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The NES turns 30: How it began, worked, and saved an industry

On July 15, 1983, Nintendo sold its first Famicom. Gaming hasn't been the same since.

by **Andrew Cunningham** - July 15 2013, 9:00am CDT

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Nintendo's Family Computer, or Famicom, turns 30 today!

Evan-Amos

We're right on the cusp of another generation of game consoles, and whether you're an Xbox One fanperson or a PlayStation 4 zealot you probably know what's coming if you've been through a few of these cycles. The systems will launch in time for the holidays, each will have one or two decent launch titles, there will be perhaps a year or two when the new console and the old console coexist on store shelves, and then the "next generation" becomes the current generation—until we do it all again a few years from now. For gamers born in or after the 1980s, this cycle has remained familiar even as old console makers have bowed out (Sega, Atari) and new ones have taken their place (Sony, Microsoft).

It wasn't always this way.

The system that began this cycle, resuscitating the American video game industry and setting up the third-party game publisher system as we know it, was the original Nintendo Entertainment System (NES), launched in Japan on July 15, 1983 as the Family Computer (or Famicom). Today, in celebration of the original Famicom's 30th birthday, we'll be taking a look back at what the console accomplished, how it worked, and how people are (through means both legal and illegal) keeping its games alive today.

From Japanese beginnings to American triumphs

The Famicom wasn't Nintendo's first home console—that honor goes to the Japan-only "Color TV Game" consoles, which were inexpensive units designed to play a few different variations of a single, built-in game. It was, however, Nintendo's first console to use interchangeable game cartridges.
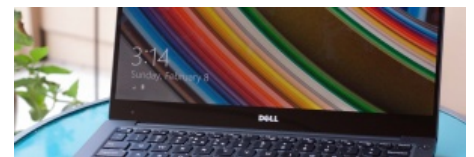
The original Japanese Famicom looked like some sort of hovercar with controllers stuck to it. The top-loading system used a 60-pin connector to accept its 3-inch high, 5.3-inch wide cartridges and originally had two hardwired controllers that could be stored in cradles on the side of the device (unlike the NES' removable controllers, these were permanently wired to the Famicom).

The second controller had an integrated microphone in place of its start and select buttons. A 15-pin port meant for hardware add-ons was integrated into the front of the system—we'll talk more about the accessories that used this port in a bit. After an initial hardware recall related to a faulty circuit on the motherboard, the console became quite successful in Japan based on the strength of arcade ports like *Donkey Kong Jr.* and original titles like *Super Mario Bros.*

Enlarge / An early prototype of what would become the North American version of the Famicom. The Nintendo Advanced Video System communicated with its peripherals wirelessly through infrared.

Flickr user Gingerbeardman

The North American version of the console was beset by several false starts, to say nothing of unfavorable marketing conditions. A distribution agreement with then-giant Atari fell through at the last minute after Atari executives saw a version of Nintendo's *Donkey Kong* running on Coleco's Adam computer at the 1983 Consumer Electronics Show (CES). By the time Atari was ready to negotiate again, the 1983 video game crash had crippled the American market, killing what would have been the "Nintendo Enhanced Video System" before it had a chance to live.

Nintendo decided to go its own way. By the time 1985's CES rolled around, the company was ready to show a prototype of what had become the Nintendo Advanced Video System (AVS). This system was impressive in its ambition and came with accessories including controllers, a light gun, and a cassette drive that were all meant to interface with the console wirelessly, via infrared. The still-terrible market for video games made such a complex (and, likely, expensive) system a tough sell, though, and after a lukewarm reception, Nintendo went back to the drawing board to work on what would become the Nintendo Entertainment System we still know and love today.

Enlarge / By late 1985, Nintendo had settled on the console design that most American readers will be the most
familiar with.

Evan-Amos

What Nintendo went to market with in October 1985 wasn't just a console redesigned for a new
territory, but a comprehensive re-branding strategy meant to convince Westerners that the NES wasn't
like those old video game consoles that had burned them a few years before. This new Famicom was
billed as an "entertainment system" that required you to insert "game paks" into a "control deck," not
some pedestrian video game console that took cartridges. The console's hardware followed suit—it
was still marketed to kids, but the grey boxy Nintendo Entertainment System looked much more mature
than the bright, toy-like Famicom. At the same time, accessories like R.O.B. the robot assured parents
that this wasn't just for "video games"—still dirty words to many consumers.

Note the drastic differences between American and Japanese game cartridges. The disk card pictured here
was intended for use with the Japan-only Famicom Disk System.

