

U n R E L E A S E D

Kevin Bunch tells the tale of RCA's unreleased arcade games...



The RCA Studio II has long been something of a whipping boy among game collectors, frequently cited as one of the worst machines ever made. It's a bit of an unfair accusation – its capabilities and library aren't unusual for the time period – but RCA's lukewarm support of the video game and home computer market was something its designers struggled against for years, and its reputation and visibility have suffered from it. A similar fate befell the Studio II's predecessor, the FREDOTRONIC Coin Arcade system.

The development of the Coin Arcade, Studio II, and all their associated brethren actually dates back to 1971, when RCA engineer Joe Weisbecker started constructing his own personal computer system prototypes at home. Weisbecker was absolutely fascinated by the idea of home computers and was interested in how they could be used for entertainment, education, productivity software, and even shopping over phone lines. His fellow engineer Jerry Herzog believed that developing that prototype into a microprocessor design would make it more likely to get official approval; when the opportunity arose, he pitched his prototype units to his bosses at RCA, who gave him a small team, a small budget, and told him to try and turn it into commercial products.

RCA was entering its rough final years in the 1970s, having dropped out of the mainframe computer realm; in the coming years it would drop its Video-Disc and flat screen LED television research to retrench itself in what it was already making. That Weisbecker was allowed to even try and build out this line of prototype computers, dubbed FRED (for Flexible Recreation and Edu-

tion of the computer was completed – the COSMAC 1801 processor. Weisbecker recognized it was still too expensive for a consumer-level product, but in December 1974 he believed that among the commercial possibilities for this hardware would be video game arcade machines.

His bosses gave Weisbecker and his team the green light to construct six



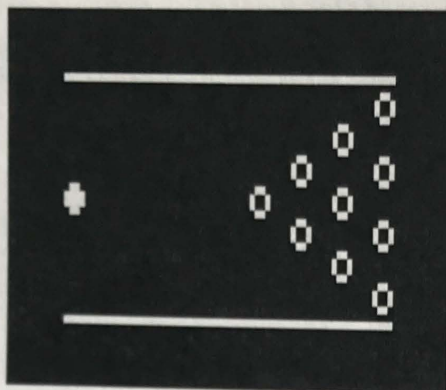
RCA's FREDOTRONIC Coin Arcade machines at a location test at Bucks County Mall in 1975. Courtesy of Hagley Museum and Library

cation Device) is impressive, and he believed that with microprocessor prices dropping and the technology improving, they could consolidate his FRED design into a viable commercial product using IC chips by 1976. Weisbecker would build new prototypes and write software at home, bringing them into the office after getting formal approval for other engineers to work on. Ultimately they – and his teenage daughter Joyce – programmed over a dozen games and programs for these various FRED units into 1974, when the first two-chip itera-

prototype arcade cabinets, which were completed around June 1975. The engineers developed a main board using the 1801 that would serve as the baseline arcade machine, with the processor, the memory, and other associated circuitry. The games would be available as ROM chips on plug-in boards – essentially a standard video game cartridge. If the game was becoming less popular, the arcade operator could buy a new cart and swap it out more cheaply than replacing the entire machine. In effect, Weisbecker came up with the concept for SNK's Neo Geo over 15 years before that launched. The control inputs would even be modular enough that they could be changed out for alternative control schemes or light-guns. The first arcade machine to use microprocessors didn't hit the market until November 1975 with Midway's Gun Fight, meaning that RCA was on the cutting edge with its Coin Arcade in using more than just discrete circuits and transistors to make a game.

