SERVICE GAMES

THE RISE AND FALL OF

SEGA

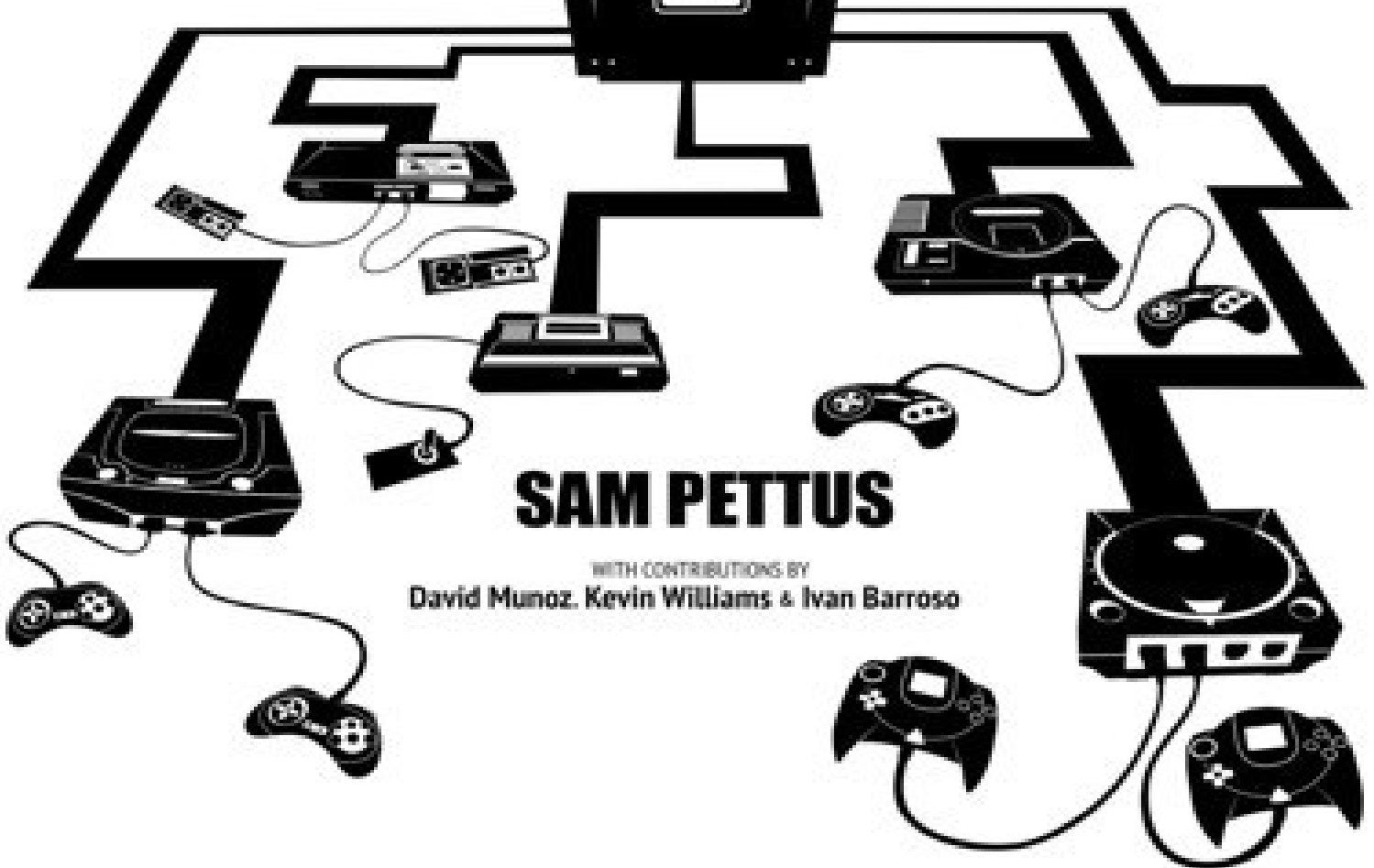ENHANCED EDITION

SAM PETTUS

WITH CONTRIBUTIONS BY
David Munoz, Kevin Williams & Ivan Barroso

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Acknowledgements

Foreword

Martin Luther King Jr. once said that "We are not makers of history. We are made by history." What we have and make today is not destined to be in books, but what we do shapes everything that is to come. The ones who came before us shaped who and what we are and it is with those people that this story lays; the people who started shaping our current world when it was still beyond comprehension. Like it or not, video games have affected and changed every single one of us. From pioneers in the technology that first attempted digital entertainment came the revolutionary developments that we now take for granted. It didn't happen overnight and it didn't happen by accident, but the struggle to bring technology and entertainment to where it is today has closed thousands of companies and cost the sweat and blood of millions of people worldwide. One of the most prominent examples of this was Sega, but it is just one of several hardware development casualties of that era. It was a time of turmoil, but it was also a time of dramatic changes. Every day seemed like a giant leap forward, and every leap came at a great cost. It was often the company that innovated the most that fell first, with more moderate companies thriving later on their innovations. But then there was Sega. Often the underdog, Sega seemed to defy odds again and again until it tore itself apart under the pressures of competition. But it's not the end result that changed the world and shaped future gaming generations. It was the many contributions it made to the industry that made it what we fondly remember today. Sega was Sega. While that may mean different things to different people, much like this book, it's the idea of what it was and what it could have been that makes it eternally immortal today.

- David Munoz

The Early Days:
The Sega SG-1000

General Douglas MacArthur

Foundations

   As the late Carl Sagan might have said, let us board the starship of our imagination and take a trip through space and time to a place and era that is now no more. That place is the island nation of Japan, under military occupation by American forces since the end of World War II, and the year is 1950. We are here in search of beginnings. "The beginnings of what," you ask? Of a company which will go on to become a formative figure in the video game industry. A company whose name is legend, whose creators are revered, and whose software is adored by millions of gamers of all ages and backgrounds, worldwide. A company that has surfed the cutting edge of technology and seen

its fortunes rise and fall, running the gamut from excessive profitability to the brink of bankruptcy. A company that has seen its share of successes and failures, internal rivalries and corporate confusion, and yet always managed to pull itself back up by the bootstraps, even when it seemed lost to its own blindness. This company is Sega, one of the true pioneers in video game history.

Marty Bromley

The birth of the legend

On June 24, 1950, Communist forces from North Korea, with aid from Communist China, invaded South Korea, attacking United Nations forces along a broad front. Looking forward to an honorable retirement, U.S. Army General Douglas MacArthur, military governor of Japan, was instead thrust into the role of supreme commander of U.S. military forces in what would become known as the Korean War. Despite his war record, it was a part he did not relish;

viewing the conflict as another Manchuria or Anschluss, he was determined to stem the spread of Communism on the Korean peninsula by any means necessary. Ordering the immediate evacuation of American civilian personnel from Korea, he brought the U.S. Seventh Fleet to the area, preparing for a counterattack even as North Korean forces drove the U.N. defenders southward towards Pusan.

One inevitable result of the ensuing conflict was the amassing of American personnel at U.S. military bases across Japan. By now, the Japanese were acclimated to the loud, brash American culture, and many Japanese companies quickly moved to profit from this turn of events. One of these was Nihon Goraku Bussan, a vending company originally founded in April of 1951. In May the following year, the company secured contracts with American entrepreneur Marty Bromley to provide American bases and staging areas with an assortment of coin-op vending machines. This partnership eventually grew so large that the operation was officially organized in 1960 as its own subsidiary of Bussan: the Japan Entertainment Trading Company. Bromley would become a major player in Nihon Goraku Bussan, which would in time become the second biggest player in the Japanese amusement industry.