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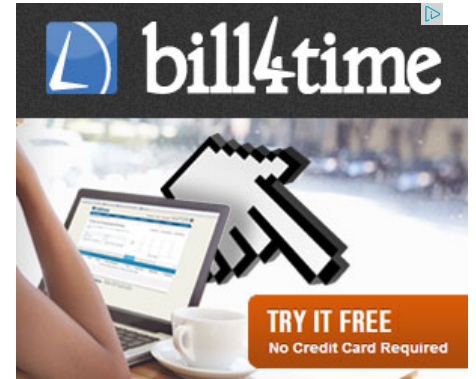
Each of the titles in the relatively strong 18-game launch lineup (remember, at this point the system had been humming along for more than two years in Japan) also featured box art that accurately depicted the graphics of the game inside, unlike the disappointing exaggerations of the Atari 2600 version of *Pac-Man* or the infamous *E.T.*
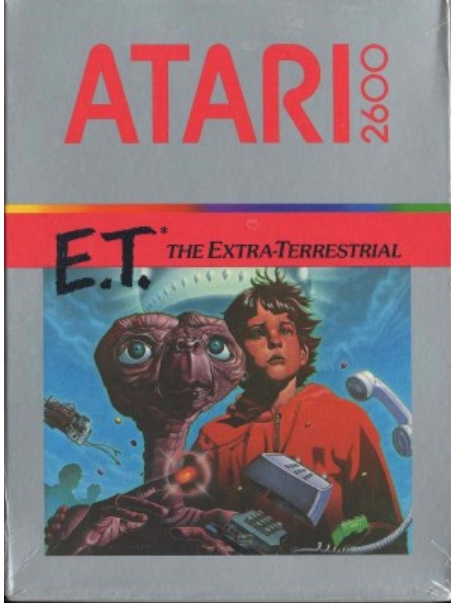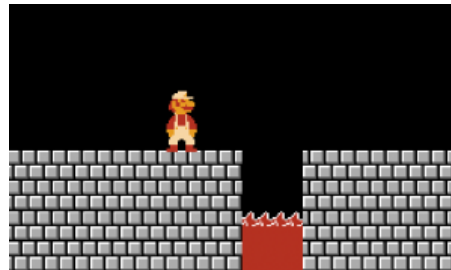

Enlarge / The *E.T.* box for the Atari 2600.
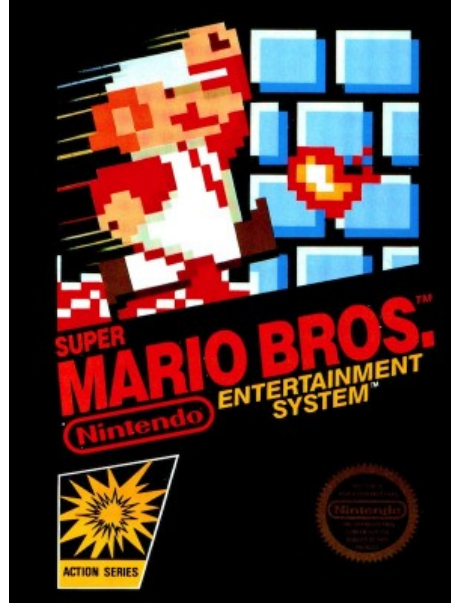
Enlarge / The *Super Mario Bros.* box for the NES.

Enlarge / *E.T.* running on the Atari 2600.

Enlarge / *Super Mario Bros.* running on the NES.

The final building block in the NES rebuild of the North American game industry was the way Nintendo handled third-party developers. In the Atari era, everyone from Sears to Quaker Oats tried to grab a slice of the gaming pie. The fact that basically anyone could design and sell hastily-coded Atari 2600 games with no interference from or cooperation with Atari led to a game market flooded with shovelware and to clearance bins filled with unsellable dreck. This in turn led to gun-shy retailers and consumers.

Nintendo clamped down on this hard. Third parties had to be licensed to develop games for Nintendo's system, and Nintendo's licensing terms both prohibited developers from releasing games for other consoles and confined them to releasing just two games a year. Other restrictions, mostly aimed at weeding out religious and other "inappropriate" content, were also imposed—memorably, these restrictions resulted in the Super Nintendo port of *Mortal Kombat* where all the ~~kombatants~~ combatants ooze "sweat" instead of blood. Developers agreed to the restrictions in order to get access to a base of NES fans rabid for new software. (Many of Nintendo's restrictions weren't relaxed until the early '90s when it was losing developers to its first credible competition, the Sega Genesis.)

Licensed games received both a printed Seal of Quality on their boxes and access to the proprietary 10NES lockout hardware, a chip on the cartridge's circuit board that checked in with a corresponding chip on the console's. While not foolproof, in the early days of the NES the 10NES hardware helped to combat the flood of low-quality software that had killed off Atari and its ilk.

Not all developers were happy with these terms, but fighting Nintendo was an uphill battle. The most significant challenge to the 10NES system came from Tengen, a subsidiary of Atari Games. Rather than try to circumvent 10NES, Tengen used Nintendo's copyright documents to reverse-engineer the chip and create its own compatible version, codenamed "Rabbit." Nintendo sued for patent infringement and, at least in part because Tengen didn't use a clean room design in Rabbit, the judge ruled in Nintendo's favor.

Enlarge / The 10NES chip would prevent the system from booting if its security check failed. It was important in the early days, but NESes with dirty or worn connectors are prone to failing its check—this led to the dreaded grey blinking screen that I've probably spent hours of my life looking at. The redesigned top-loading NES shipped without a 10NES chip, and some people who repair older NES consoles recommend snapping off the fourth pin of the chip to disable the check entirely, as shown here.

Salvaged Circuitry

And the rest is really history. The NES was the undisputed leader in the US for several years and wasn't seriously challenged until Sega's Genesis kicked off the 16-bit era. In some territories like Europe and South America, the 8-bit Sega Master System had gained a stronger foothold, but it was a relative rarity in the US. A new top-loading version of the NES and the Famicom with a redesigned controller was launched in both America and Japan in 1993 after the introduction of the Super Nintendo, but by then the stream of high-profile software had slowed to a trickle. The system was produced until 1995 in the US but lived to see its 20th birthday in Japan before being discontinued in 2003.

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