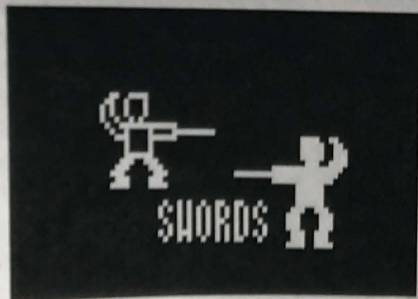
U n R E L E A S E D

The arcade system needed games, and four titles were completed, based at least in part off of games written for the FRED units. The first, Computer Bowling, is among the first games to take a stab at the sport. In it, two players alternate as they play a 10-frame game. Spares and strikes are properly implemented, the pins can knock down other pins (albeit without much animation), and getting the high score nets the players a free game. There's some control over the



Computer Bowling

ball and its direction, so with some experience, you can start landing a fair number of strikes. It's a pretty fun game, and possibly the best of the bunch. A version of this did end up on the RCA Studio II as a built-in game, though the arcade game does have more bells and whistles (and circular bowling balls). Interestingly enough, after the arcade games written by Weisbecker concluded, the first four notes of the 1920s Sophie Tucker song "After You're Gone" play – according to Joyce, her father's reasoning was that it would be the blues song sung by an intelligent game computer left behind in an arcade after all the players were gone for the day.



Swords

The second game, Swords, is a fencing game for one or two players. Two swordfighters go toe-to-toe, maneuvering around the screen while automatically flailing their weapons; touch your opponent with your sword and you'll score some points; whoever has the

most points at the end of the time limit wins. It's a nice first stab at what could be considered the fighting game genre, but it's actually pretty difficult to manage a hit without also getting hit at the same time. The computer also does a pretty poor job of avoiding a single player's

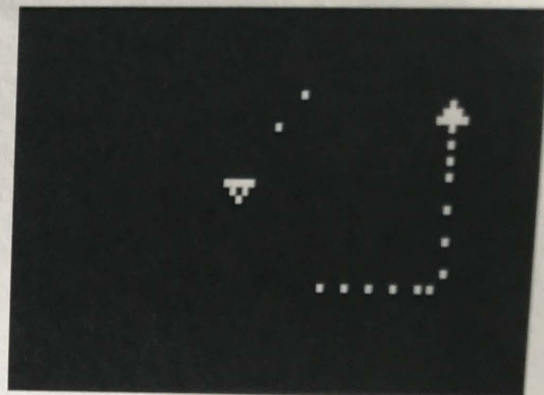
sword as long as the human player just goes underneath it. This game did get adapted and released on RCA's COSMAC VIP hobbyist computer in late 1977.

The third game was Chase, also for one or two players. This game is basically just Tag, where you try to ram your triangular craft into your opponent while trying to keep them from ramming into you. You get points by hitting them with the ship's point or one of its leading edges. With no other obstacles or wrinkles other than its time limit, it's not a terribly exciting game in 2018, and might even be a bit simple for 1975. Nevertheless, it's a speedy game,

and can get hectic with two players. That said, the last game takes the concept and does something a bit more novel...

The fourth and final game, Mines, takes the two ships from Chase and gives the players a button to drop a line of mines behind them. To score, your opponent (either a human or the computer) has to run into some of the mines being dropped on the screen. It's a game

very much in the vein of Gremmie, the arcade game Blockade, or the "endless" gametypes in the Atari 2600 game Endless Round. Like Chase, it's incredibly fast and can quickly get chaotic as the screen fills with obstacles. This is actually a refinement of a FRED game where the two ships are able to either lay a single mine explosion behind them or fire a bullet that can be exploded, but nothing RCA produced afterwards seems to revisit the concept.

