpleasant process by a birthday balloon-a-gram from my wife; having to put in "face time" during a weekend crunch (on Smurf) on the day I was supposed to be moving; watching my boss abuse and humiliate both coworkers and 3rd party developers on a regular basis; January 2nd 1985, the day that nearly half the EDG staff was let go (but not me); having to wear a suit jacket and tie every day; ColecoVision Destructor; the company shipping the Victory cartridge; working on Intellivision carts; getting art tools for ColecoVision and ADAM too late to really use them; being summoned into work at 3 AM along with all the artists, designers, and writers because someone felt that since the programmers were working all night to meet an ADAM deadline, that the rest of the staff should also be there (none of us had any kind of test experience for that type of product, we just pushed buttons to see if we could break it); realizing near the end of all things, that no one in the company actually knew what I or my team did, they thought we were programmers; having to tell one of my designers who called into work from the airport after visiting family at Christmas that he didn't have a job to come back to.

NK_ How long did you work for Coleco?

PJ_ I worked there roughly 5 and a half years, from December 1980 through early June of 1985. I and the rest of my remaining team were all laid off when they essentially shut down the last of EDG's video and computer game department.

NK_ Did people see the video game industry crash coming?

PJ_ I think our management and marketing knew it was coming. But until the first layoffs over the Thanksgiving holiday in 1984, that information wasn't shared with the development teams. In retrospect, we probably had indicators, but we attributed them to other things.

NK_ What were some of the last games you worked on?

PJ_ What I remember is working on various versions of the game shows (like Jeopardy) for other systems, products that were ultimately released by other publishers. Those last five months are confused in my memory. The last games that I was really hands-on with as a designer were the arcade conversion of Omega Race (and I was never really satisfied with what the programmer could give in the way of simulating the physics of the original vector graphic game); Wargames, for which I did the conceptual design based on my first viewing of the movie (Joe Angiolillo was the staff designer who worked with the developer); Destructor (a driving game that never should have been published in the form that it was released); a game stage for Super Gorf; and a fire fighter game created by Nice Ideas which was incomplete when the department was shut down.

NK_ If Coleco survived, how long would you have worked there?

PJ_ I was not particularly anxious to leave. If George Kiss could have stayed in charge of the department, it would have been very easy to stay the course. But at some point, I would have had to move on. Coleco's management and marketing never really understood the video game market beyond selling the games through traditional toy retailers. The boutique electronics stores that sold computer games in those days were outside their experience or interest in pursuing. The company was heavily committed to their Cabbage Patch Kid doll line. Ultimately, that's what I felt killed the company, not the failure of the video game line. Even as Coleco was shutting down their video game operation, Cabbage Patch fever was already dying down. Everyone who wanted one of those ugly dolls had one.

One of the ironic things that went on during the "last days" was the attempt by my design staff to reinvent themselves as a board game design group. They put together a professional presentation and had the marketing and sales data to show how the company could profit. They were soundly rebuffed by Coleco's marketing department. "That's not our market and will never be our market," they were told. Within two years Coleco had acquired not one, but two board game companies. But by then we were all history and not long after, so was Coleco. [\[11\]](#)

ColecoNation

COLECO CHAT

Paul Jaquays [continued...]



Super Action Controller [Coleco]



Roller Controller [Coleco]



ADAM Family Computer [Coleco]

NK_ Was there anything that you kept when you left Coleco?

PJ_ I have copies of the style guides that were used to standardize our design and instructional documents. I may have kept more design documents, but they are long gone, victims of numerous moves over the years. I had a few ROMs or tapes of games that were never released. I'm not sure where those are today. I also have one of the screen design graph sheets with color marker artwork, possibly the original design for Smurf Adventure. It was signed by a number of artists, writers, designers and programmers who worked on the game.

NK_ Do you own a ColecoVision today?

PJ_ I still have a mostly functioning (last time I checked) ADAM computer and a lot of carts and tapes. My kids grew up playing some of the ColecoVision games.

NK_ Are you familiar with the new ColecoVision games being made today?

PJ_ I'm aware of them, but I don't pay much attention to them. I'm not big into retro console stuff and don't really like emulated video games on the PC. I've seen where a company has acquired the right to the Coleco name and is promising one of those all-in-the-controller type game systems. If that comes out, I will definitely get one, though I will be genuinely (and delightfully) surprised if they are able to include even a fraction of the licensed arcade game products.

NK_ Do you still keep in touch with anyone from your Coleco days?

PJ_ I keep in contact with former designers Kevin Hendryx and Dennis Sustare. Mike Stackpole and I touch base occasionally. I've been in touch in recent years with Rob Harris. Jay Belsky and I visit occasionally. For a number of years, artist Frank Lam and I exchanged Christmas cards.