Bromley's involvement was purely profit-driven, and not for some love of the burgeoning business. The U.S. Senate had imposed severe restrictions on the vending machine industry in the early 1950s, driving his coin-op business out of Hawaii's many military installations in 1952. Seeing Japan as an ideal place to run his game rooms without nosy politicians looking over his shoulder, Bromley set up shop and never looked back. Many a soft drink dispenser, slot machine, and jukebox at American military installations across Japan was a result of the Bussan/Bromley partnership. And there was a new type of coin-op machine, too: pinball. By now a mainstay of American pop culture, this table game was not unlike the pachinko machines with which the Japanese were so familiar. Seizing upon this opportunity, Bromley began dutifully importing pinball to Nihon Goraku Bussan through their lucrative American military contracts. The machines were welcomed by American servicemen, and made quite an

impression on one in particular.

Serving with the U.S. forces during the Korean conflict was David Rosen. Stationed in Japan as a young man from 1949 to 1952, Rosen absorbed himself in the local culture, where he saw an opportunity for business in its burgeoning coin-op market. When his tour of duty was over, Rosen set up shop in his newly adopted country, founding Rosen Enterprises, Ltd. in 1954. He got his start importing coin-op photo booths to American military bases for shooting passport photos under the brand name Nifun Shashin (i.e. Photorama), charging approximately ¥200 per picture.

David Rosen

"[Photorama] became so successful that it enabled me over a short period of time to open up well over 100 such locations throughout Japan. It was not unusual at different times of the year – there were different times when people would go through school applications and what not – that the line to get into the booth would be an hour, hour and a half."

- David Rosen

Rosen soon found himself at the head of a growing and rather profitable

business, and was eventually forced to franchise Photorama out to independent owners in order to remain competitive. He was the first entrepreneur to establish a franchise business in Japan, and Photorama eventually collapsed beneath its own weight. But by then, Rosen's second venture was already well underway. In 1956 he began importing used coin-op target gun arcade games from American warehouse sales at $200 apiece. After having them shipped to Japan, he placed them out outside his Photorama booths, charging roughly 5¢ per play. Rosen is often credited with founding Japan's arcade game industry from this simple act. The games, such as *Bear Gun*, used modified air rifles to simulate the experience of a real target range, and proved so popular that he made back his initial investment within two months. Soon after, he began installing them at U.S. military bases across Asia.

"We were fortunate. Based on my initial Photorama experience, we worked out a very good relationship with various movie studios, primarily Toho and Shursheko, so that they made their locations available to us. And particularly Toho, we probably had an arcade either adjoining or in the lobby of every one of their theaters. And I don't know how many arcades we eventually had but… when I left Japan, there wasn't a city in Japan that didn't have one of our arcades."

- David Rosen

It was around this time that Rosen came into direct competition with Nihon Goraku Bussan, which was producing its own homegrown coin-op arcade games but simply could not compete with superior American machines. As a result of this experience Rosen would learn a valuable business formula for success: superior technology plus great gameplay equals market success.

Rosen dearly desired to expand his operations to service local Japanese businesses, but it was at this point he ran afoul of the Japanese government. In order to establish a vending company that would service Japan proper, Rosen needed a license from the Ministry of Industrial Trade and Industry

(MITI), and they were not inclined to issue one. Japan was still rebuilding from the devastation wrought by American carpet bombing during World War II., and there was a lot yet to be done. With the average Japanese worker working six-and-a-half days a week, the Ministry decided they were simply too busy to enjoy such luxuries. Rosen began to make the case that such "luxuries" could actually benefit Japan by giving its people an emotional release from the drudgery of work. Over a year later, in 1957, he was finally granted a license to import some $200,000 worth of used coin-op arcade games.

Rosen's instincts were proven correct. The Japanese took to coin-op arcades in droves - even more so than the Americans. Imported and locally produced games alike began raking in profits for all of the industry's players, Rosen Enterprises included. Expanding upon an initial toehold with two major theater chains, Rosen Enterprises soon had dedicated arcades in every major Japanese city. By 1960, Rosen Enterprises had cornered the arcade game business, while Bussan commanded the jukebox business. Another Japanese company, Taito, played a strong number two to both.

In 1964, Rosen and Bromley joined forces, merging their export businesses into a single organization under the Rosen Enterprises banner. By the following year, Rosen Enterprises had become so successful that it merged with former rival Nihon Goraku Bussan, thus gaining access to the latter's 6,000 manufacturing plants in Japan. This was something of a coup for Rosen, as it greatly expanded his company's manufacturing base. More importantly, gaining access to his former rival's local resources ensured he no longer had to rely entirely on importing new products from America. Rosen stayed on as president of the newly merged company, with the rest of the organization retaining its strong Japanese cultural roots. This was fine with Rosen, who would not have had it any other way.

The name of the new firm was changed to Sega Enterprises, Ltd. "Sega" was an acronym originally conceived by Nihon Goraku Bussan to stand for "SErvice GAmes," the name by which they had marketed their products in Japan. It was meant to remind employees and customers of the company's

primary purpose: to provide the eager public the best coin-op arcade games available.

Original Sega logo

"At that point in time we had decided to merge. And in trying to establish the name of the company, we decided Sega was the best-known name because it was their brand name. And we took Enterprises from Rosen Enterprises, because Rosen wasn't a brand name, it was just a company. And it became known as Sega Enterprises Ltd. And it became an even larger company, obviously."

- David Rosen

Sega Enterprises, or Sega for short, remained committed to Nihon Goraku Bussan's goal of serving the public with quality products, and to Rosen's business axiom of providing high-tech, great-playing games. Their dedication would soon pay off.

Sega's first locally produced arcade game, *Periscope*, was released in Japan in 1966. Rosen would later comment, "If you talk to the old timers in the industry, they will tell you that *The Periscope* was a turning point in the industry." *Periscope* was an instant hit, achieving rapid worldwide popularity in a fairly short amount of time. This submarine combat game had players "stand at the con" of a military submarine in an attempt to sink as many enemy vessels as they could. It even included a custom periscope controller, enabling players to sight their targets just like real sub commanders did. Keep in mind that this was an electromechanical game; video games as we know them now were still a ways off. The game was exported to the West the following year,

where its success caught the attention of the Gulf and Western corporation. In 1967, recognizing an attractive addition to their portfolio, Gulf and Western made Sega an offer it couldn't refuse. After three years of extensive negotiations, Gulf and Western bought out Sega, making it a wholly owned subsidiary but retaining the Sega name and logo; again, Rosen stayed on as Sega president. As for Marty Bromley, who was getting along in years, he took the opportunity to retire from the business. In 1974, Sega went public for the first time, with its stock openly traded on the New York Stock Exchange, with Gulf and Western listed as its principal shareholder.

Sega Periscope advertisement

The emergence of Sega video games

It was around this time a new industry began to emerge, thanks to the birth and rapid growth of the Information Age. The computer began to play an increasingly large role in every aspect of business. A new form of entertainment, computer video games, burst upon the scene, rapidly increasing

in popularity. William Higginbotham invented the medium in 1958, but it took the pioneering efforts of such giants as Steve Russell, Ralph Baer, and Nolan Bushnell to mold it into a profitable reality. Video games promised to reshape the entertainment industry in unimaginable ways.

Gulf and Western was in a perfect position to take advantage of this new market; Sega was already hard at work riding its edge. They gave free rein to Sega's innovative ideas, at the same time continuing to build on the company's original marketing and strategy formulas. In fact, Gulf and Western narrowed Sega's focus so that its sole purpose was the creation and marketing of video games. Sega would produce at least one video game a year from that point forward. They may have been new to the business, but they learned quickly.