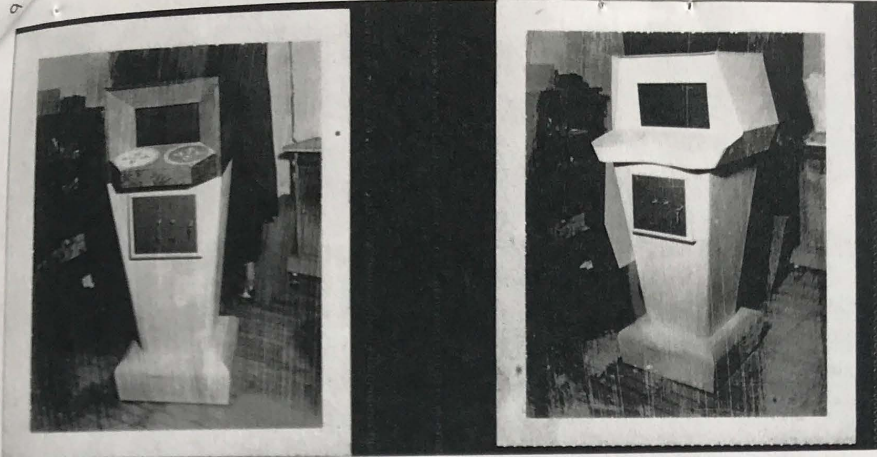


Mines

With these four games, Weisbecker's team held at least one location test, in Feasterville, Pennsylvania at The Cave arcade in the Bucks County Mall. Unfortunately, public response was lukewarm, and given RCA's own wavering interest in computer games, the team decided to refocus on a home video game console using the new one-chip iteration of the FRED hardware, the 1802. That ended up becoming the Studio II, with the 1802 showing up in the console designs for the Studio III (released only overseas as licensed clone consoles), and the unproduced Studio IV. The 1802 was also the heart of the COSMAC ELF and VIP development and hobbyist computers, which remained on the market until RCA shut down its entire home computer and video game line in 1980.

The arcade games – and indeed, the FRED games – were forgotten and considered lost until cassette tapes containing program data were discovered at the Hagley Museum and Library in

of Gremlin's 1978
de, or the "erase"
at 2600 game sur-
incredibly fast



The earlier prototype Coin Arcade machines at RCA looked significantly different from the final version location tested. Courtesy of Hagley Museum and Library



"whipping boy"

UnRELEASED

Delaware and the College of New Jersey's Sarnoff Collection. Both archives had received materials from RCA's David Sarnoff Research Center library a few years prior, with additional items donated by former RCA engineers and Joyce Weisbecker, Joe's daughter. Those tapes were digitized, and the effort to pull programs off of them has successfully led to all four arcade games and a number of FRED games to be rediscovered. If you want to try the arcade games for yourself, install the Emma 02 emulator and give them a whirl, where the archives have given them permission to be accessible.

(Right before press time, a fifth arcade game called Scramble-Split Second was discovered on a cassette at TCNJ. This game involves matching button presses that appear on screen.)

Photos courtesy of Hagley Museum and Library, Sarnoff/RCA Collection - Joseph A. Weisbecker's archived manuscripts and materials - accession 2464.09 - Box Number AVD 40

— For the Serious Electronic Gamer —

COMPUGAMES INC.

ATARI
VCS, 400 and 800.
APPLE, INTELLIVISION, TRS,
ODYSSEY, DALLY, PET
and more at VERY LOW prices

We carry full lines of
Game Computers, Cartridges,
Storage Cases, Cassette and
Disk Games, Joysticks and other
game accessories all Near Wholesale!

Join COMPUGAMERS CLUB. Take advantage of
Greater Discounts and Freebies. Details in catalog
Allow 2 Weeks Photocopied Coupon Accepted

**30 DAY - 100% GUARANTEE
On All Items**

Clip this ad and mail along with
\$2.00 for Catalog and Price Lists
You'll be glad you did!!!

NAME _____
STREET _____
CITY _____ STATE _____
ZIP _____

Mail To
COMPUGAMES, INC.
Catalog Dept.
P.O. Box 190
Enfield, CT 06082

Check or M.O. only C 2

REPAIR ATARI GAMES AT HOME

Complete repair course on 3 hour video tape (Beta or VHS) plus schematics and technical literature enables you to start earning money right away. All popular repair parts in stock for immediate shipment \$1.00 for parts/price list and additional information refundable with order. Exclusive National Distributor.

ELECTRONICS WAREHOUSE CORP.
1910 Coney Island Avenue Dept. V/A6-83
Brooklyn, N.Y. 11230 (212) 375-2700

**IF YOU ARE READY TO BUY OR SELL
GAMES OR SOFTWARE, YOU NEED...**

COMPUTER SHOPPER

Over 100 pages each month. Deal with individuals nationwide. Low ad rate, only 12¢ a word. Subscription: \$10/year MC & VISA Money back guarantee P.O. Box F-592 Titusville, FL 32780 (305) 269-3211

CIRCLE 4 ON READER SERVICE CARD