NK_ How has your career path been influenced from working at Coleco?

PJ_ Coleco gave me professional experience making video and computer games that I likely would not have gotten through other opportunities.

NK_ Thanks for taking the time to talk about your life at Coleco. Any final words?

PJ_ It's been over 20 years since the last of the Coleco events occurred. Telling what went on then is like telling the story of a war years afterwards. The events, the heroes and the villains, the perceptions of success and failure are all going to be colored from a personal point of view that has been greatly blurred by time. I was a very junior manager through much of it. I had a view of events and people from the point of view of the "trenches." It was not a particularly "big picture" sort of view.

We churned out so much software and hardware (between 60 and 100 game and computer-related products) in a 3 year span that individual games and the events surrounding them have become blurs. What stands out in my mind are the people, particularly those on my team who I felt responsible for or the developers with whom we had close relationships. The Coleco story for me is about what we did on the job, what we did away from the job, but most importantly, who we were both at the office and away from it.

You can check out Paul Jaquays' website at: <http://www.jaquays.com/paul/> [12]

ColecoNation

IN PLAY

Deflektor Kollection
by Nathan Kozlowski



programmer: Daniel Bienvenu
publisher: AtariAge
packaging: Meunier - Morse
release: 06.2005
rom size: 32k
players: 1-2
controller: Roller/Steering Wheel



Deflektor Kollection [AtariAge]

[0](#) - [1](#) - [2](#) - [3](#) - [4](#) - [5](#) - [6](#) - [7](#) - [8](#)
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nine | 06.06

While Deflektor Kollection debuted at the Oklahoma Video Game Expo in June 2005, this was not its first release. The game initially debuted at PhillyClassic 5 in March 2004 as Double Breakout and it was self-published by Daniel Bienvenu before that. The reason for AtariAge's name change was due to the people at Atari. It turns out that Atari has a game also by the name of Breakout and they didn't want to share. So on March 2005 a rename-the-game contest was held and the winner was, you guessed it, "Deflektor Kollection."

In Deflektor, as in Breakout, the player uses a paddle to guide a ball towards a group of bricks. As the ball hits the bricks they disappear and the ball bounces back to the bottom of the screen where your paddle is waiting. The goal is to move back and forth and prevent the ball from getting past you by deflecting it back up to smash more bricks. Once all the bricks are cleared, the screen is completed and the player continues to the next level with more bricks and a faster moving ball.

Deflektor II (released as Double Breakout in 2001) is essentially a more sophisticated version of Deflektor I, Bienvenu's first ColecoVision game, originally programmed in 1999 as Breakout. Aside from the historical value of the game, there really is no reason in spending much time playing the first version. Deflektor I has one brick layout that remains the same on every level, with a bouncing ball that progressively moves faster with every screen cleared. Deflektor II features ten different brick layouts that change with every level and a bouncing ball that moves faster once all have been completed. Version one allows the option of starting with ten, twenty, or thirty balls, while the second version has a larger number of options ranging from ten to forty balls and everything in between (at intervals of five). Both reward the player an extra ball with the completion of a screen. Game statistics are unfortunately not displayed, so you never know how many lives you have left until only one remains and you only find out your score once the game ends.

The controls work nicely with the Roller Controller and Steering Wheel. I personally had more success with the Steering Wheel. By grabbing the wheel at its center pivot, it's similar in operation as Atari's paddle controller and allowed for quicker movement. The graphics in the game are fairly simple, which is due to it being programmed five years ago. The constant moving background is tough to stare at during long plays. You can change the graphics by selecting game option two (Deflektor II), then pushing "8" and then "9" on the keypad. The background will change to a cool, vertically scrolling purple grid, but it's just as numbing on the eyes.

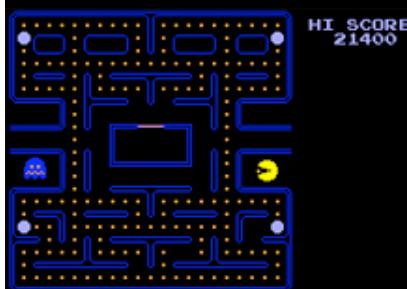
Dacflektor!, a hidden game on Dacman (2000) as DacPong!, is a two-player version of Pong. Both players control a vertically moving paddle (one on each side) and take turns bouncing a miniature Dacman (Pac-Man) back and forth. A point is scored when one gets the Dacman past the other and the first to score nine wins. Space Trainer, a hidden game, was a 2005 MiniGame Competition entry. It can be unlocked by selecting game option five (Paddle Test), then pushing the second controller's left fire button twice. Another two-player challenge, Space Trainer is similar to Space War but without shooting. The object is to maneuver your ship so that it will pass over the moving bubble. Points are earned every time your ship comes in contact with the target and the player who reaches 10,000 wins.