Gremlin logo

The first thing Sega did was to buy a U.S. video game company named Gremlin, which marketed its Japanese-produced titles stateside and would go on to develop numerous arcade games for Sega. Many classic Sega arcade titles from this era were produced under the Sega or Gremlin trademarks, and frequently a combination of both. There was *The Fonz* (1976), inspired by the motorcycle-riding character from the TV sitcom Happy Days. The next year came *Space Attack* (1977), an unabashed clone of Taito's *Space Invaders*. And the following year saw the racing game *Head-On* (1979), itself a shameless rip-off of Atari's *Dodge 'Em*. Although not especially original, these games kept the cash coming in while Sega's R&D cooked up its own concepts.
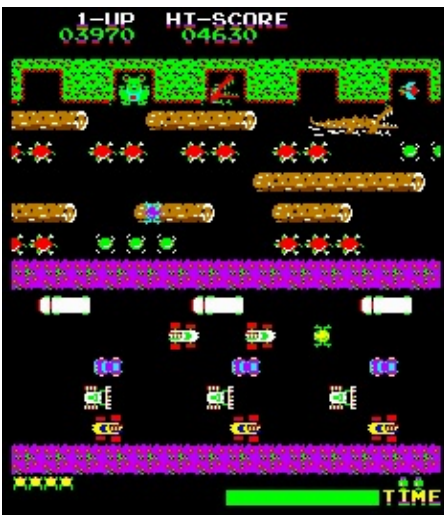
Frogger

It was in the 1980s that Sega's arcade video games really began to hit their stride. Many of the most fondly remembered vintage Sega titles are from this decade, and their influence extends throughout Sega's subsequent product lineup. Some of the best known examples include: *Monaco GP* (1980), *Astro Blaster* (1980), *Space Fury* (1981), *Eliminator* (1981), *Pulsar* (1981), *Frogger* (1981), *Turbo* (1981), *Pengo* (1982), *Tac/Scan* (1982), *Zaxxon* (1982), *Star Trek* (1982), *Up 'n' Down* (1983), and *SpyHunter* (1984). All of these are now considered arcade classics, and many led the video game market in technical innovations. They introduced the first color vector graphics game (*Space Fury*), the first laserdisc-based video game (*Astron Belt*), and the first 3D video game (*SubRoc*) . *Zaxxon* proved so successful that Sega opened its very first American corporate office with proceeds from sales of the game.

It would be easy to dismiss Sega's rise into the international amusement scene as just good planning and some off-field direction from Gulf Western, but – unlike Atari at the time – Sega showed unusually shrewd business sense. Rather than trail blaze or attempt to dominate the market, it worked at a business-like accord to insinuate itself into the established US amusement scene. In acquiring Gremlin the company gained not just a US foothold, but a manufacturing base. At a time when the industry was incredibly insular against 'foreign' involvement, the Gremlin name and credibility brought Sega a seat at the American amusement trade table.

This period wasn't without internal ructions. The 1981 success *Frogger* would prove a complicated success story. Developed by emerging Japanese amusement factory Konami, the game was licensed for worldwide distribution through Sega/Gremlin. The game proved so popular that Gremlin Industries soon "forgot" to include the Konami name in its marketing, even erasing it off screen. "Local distributor" soon became "owner," and by the end more people would recognize *Frogger* as a Sega game than Konami's. It would be some time before Konami was able to force back ownership, and exact some measure of retribution.

Embracing the new technologies of processors, ROMs, and color displays, invested research and development not only fueled greater game development but also allowed for investment beyond public-space amusement application. Spying what their competitors Atari had planned, many companies looked towards a consumer games machine, jumping on the bandwagon pioneered – and selling like crazy – in America. If it was good enough for America, Sega reasoned, it should work equally well in Japan. Ironically, Sega would later adopt the exact opposite of this mindset.

The rise and fall of the home video game market

The early 1980s found Sega involved in a subgenre of the evolving video game industry: the home consumer market. These were heady days for Nolan Bushnell's Atari, which dominated both the arcade and home video game industries. Unsurprisingly, Sega was approached to make ports of its popular arcade games for Atari's home systems. This they subsequently did, due largely in part to a new wrinkle in Sega's business dealings. Gulf and Western, which had spun off 20% of Sega's U.S. holdings, had by this time bought back all of its public shares of Sega stock and subsequently sold the U.S. division to Bally Manufacturing. The popular American video game company was looking to enter the home video game cartridge sweepstakes, and Sega seemed the perfect vehicle for doing just that. Ports of popular Bally and Sega arcade titles were produced for the dominant console at the time, the Atari VCS (i.e. the

Atari 2600), and its successor, the Atari 5200. Ports were also produced for several other popular consoles and computer systems of the day, including the ColecoVision, the Mattel Intellivision, and the Commodore 64 personal computer. Soon enough, popular Sega arcade favorites such as *Buck Rogers, Congo Bongo,* and *Star Trek* found their way – in cartridge form – into many American gamers' homes.

Atari 2600

Like the other players in the market, however, Sega was caught completely off guard by the "great crash" of 1983, in which the American video game market collapsed beneath its own weight due to heavy-handed behavior from a profit-hungry Atari. Beginning at the tail end of 1982 and continuing through 1983, the effects would be felt around the world. In the West, Sega's fortunes faltered alongside its competitors'; however, things took quite a different turn in its home country. Sega managed to survive thanks to the intervention of its founder, David Rosen, who in 1979 had bought a Japanese distribution company founded by entrepreneur Hayao Nakayama. After the video game market crash, Rosen and Nakayama personally intervened to save Sega. With the backing of Nakayama and a number of other investors, the entire Japanese assets of the company – and the Sega name - were bought back from Bally in March of 1984 for a mere $38 million.

Sega logo

The newly revived company was then split into two major branches, with Nakayama becoming the first president of Sega of Japan and Rosen the first president of Sega of America. Rosen also retained his titular role as Sega CEO, thus reassuring investors that it would be back to business as usual once the smoke had cleared. He would eventually cede the role to Nakayama and focus his energies instead on propping up Sega of America. According to Sega's own public accounts, it was from this time they learned a new lesson, and well: never stick with the same concept for too long, as every form of technology has a limited life span. It also marked what would become something of a trend for Sega's corporate mindset: when faced with abject failure, work out the problem and try not to make the same mistakes again.

Sega's first system

Borderlines

On July 15, 1983, Sega produced the SG-1000 home video game console. The SG-1000 marked the company's first stab at manufacturing and selling a home console of its own. It released in Japan for ¥15,000 ($125) and reached the rest of Asia shortly thereafter. Like other consoles at the time, it was a 4-bit system with 64K of RAM running at a "speedy" 1.2 MHz. It came with one SJ-300 control pad. The system was released in several different countries including Australia and parts of Europe, but never made it to the North American market. A second incarnation, the SG-1000 Mark II – or Sega Mark II, for short – was introduced about a year later, featuring three significant changes: a redesigned case, a detachable keyboard (model SK-1000), and a beefier 2.3 MHz CPU. While the Mark II, with its optional keyboard and printer model, was intended to serve as a personal computer, the Mark I was designed purely to play video games such as *Borderlines*, one of its first titles. To that end, a BASIC programming cartridge was developed and marketed for the Mark II system. Both versions were distributed exclusively in Japan, although a few managed to make their way into export markets at ridiculously high prices (even for the time). Both systems supported software loading via cartridges, but the Mark II enabled users to load software from tape as well.

The Mark II was also the first to introduce Sega's 4-bit Game Cards, smaller cartridges that could be played on either console by means of the special Card Catcher module.

Sega SG-1000

It was unfortunate for Sega that they brought the SG-1000 product line to market when they did. July 15, 1983 also happened to be the release date of the SG-1000's immediate competitor in Japan – the Nintendo Family Computer, or Famicom – but more on that rivalry later. For now, the market crash of 1983 combined with the arrival of the Commodore 64 – the most powerful 8-bit personal computer of its day – ruined any chance Sega had of marketing the Mark II as a personal computer outside of Japan. While it did quite well in its home country, the SG-1000 never saw the light of day in the West, save as a pricey import in such out-of-the-way places as Australia and South Africa. It's no surprise, then, that Sega quickly made an 8-bit product line its primary focus until it could come up with something else.