Deflektor Kollection is a good collection of games, but if you're not a fan of Breakout or Pong then you might be disappointed. I've never been able to get into paddle games. The pace of gameplay seems drawn out and repetitive. The majority of the screen's bricks get cleared in the first few minutes, but then it takes at least double the time to get the last few bricks. However, the video game industry pretty much was born from Pong and paddle games, so maybe I'm just crazy. A lot of credit needs to be given to Daniel Bienvenu for the programming that was required to allow this game to be so fluidly controlled with the Roller Controller and Steering Wheel. The alternate controllers work very well and make these games a lot more enjoyable. While a little primitive in the graphics department, if you're a Breakout fan or a ColecoVision completist then you should definitely get yourself a copy. [\[13\]](#)

ColecNation

IN DEVELOPMENT

Pac-Man Collection [Part One]
by Eduardo Mello



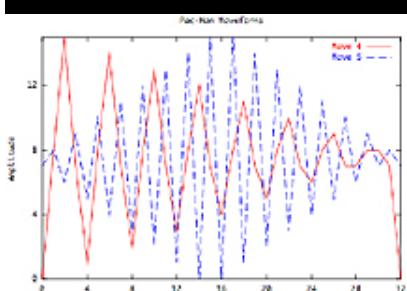
Early Conceptual Design [Opcode]



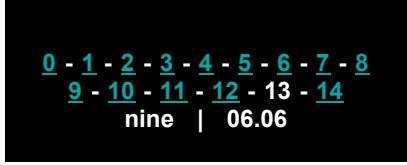
Pac-Man Tile Set [Opcode]



Sprite Artwork [Opcode]



Pac-Man Sound Waveforms



0 - 1 - 2 - 3 - 4 - 5 - 6 - 7 - 8
9 - 10 - 11 - 12 - 13 - 14

nine | 06.06

At the time of writing this article, I am currently finishing some of the last major pieces of Pac-Man Collection. Four and a half years have passed since I started programming PMC and the game has required a lot of hard work and many hours of coding to reach its current stage. PMC is by far the most challenging game I have ever worked on. In addition, PMC has required me to increase the scope of collaboration. The title has five major contributors, the first being myself, then Dale and Jess for the packaging, Bryan for creating the ColecoVision MegaCart, and finally Pablo is converting Buckner & Gracia's "Pac-Man Fever" song for the opening screen. It required a lot of effort from many people, but hopefully the end result will be worth it. In fact, I think collaborative work is the new trend for homebrew games as we're starting to create more professional, polished, and ambitious titles. A good example of this new trend is the soon-to-be-released Atari 5200 title, Adventure II.

With Pac-Man, my biggest challenge was to fit the arcade maze on the television's screen. My first approach was to remove some tiles to produce a smaller maze, but with the same number of dots. It was the same approach that Namco used with the Famicom and MSX versions and in the end neither of us were successful. It's obvious that you can't remove tiles from the maze and still keep the same number of dots and I wasn't happy with the idea of having fewer dots. Another idea was if you reduce the original maze, which is 256 pixels high, by twenty-five percent then it could fit on the television screen, which is just 192 pixels high. However, there were two major implications with this theory. First, the game logic would need to change a lot. The original arcade, just like the ColecoVision, has a display based on tiles of 8x8 pixels. If you reduce the size you would end up with tiles which are in fact a blend of up to four different original tiles. Tough to pull off, but with a little patience it was something that I could handle. Second, the ColecoVision display has some limitations which the original arcade doesn't have. A ColecoVision tile can use only two colors per line. This means that if I ended with a dot (yellow) and a maze wall (blue) in the same tile then this solution would prove to be ineffective (since the maze background color is black). Yet to my surprise, it worked nicely.

After producing an initial concept design, it was time to start programming the game. The first thing I needed to do was disassemble the game and document it by hand, a task which is very time consuming. In order to produce a faithful port, I needed to understand every routine and variable. I was forced to work with "virtual" tiles of 6x6 pixels. While displaying items on screen wasn't a big problem, since all new virtual tiles could be stored in advance on video memory, the game logic could end up being severely impacted by this change. In order to avoid this headache, I decided to write a virtual screen driver. For example, all game characters, like ghosts and Pac-Man, use the video RAM to decide where to move next. They check the video RAM to look for maze walls or dots, then decide what they're going to do next. I couldn't use the ColecoVision's video RAM to do this because its content wasn't a direct representation of the "virtual" screen with its tiles of 6x6 pixels. So I created a virtual screen look-up scheme in the ROM. This map allows me to check a virtual tile by consulting the look-up table to find the correct video RAM address for that tile. The virtual tile driver also guarantees that I can access each dot separately, so when Pac-Man eats a dot on screen, the correct real tile is changed to reflect that.

Sprites were another problem. The original arcade has multicolored sprites, but the ColecoVision doesn't possess such commodities. The solution was to superimpose the sprites, but that has a side effect. The ColecoVision video can display only four sprites per scanline. This means that if I use two sprites per ghost, the ColecoVision will never display more than two ghosts on the same scanline. Sprites are displayed following a priority list which means that if you want to give different sprites the same odds of being displayed, you must change the priority list every screen frame. To accomplish that I built a sprite driver, a sophisticated and smart routine responsible for choosing the right priority for every sprite on each frame. The good thing about the virtual tile driver and the sprite driver is that they permitted me to leave the original Pac-Man program to run almost unchanged on the ColecoVision, making this port's gameplay essentially arcade perfect. [\[continued on 14\]](#)

ColecoNation

IN DEVELOPMENT

Pac-Man Collection [Part One]
[continued...]

HIGH
SCORE
11200
1UP
11200



First Intermission [Opcode]

SAME AS IT EVER WAS?

Zaxxon

Carnival is next!

Send your reviews by 08.11.06:
ColecoNation@yahoo.com



Fortress Entrance [Coleco]



Fortress Trench [Coleco]

Another area of technical challenge was sound. The original Namco sound chip used with Pac-Man is a bit more advanced than the Texas Instruments sound chip found inside the ColecoVision. To start with, Namco's integrated chip is able to generate different waveforms, which creates varied sounds. The ColecoVision sound chip is only capable of generating square shaped waveforms. Secondly, the Namco chip can reach the very bottom of the audible frequency spectrum, while the ColecoVision sound generator can't go below around 110Hz. Those two features limited the final result a bit, but in my opinion this version is sonically one of the most faithful ports yet. However, the biggest challenge while porting the sound routines wasn't the limitations above, but the lack of information about the Namco sound chip. To be honest I just fully figured out the Namco sound chip a few months ago, while working on the MSX version of Pac-Man Collection. The good news is that I have now used what I learned with the MSX version to improve the ColecoVision version too.

All the original arcade intermissions have been included in the ColecoVision version. Even the intermission engine has been carefully reproduced. It means that you're going to watch intermissions which are frame by frame accurate with its arcade counterparts. Next issue I'll be writing about controlling Pac-Man, the making of Ms Pac-Man, the opening and setting options, and the MSX version. Don't miss it.

Nathan Kozlowski ~ As a wee lad, I never quite understood what Zaxxon was all about. It looked cool and had a great twist on gameplay perspective, but nothing seemed to happen during the game. I travel through an empty fortress, try to shoot some enemy planes that were never at my altitude, and then fire a few shots at a weird looking robot before he slowly left the screen. Today I realize why the game played so subdued. As with every Coleco game, I would unconsciously select skill level one, which for Zaxxon is the baby version of the game. I've recently played the game on a more difficult skill level and there's definitely a lot more action. The game still rarely makes my play list, but I can really appreciate the skill and creativity that was required to make this arcade game work at home.

Ryan Cote ~ Zaxxon is one of the games in my collections that I never really played too much. Probably because I really didn't find it to be too difficult. The gameplay was okay and the controls took some time for me to get used to, but once I figured it out there wasn't anything that would hold my attention for too long. The graphics were great, especially compared to the other systems' versions. Overall, it isn't too bad a game. People should have this one as part of their collection (I have three).

Joe Blenkle ~ Ouch! People will probably disagree with me on this one, but I never really enjoyed Zaxxon. The cartridge version was too repetitive for my taste. How many times can you fly over basically the same terrain, blasting the same targets and dodging the same obstacles? I never really got into the game until the Zaxxon Super Game was released for the ADAM. It was a little more challenging, had more features and even an ending! Graphically, Zaxxon was very stripped down from the arcade version, but I suppose by 8-bit standards, it was the best they could do. Zaxxon wasn't a bad game, but I just never found it as challenging or fun to play as other Coleco classics. Try the harder skill levels if you want any fun at all.

Jeff Prescott ~ This was the gold standard. The isometric perspective and irresistible "Star Wars" trench-flavored combat made for a killer combo. Also, this was the version with all the credibility. The ColecoVision vested itself as a pure arcade experience console when this cart hit the shelves. I remember begging the family to sink the 59.99 on it at Toys R Us, but to no avail. My friends' collective patience would be strained to the limit as I monopolized their systems, destroying that evil robot. All that's really missing from the arcade experience is that cool force field noise. A tremendous adaptation! Even the color palette is spot-on.