For the next three years, all new software and what few hardware accessories Sega released were designed exclusively for the 8-bit product line. The original SG-1000s quickly disappeared from shelves, and all of their accessories and software libraries would eventually be absorbed into the new product line. Sega would continue to offer belated support for the older SG-1000 consoles, but mostly as a matter of corporate honor. Only 100 or so titles would ever be made for the 4-bit SG-1000 hardware, a fair number of

those produced long after the system had faded into obscurity. Most of the software and add-on hardware developed for the system in later years would be by hobbyists and what few third parties remained dedicated to the system.

The penultimate configuration

Not long after the SG-1000 was first introduced, Sega integrated the SG-1000 Mark II and its optional keyboard into a single housing. Redubbed the SC-3000 (CSC-3000, according to some accounts) the new system was released in November 1983 at a price of ¥29,800 ($250), marking what would be the first iteration of Sega's 8-bit product line.

Sega SG-3000H

Sega's marketing plan for the SC-3000 was rather straightforward: if you wanted a dedicated gaming system, you would buy a SG-1000. If you wanted something more, you would buy an SC-3000, which was of course compatible with all SG-1000 hardware and software, and even worked with the SG-1000's "Card Catcher" adapter for the small Sega Game Cards. Officially, the SC-3000 came in three flavors: white with tactile keyboard (Japan), black with tactile keyboard (export), and black with standard keyboard and extra memory (SC-3000H, all markets). A redesigned, smaller SJ-300 control stick was provided with each and every SC-3000 sold. An add-on expansion unit, the SF-7000, added such personal computer essentials as a 3" floppy disk drive (similar to that used in other Japanese systems), a parallel printer port, and

additional system memory.

SG-1000

Component	Description
Processors	• Zilog Z-80A NEC D780C-1 CPU (Zilog Z80 clone) running at 3.579545 MHz • Texas Instruments SN-76596 PCM audio processor • Texas Instruments TMS9928A video processor
Graphics	• 16 on-screen colors from a 256-color palette • Support 256x220 resolution • Capable of up to 32 sprites • Custom video out connector for color composite monitor • Built-in RF adapter for direct TV connection
Sound	• 4-channel mono sound • 3 sound generators of 4 octaves, 1 white noise generator
Memory	• 2 KB RAM • 16KB video RAM
Connection	• One expansion slot • Cartridge port • SR-1000 tape drive port • Dual joystick ports • Commodore-style A/V and serial device port
Storage	• SG-1000 compatible cartridge port (Game Card "card catcher" optional) • Standard audio cassettes (using SR-1000) • 3" floppy disk drive (optional) • 1MB Cartridge

It should be noted that system memory was upped in the SC-3000H from 2KB to 8KB, because using Sega's BASIC 3 cartridge for programming left only 515 bytes free in the original SC-3000! The extra memory in the SC-3000H was included to get around this limitation but did not come cheap - the original asking price was ¥33,800 ($300), or about $50 more for the privilege of having the additional 16K of system RAM.

Sega SR-1000 cassette adapter

Few folks remember the Sega SC-3000 because it died a rather swift death in its home country. It was not fully compatible with the new MSX standard for personal computers in Japan, and the emergence of these systems marked the doom of the SC-3000. In comparison, MSX computers were more powerful and far less expensive than the SC-3000, so many a prospective Japanese buyer let their pocketbooks govern their thinking. The SC-3000 quickly faded away into obscurity, with the Sega Mark II replacing it as the company's mainstay system in the computer video game market. Nevertheless, it's worth noting the specifications for the Sega SC-3000 personal computer, as they bear an uncanny resemblance to the next Sega system we come across in our journey.

Sega SJ-150 controller

Fortunately for Sega and the other players in the video game industry, the hard times were not to last. Change was on the way, bearing fresh ideas and new innovations, and the price of hardware was dropping. Cheap DRAM came into abundant supply by 1984, making easily available one of the primary ingredients for the next generation of home video game consoles. Despite its earlier failures, Sega was ready, willing and able to join the industry's second generation, and work soon began on what would become the company's first 8-bit home system. This product would incorporate ideas new and old, bank on Sega's existing experience, play ports of popular Sega arcade titles, and would pit it against a native foe with which it had first rubbed shoulders back in the arcade video game industry's boom days. It would be the start of a sometimes genteel, sometimes bitter, but always entertaining rivalry that would endure through the years. It would be three years before Sega re-entered the U.S. home video game market with another product line – but once they did, they never looked back.

Sega Master System advertisement

SG-1000/SC-3000 Factoids

• There are a number of 4-bit and 8-bit clones of Sega's SG-1000 console hardware. Most are dedicated SG-1000 clones, but some actually supported games produced for another system as well. These include:

  • Dyna 2-in-1 (Telegames, 1983 – Japan, supports both SG-1000 and ColecoVision games)

  • Othello Multivision FG-1000 and FG-2000 (Tsudaka, 1983 – Japan, originally priced at ¥19800)

  • Pioneer TV Video Game Pack SD-G5 (Pioneer, 1983 – Japan)

  • Telegames Personal Arcade (Telegames, 1983 – U.S. version of the Dyna 2-in-1)

• The Sega Card Catcher was a special accessory module that plugged into the unit's cartridge port. Enabling SG-1000 owners to play games released on the smaller and cheaper Sega Game Cards, it was later integrated directly into the hardware as part of Sega's 8-bit product line.

• The only version of the SG-1000 product line that did not provide support for the optional SK-1000 keyboard was the original SG-1000 Mark I.

• The SC-3000's limited RAM resources became such a problem for Sega that they eventually issued a standalone 16K RAM expansion module for it.

• Both the SG-1000 and SC-3000 was exported to Australia and New Zealand, where it was marketed by John Sands and Grandstand Leisure Ltd., respectively, under license to Sega from 1984 to 1986. The Grandstand SC-3000 far outsold the SG-1000, and developed a loyal following similar to that enjoyed by the Commodore 64 in other parts of the world. According to the Obscure Pixels website, a number of market-specific tape-based applications and games were produced. In addition, certain third-party SC-3000 peripherals, such as a light pen and a speech synthesis unit, were Australian and New Zealand market exclusives.

- The largest capacity cartridge manufactured for the SG-1000/SC-3000 was used in the adventure game *Loretta No Shouzou*, a Japan-only release based on an original Sherlock Holmes story. At one megabit, it was nearly three times the size of any other official game cart.

- One of the many peripherals released for the SC-3000 was a drawing tablet for the software title *TV Oekaki*. Connected directly to the cartridge, the tablet projected users' drawings directly onto the screen. Essentially identical to a Koala pad, it was the forerunner of the pen tablets that were later designed for use with the Mega Drive and Pico system. It was slated for release in most Western markets under a variety of names, but never saw the light of day except in prototype form.

- GameTap, a French online video game service, includes SG-1000 emulation which enables users to play any of the several titles available online, making it one of the few legal ways to play SG-1000 titles. Newer Sega Master System emulators are normally able to play SG-1000 titles as well.

- An additional model known as the Mark IV was released in Taiwan. While little is known about this model, it is believed to be closer to the Mark II than the Mark III. This naming scheme was later continued with the release of the Mark V, a reclassified Sega Mega Drive.

- The SF-7000 expansion unit was the ultimate in terms of accessories for the SC-3000 personal computer. Like the expansion box for the Texas Instruments TI-99/4A computer, it provided Sega's system with a lot of hardware that was not built into the system. In Sega's case, this included a Japanese standard 3" floppy disk drive, a Centronics parallel port, and 16K of additional system RAM, making it the single most expensive peripheral made for the SC-3000. Its initial asking price of ¥79800 ($830) ensured that very few were sold.

Sega SF-7000

Trail Blazer:
The Sega Master System

The competition emerges

While Sega was enjoying considerable success in Japan with the SG-1000 and SC-3000, one of its arcade competitors was taking note, and making plans of its own. Founded as a multi-faceted amusement company in 1889 (Japan's Meiji period) by visionary Fusajiro Yamauchi, Nintendo had been but one of many such companies in the field – until the video game boom. They quickly jumped in with their first arcade game, *Computer Othello*, and went on to create such arcade classics as *Donkey Kong* and *Mario Brothers*.

It was also at this time Nintendo was baptized in the home console market fire, producing a series of exceptionally high-quality arcade ports for the ColecoVision system. These vanished alongside the ill-fated console – and many other vendors' products – into the calamity that was the "great crash," but Nintendo was undaunted. CEO Hiroshi Yamauchi, descendent of the company's original founder, proposed a bold plan to Nintendo's engineers: develop their own personal computer for the Japanese market. But Yamauchi – fearing missing out on a golden opportunity – rushed both design and manufacturing; the end result was a rather basic, frills-free box called Famicom.

The Famicom – short for "family computer" – was a relative failure at first, due to design flaws and hasty production. Insignificant as a personal computer, it enjoyed some success as a home video game system thanks to near-perfect ports of popular Nintendo arcade titles, leading Yamauchi and his engineers to rethink their strategy. At the same time, Atari's near-total collapse left the door to the American market wide open for a new generation of video game consoles. All that was needed was a company stubborn enough – and with enough marketing chutzpah – to win over America's gun-shy developers and retailers. Nintendo took that plunge in 1984, and the rest is history.

Nintendo Famicom

Officially released in the United States in early 1985, the Nintendo Entertainment System (NES) was an instant success. The quality-starved American video game market, disenchanted by Atari's bland offerings and still savoring the too-brief taste of the Mattel Intellivision and the ColecoVision, flocked to Nintendo in droves. Nintendo monopolized the American market overnight, ensuring any future competitors a tough row to hoe in the world's most profitable marketplace. Sega, naturally, did not take too kindly to its newfound rival's sudden success, and decided to do something about it.

The next Sega system

The Sega SG-1000 Mark III, better known as the Sega Mark III, was the third and final iteration of the SG-1000 line, and Sega's first dedicated home system to be based on 8-bit technology. Modeled on the failed SC-3000, the Sega Mark III was released in October of 1985 at a price of ¥15000, marking Sega's initial response to Nintendo's Famicom. The following year, it found its way to Hong Kong, and a few even appeared in Western import markets. It had been three years since Sega had rolled out a new video game system, and its market presence hadn't been helped by Nintendo's success; however, Sega held hope that its name still held sway with the gaming public.

The Mark III was almost visually identical to the Mark II, save for the raised cartridge port, and a small card slot in front of that. Optional accessories included the Mark II's SK-1000 keyboard and a smaller version of its printer,

as well as a drawing pad for artistically-inclined users. Like its ill-fated predecessor, the SC-3000, the Mark III was modeled in part after the Japanese MSX personal computer standard, with a "blazingly fast" 3.6 MHz Zilog Z80 as its CPU. Several improvements were made to the stock SG-1000 graphics capabilities, including upping the maximum number of on-screen sprites from 32 to 64. Perhaps most important of all, the Mark III was the first to integrate a PCM sound synthesizer chip, providing users with 6-channel audio – a welcome improvement to the "bleeps and bloops" of the SG-1000 series. An FM synthesis module based on the versatile Yamaha YM-2413 FM generator chip was also available, adding nine audio channels to the system's six, and fifteen pre-programmed synthesized instruments for an audio experience rivaling that of more powerful personal computers. As for the additional card slot, the development teams at Sega had taken the SG-1000's Card Catcher accessory and integrated it directly into the system. This made the Mark III fully compatible with both cartridge and Game Card formats, and back-compatible with all of the SG-1000's software.

Sega Game Card

The Mark III represented a departure from the 8-bit consoles of the day in at least two significant ways. As the first purpose-designed, dual-format home video game console, it worked with standard Sega 8-bit video game cartridges

nearly identical to (and interchangeable with) those first used in the SG-1000/SC-3000 line. And then there was that "card catcher" slot for 4-bit Game Cards. Due to physical constraints, Game Card games tended to be smaller and less sophisticated than their cartridge-based counterparts; however, they were also typically considerably cheaper. Users could load games in either port, allowing for more flexibility than Sega's single-port competitors. A favorite game could be left plugged into one port, with games swapped in and out of the other as desired.

The Mark III is also notable for being the first home console to experiment with virtual reality in the form of 3D glasses. These were little more than an electronic variation of the red/green or red/blue spectacles worn by thrill-seeking moviegoers in the 1950s. Each lens would rapidly strobe between opaque and clear; this was carefully timed to correspond with rapid shifting of on-screen imagery to simulate a 3D effect. While crude by today's standards, they worked quite well, proving popular enough to warrant a series of Sega games designed especially for their use. Although there would be other iterations of the hardware, this was the top-of-the-line model for the SG-1000 product line.

Sega Master System 3D Glasses

An uphill battle

Sega was unable to ever hold its own against upstart Nintendo in the home console market, and in the wake of the Famicom's debut, its sales began a

downward spiral. The Mark III was a superior system in every aspect; however, the relative affordability of the Famicom – backed by a wide range of titles and Nintendo's ruthless "inventory management" marketing techniques – gave it a virtual lock on the 8-bit market. Most of the more fondly recalled titles from this time were produced exclusively for Nintendo, leaving other console vendors – including Sega – out in the cold. Reasoning that what's good for the goose is also good for the gander, Sega planned a dedicated video game console of its own. Like Nintendo, they started by basing their new console on the most powerful computer hardware they were vending at the time…and then they gave it a major overhaul.

Sega started with the Mark III, stripping it of all functions and ports not useful to a pure gaming system. The end result? A stripped-down 8-bit console not all that different from its predecessor – the 4-bit SG-1000 Mark I – save in horsepower. The integrated Card Catcher port was retained, however, as were the standard Sega cartridge, controller, and A/V ports. The FM synthesis audio module was integrated into the Japanese version, but omitted from the export version in order to cut costs. Finally, a light gun was included with every one of these new consoles – a first for any Sega system. Modeled after Sega's earlier Zillion Gun for the Zillion anime TV series, it reflected the company's gun gallery gaming heritage and the popularity of Nintendo's *Duck Hunt*. And so, in spite of similarities to its SG-1000 personal computer, Sega's "new" Master System was born.
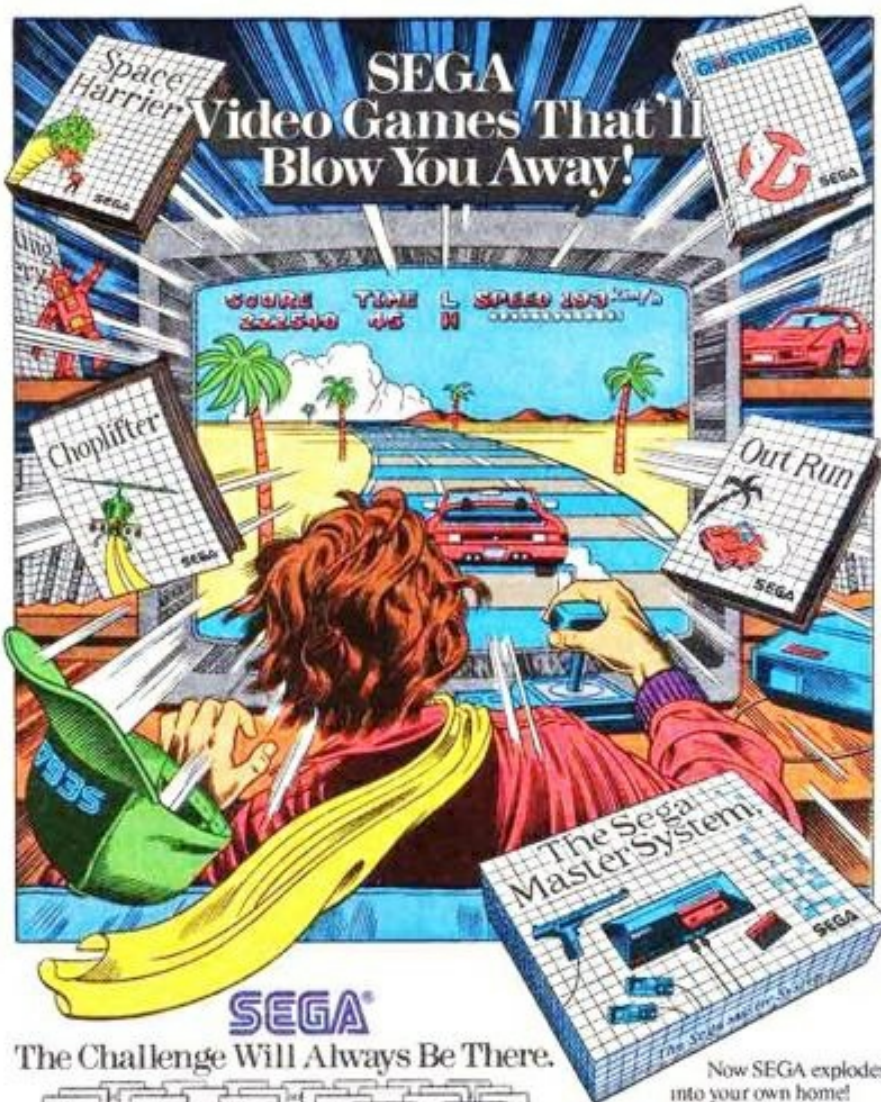
Sega Master System Advertisement

Master System™

Component	Description
Processors	• Zilog Z-80A NEC D780C-1 CPU (Zilog Z80 clone) running at 3.579545 MHz (3.546893 MHz PAL) • Texas Instruments SN-76596 PCM audio processor • Texas Instruments TMS9928A video processor
Graphics	• 64 colors from a 256-color palette, 32 on-screen • Support for both 256x220) and 256x192 display modes • 40x25 character text display mode • 32 sprites on-screen • Custom video out connector for color composite monitor • Built-in RF adapter for direct TV connection
Sound	• 4-channel mono sound • 3 sound generators of 4 octaves, 1 white noise generator
Memory	• 8 KB RAM • 16KB video RAM
Connection	• Cartridge port • SR-1000 tape drive port • Dual joystick ports • Commodore-style A/V and serial device port
Storage	• SG-1000 compatible cartridge port (Game Card "card catcher" optional) • 1 MB Cartridge

Also known as the SMS, the Sega Master System was one of the first legitimate direct challenges to Nintendo's monopoly on the gaming market. In another industry first, Sega made the bold move of exporting their new system worldwide before releasing it at home in order to better compete with their rival on a global scale. This was not the first time Nintendo's dominance in video games had been tested, but this challenger theoretically packed the talent and product to match or even best anything that they could offer. Thus began round two in the console wars, in which Japanese companies would supplant American ones in vying for dominance. It would be nearly a full decade before another major player entered the scene.

In June of 1986, the SMS became Sega's first vended home console in the U.S., debuting a year and a half after the Sega Mark III was first released in Japan, and finding its way home in November of 1987. It performed better than

many analysts expected at launch, selling some 125,000 units over its first four months on the market at $200 apiece. The success of the SMS no doubt benefited from famous movie critics Gene Siskel and Roger Ebert, who openly endorsed it on their television talk show. Even so, Nintendo sold over two million NES units over the same period, a 16-to-1 market ratio. Clearly outgunned, and lacking the cash for an extended overseas campaign, Sega CEO Hayao Nakayama opted not to expend too much additional effort. In early 1988 arrangements were made with American toy manufacturing powerhouse Tonka to market the system and its software to as many U.S. outlets as possible.

Turning the SMS's U.S. fate over to Tonka proved a fatal mistake from which Sega never really recovered. While the system's market performance wasn't exactly stellar in Sega's hands, Tonka's guidance over the next three years is best described as apathetic. With Tonka lacking experience in properly marketing and gathering support for a video game console, the SMS went nowhere fast. Due to a lack of exposure and Nintendo's lock on both the developer community and U.S. video game market, little-to-no headway was made against the stalwart NES. Nintendo's exclusive development licenses ensured that Tonka could only manage to garner the support of two third-party companies in the U.S. - Activision and Parker Brothers. By the end of 1988 Nintendo had sold over 30 million NES consoles, with retailer demand for over three times that number. Despite its technical superiority, the SMS failed to put a dent in the U.S. market.

Sega Master System

One SMS title from this era does deserve special mention, one of only a few exceptions to an otherwise abysmal showing. Originally developed by Sega in 1987 as a showpiece for the fading Sega Mark III, Yuji Naka's *Phantasy Star* was also one of the last titles released for its 8-bit console, going on to became one of Sega's most popular games, and garnering a worldwide following. A science-fiction RPG with decidedly fantasy elements, it tells the tale of young Alis and her quest against an age-old evil threatening her world. In 1988, it became the first console RPG to be released in the United States; Nintendo having not seen fit to import either *Dragon Warrior* or *Final Fantasy*. *Phantasy Star* was superior to both of those games in terms of graphics and sound, delivering detailed on-screen displays and character graphics (as opposed to Nintendo's more tile-like offerings) and making full use of the Mark III's PCM synthesis chip to deliver one of the best FM-based audio experiences in an 8-bit RPG.

Phantasy Star was the first RPG to use first-person perspective (during dungeon-crawling sequences), and the first to feature a female lead. Its popularity was such that Sega would eventually make it a franchise, prodding Nintendo to release its own RPGs in the U.S. The game was re-released twice, appearing in all its original 8-bit glory as a custom cart for the 16-bit Sega Mega Drive in 1992, and over a decade later in *Sega Ages: Phantasy Star Collection* for the Saturn. Sadly, the first *Phantasy Star* would be the only

game in the series released for Sega's original 8-bit systems, and its 1988 reissue for the SMS the only English-language version to see the light of day.

Tonka's mishandling of the SMS caused Sega to rethink its marketing strategy for its 8-bit console. In 1990, not long after Sega's 16-bit Genesis began whittling away Nintendo's market monopoly, Sega of America reacquired the SMS marketing rights from Tonka. The system was retooled, and released as the Sega Master System II. Harkening back to its SG-1000 roots and bearing a striking resemblance to the subsequent Genesis Model 2, the SMS 2 was for all practical purposes a cartridge box and nothing more. It had no Game Card slot, power light, reset button or expansion port, and lacked the fancy BIOS (including the built-in instructions and hidden features) of its predecessor.

Phantasy Star

Sega tried to do everything that Tonka had failed to do in terms of product support – including better advertising, packaging, and acknowledgement of developers and licensees – but its efforts were doomed from the start. The days of 8-bit technology in the U.S. console market were clearly over (although the NES still soldiered along, due largely to sheer momentum). While the SMS was dying an ignoble death in America at the hands of the wildly popular NES,

its technology was even then being revived in another form – smaller, portable – to be pitted against an old and familiar foe. But before we discuss the successor to the SMS, let's first see how Sega's 8-bitter fared in other major markets.

All is not lost

If America was Nintendo's 8-bit console success story, then Europe was Sega's. The SMS was Sega's first console to be widely marketed in the Old World, debuting in September of 1987. Much to Nintendo's chagrin, it quickly seized most of the mindshare, and didn't let go until Sega's own 16-bit Mega Drive came along in 1990. Over a dozen third-party developers signed on, and were largely responsible for some the best games ever released for the SMS during its lifetime. Their names will be familiar to most gamers: Absolute, Activision, Acclaim, Codemasters, Core, Domark, Flying Edge, Image Works, Sony Imagesoft, TecMagik, Tengen, U.S. Gold, and Virgin. The NES – which had trounced the SMS in Asia and America – was unable to topple its popularity in Europe, catching Nintendo off-guard. This unexpected reversal of fortune on a new battlefield forced the company to stoop so low as to license popular SMS titles for release on the NES, in order to buck up flagging sales.

The SMS performed so ably in Europe that Sega officially recognized this third major market when it formally opened its European offices the following year. Nintendo, meanwhile, did not have need to create a European arm solely for NES support, a bitter pill not forgotten when making licensing arrangements for new titles in the years to come. As for the SMS itself, it remained an integral part of the European console scene – despite its 8-bit technology – until 1996, when it was officially discontinued in order to make way for the Saturn.

Sega Master System II

It's worth noting that the SMS saw its final glory days not in Sega's usual worldwide markets, but in the economic powerhouse of South America's largest nation: Brazil. In 1989 Tec Toy released the third and final official incarnation of the console, the Sega Master System III. This was little more than a cosmetic makeover of the SMS 2 with certain localized features - such as built-in games – but proved an instant hit with cash-strapped Brazilian gamers, selling some two million units over the next eight years. Tec Toy localized a number of SMS titles for Brazilian audiences, in some cases translating the games into Portuguese, and replacing the characters with ones more familiar to Brazilian audiences. They also converted several Game Gear games, such as *Sonic Blast*, for use on SMS hardware; some of these underwent Tec Toy's localization process as well. Only a handful of brand-new SMS games were made under the Tec Toy license, the best known of these being an 8-bit conversion of Capcom's *Street Fighter 2*.

A final hurrah

From the late 1980s and well into the 1990s, Sega developed a multi-tiered R&D strategy aimed at developing a broad range of next-generation consoles, ranging from handheld portables to high-end tabletop models. This is now known by Sega historians as the "planet series" of consoles for the simple reason that all (save one) had code-names based on our solar system. Planets beyond Earth were used to name tabletop systems, those between Earth and

the Sun for handhelds. Of those two, we'll reserve discussion of Project Venus until we get to the Genesis, covering here the remaining candidate: Project Mercury.

Sega began work on Project Mercury in 1989, its avowed goal to produce an 8-bit handheld that was superior to Nintendo's popular Game Boy in every way. SMS technology – already available, and superior to Game Boy hardware – was drafted into use, ensuring that nearly every title in Sega's 8-bit library could be re-released for the new system, cutting costs and channeling the savings into new titles. Unlike Nintendo's system, Sega's handheld would sport a color LCD screen to showcase its superior titles. It would also be held lengthwise, placing the controls at the thumbs and making it more accessible than the Game Boy's cramped layout. The Game Gear was released to the Japanese public on October 6, 1990, debuting in America a few months later, and in Europe in late 1992.

Not surprisingly, the Game Gear never came close to matching the Game Boy's global success. The system's color LCD ensured it a notoriously short battery life, and – once again – Sega's library lacked the top-notch titles needed to compete with Nintendo's. Save for Sega's new *Sonic* franchise, this was a repeat of the early days of the SMS all over again. There was a slew of *Sonic* titles, of course, and a handful of decent third-party efforts from the usual Sega licensees, but little more. The remainder consisted of SMS retreads or re-releases, and recycling old games failed to fool consumers, something that Sega would do again several years later.

Featuring a variety of peripherals that expanded its functionality, including a TV tuner, Gear-to-Gear cable, and the Master Gear Converter (which enabled it play SMS titles), the Game Gear did moderately well in Sega's traditional strongholds (the U.S. and Europe) but hardly made a blip in Japan and the rest of Asia. So in 1997, Sega quietly killed the system, focusing its resources against a new threat: Sony. Game Gear's passing was mourned by few, and with that the 8-bit chapter in Sega's history came to a close.

Sega Game Gear TV Tuner

Despite an ignominious death, Sega's Game Gear was the best-selling non-Nintendo handheld video game system of its day, moving some 10.6 million units during its original market cycle. Majesco would release a stripped-down model in 2001, but actual game releases were almost non-existent. Still, Game Gear remains one of the best-selling non-Nintendo handhelds to date, selling more than every other competitor combined until the release of Sony's PSP in 2004.

Sega Game Gear

Final observations

If the SMS was such a success outside of North America, why did it fail in the world's most profitable market? The following information, sourced from Jeff Bogumil's Sega Master System FAQ (easily available online), sums up the situation as well as any other account on the subject.

First come, first served: Nintendo was the only video game company foresighted enough to test American waters in the wake of the video game market crash. They were willing to do whatever it took – including marketing the NES themselves – to seize it for their own, and their persistence paid off handsomely. By the end of 1985, they owned the U.S. video game market in a way not even Atari had been able to accomplish. This left little room for competing systems, especially those crossing the big pond three years after the NES.

Nintendo's illegal monopoly: Owning 90% of the world's largest video game market means not having to play fair. Leaving just 10% for the competition ensures – in theory – they won't be able to catch up, regardless of what they release. Nintendo's initial success with the NES enabled it to force software developers into exclusive licensing arrangements; their games had to be exclusive to the NES, and could not be ported to other vendors' systems. This resulted in a number of lawsuits brought by both the public and private sectors, and in 1992 Nintendo was found by the New York state court system to have established an illegal monopoly on the U.S. video game market. Nintendo's first response was a modest relaxing of its licensing restrictions, in which a developer had to wait at least four years before porting an NES title to another system. Unsatisfied, the American and Japanese governments eventually forced Nintendo into abandoning such tightly exclusive contracts altogether. Unfortunately for Sega, this legal intervention came too late to save the SMS, and left it without the library of games it could have had if not for Nintendo's ruthless licensing tactics.

Name-brand preference: It hardly mattered that Sega made some of the best arcade games in the world, many of which had been faithfully ported to the SMS. To the typical American consumer, long inured to a steady stream of high-pitched advertising, every video game system was a "Nintendo." Thanks to the company's successful advertising and promotional campaigns,

the NES became a key part of American culture. Even today, many Americans who grew up during the 1980s refer to any video game console as a "Nintendo." Parents liked the NES for its nice, family-friendly games, and kids liked it because it was 'cool;' if your friends had one, then you had to have one, too. It was a new status symbol for idealized American consumerism – in every home an NES for the kids, with their parents on their IBM PCs or Apple Macintoshes – and that suited Nintendo just fine. In a market culture where having the "in thing" means everything, the SMS was definitely "out," and quickly shunted aside.

Nintendo Entertainment System

Poor product management: Arguably the single worst decision made by Sega concerning the SMS was to turn its fate over to Tonka, a company with ample name recognition, but absolutely no experience in video games. In a move echoed by Sega itself about a decade later, Tonka left most of the better games back in Japan, marketing (for the most part) cheesy, repetitive arcade ports instead. There were few quality gaming experiences to be had in Tonka's SMS offerings, whereas the NES library was replete with excellent choices for whatever kind of gaming experience you wanted.

Weak third-party support: Nintendo's lock on developers meant Sega and Tonka had to give the SMS's (limited) third-party support all the exposure they could. This never happened, due largely to Tonka's bungling. Activision and Parker Brothers, the only two U.S. third parties to support the SMS, received little credit or recognition for their efforts. Nintendo, on the other hand, had studied former rival Atari carefully, noting how it had made the same mistake years before with the Atari VCS, causing a number of programmers and developers to leave the video game industry altogether. Nintendo made

sure to give its third-party partners plenty of exposure – even if they were locked into restrictive contracts – which in turn cultivated support among other prospective groups wanting to develop for the NES. As a result, the SMS never had nor could achieve a competitive library of good games. The initial offerings in the U.S. could best be described as being somewhere between "wretched" and "horrid," and what few popular titles there were tended to be the usual sports or action fare. Other than rare exceptions such as *Phantasy Star*, the SMS software base simply didn't have the wide-ranging appeal and variety as that of the NES.

It may come as surprise that the Sega Master System is Sega's second-best selling video game console to date. Taking into account the three iterations of the console, along with Sega's own figures and those of its licensees, it's estimated that over 13 million SMS units were sold worldwide between 1986 and 1998 – not including clones and knock-offs. While that comes nowhere near to the worldwide sales of its chief competitor, it's notable when considering its technology, and relative to the performance of other non-Nintendo consoles. While these numbers vary somewhat from source to source, it is still a remarkable feat for a system some video game historians consider a failure. Those who have been diligent in their research, have examined the system and its software base, have worked the numbers, and are able to see the big picture – they will tell you otherwise.

Warts and all, the SMS was key in developing Sega's user base beyond Japan, being the company's first home system marketed to other countries. While it did not perform as hoped, Sega's arcade games remained as popular as ever, bringing in much-needed profits while the SMS foundered on the home front. Its software included such hits as *Alex Kidd* and *Phantasy Star*, and made clear the fact that Sega was willing to go the extra mile and "bring its arcade games home" on hardware that was every bit as good as (if not better than) Nintendo's. Those gamers noticed, and Sega's reputation improved worldwide as a result. The SMS also helped set the stage for the next batch of Sega consoles, marking a new beginning for Sega: for once it would ride the cutting edge of home console technology, instead of following in its wake. Sega's next system would turn the home video game market on its ear, but

could not have done so without the SMS to open the door. Against overwhelming odds, the dogged persistence of Sega's 8-bit console blazed the trail for the 16-bit powerhouse that would succeed it.

Forgetting its skills

It should have been clear from the start that Sega would find it nearly impossible to compete against Nintendo in the home market, especially after playing second fiddle in the arcade business for years. Tradition dictated that Sega and Nintendo arcade games would start in the amusement scene and then be brought later to consoles, but round two of this bout turned that process around, something very much opposite of Sega's strengths.

Alex Kidd in Miracle World

Nintendo marked their slowdown in amusement investment with a machine based on their successful NES. The 1986 'Player Choice' game platform offered up a selection of console games to be enjoyed in the amusement environment. With its ability to simply swap-out games, this offered a unique selling opportunity to operators. Rather than replacing entire machines, they could simply update any of the 'Player Choice-10' offerings with new games supplied by Nintendo. Though featured in a brief cameo (as "*Wild Gunman*") in

the 1989 movie "Back to the Future: Part II," Player Choice ultimately proved an uncomfortable crossover between arcade and at-home thrills.

Sega Master System Control Stick

Chasing Nintendo's lead, Sega did the same with its Master Systems, releasing the Sega Mega-Tech System and the Sega Master System home library to amusement halls in 1989. Despite initially having only eight slots to Nintendo's ten, Sega hoped to wow players and operators with 16-bit gaming and a compelling business model: Rather than the conventional credit for a life, the Mega-Tech had gamers paying for time to play. This controversial approach skirted the skill-based foundation of coin-operated entertainment, and though the games were pioneers in their field, a bad taste was left in players' mouths.

While Nintendo looked on the Player Choice as their departure from the amusement scene (other than occasional flashes such as the 1991 Super Nintendo System and licensed IP), Sega grew even more schizophrenic, leading a dual life as both amusement corporation and consumer game manufacturer.

Sega Master System/Game Gear Factoids

• The internal Sega code name for the SMS was Power Base; this designation can be found printed on each and every PCB (the internal system board) for the original SMS.

• Officially licensed variations of the Sega Mark III include:
   -The Sega Mark III (Japan, 1986)
   -The Sega Master System (all markets, 1987)
   -The Sega Master System II (U.S. and Europe, 1990)
   -The Sega Master System III (Brazil, c.1987)
   -The Sega Master System Compact (Brazil, c.1992)
   -The Sega Master System Girl (Brazil, c.1992).

• Known clones of the Sega Mark III/SMS include:
   -The Grandstand Programmable Computer (Australia, 1986)
   -The Mark III Game System (New Zealand, 1986)
   -The Mark Video Game System (Finland, 1986)
   -The Samsung Gam*Boy (South Korea, 1987, unlicensed)

• Only seven of Sega's Game Cards were released in the US SMS market, including *Spy vs. Spy* and *Transbot*.

• The rear-mounted 50-pin card edge connector on the SMS Model 1 was a holdover from the SC-3000. No official SMS peripherals were ever developed for it.

• The SMS was the first Sega product to use the word "mega" in its advertising, a descriptive term subsequently recycled for its next major console.

• In bringing the SMS to market, Sega hurriedly converted the code of many Sega Mark III games while leaving the original Japanese graphics and text intact. These were Sega's first dual-language games, and a complete list of

them (along with information on how to distinguish which games contain both languages) can be found in Jeff Bogumil's Sega Master System FAQ.

• While never released, two prototype Game Card Converters for the SMS Model 2 are known to exist.

• While Game Gear can run SMS games via such products as the Master Gear, no similar product was released by Sega (or any other company) enabling an SMS to run Game Gear games. The chief problem lay in finding a way to accurately convert games coded for Game Gear's 4,096 color palette into something useable by the limited 256-color palette of the SMS. According to Sega hardware experts, this color palette issue is the only real technical difference between the SMS and Game Gear.

• The original version of the SMS has a hidden snail maze game built into its system hardware. To access it on a machine without a built-in game, turn on the console without a cartridge or Game Card inserted, and wait for the instruction screen to appear. Now press and hold both buttons on controller one. To access it on a machine with a built-in game, turn on the machine while holding both buttons on controller one. This game was removed from later iterations of the console (the SMS 2 and SMS 3).

Sega Master System BIOS Game

A New Beginning

The Sega Mega Drive

The 16-bit revolution

1986 marked a substantial shift for the amusement trade. While having found success in establishing a multi-PCB standard (enabling only the game board to be swapped, rather than the whole machine) known as JAMMA, Sega soldiered on in creating large cabinets. *Out Run*, for example, was released as both a deluxe moving cabinet and a more conventional upright (standard) format. But the market was changing, and the release of the System 16A architecture fulfilled what Sega deemed the arcade scene needed.

Sega System 16 motherboard

Sega would release popular titles on the System 16A, including the ninja action game *Shinobi* and *Alex Kidd*, a cartoony platformer, and is notable for having one of the only Sega produced versions of *Tetris* (Nintendo owned the US rights), released in Japan in 1988. Sega's version helped drive the success of this phenomenally popular game in Japan's arcade and amusement industry, as Nintendo's did in the States. As was typical of Sega at this time, the company would release a series of updates to their amusement boards, including improved memory and graphics chips. The release of the Sega System 16B saw such seminal titles such as *Altered Beast* and *Golden Axe*. But that was the arcade; what about home consoles?

Altered Beast

1987 saw Sega in a most curious position in the home video game console market. On one hand, its Master System had failed to loosen Nintendo's grip on the industry. On the other hand, that same industry's base technology was fast becoming obsolete. New and more powerful personal computer systems, predominantly of the 16-bit variety, were making significant inroads into the market. New and revolutionary systems such as the Commodore Amiga and Atari ST were causing home consumers to reevaluate how video games should look and play. Personal computers were finally powerful enough to deliver a video game experience on par with arcades. Why not the same for home video game consoles?

The answer was simple. The home console market was still trapped inside an 8-bit prison, with an Italian plumber of Japanese descent stationed as its jailer. Nintendo had a virtual iron grip on the industry, with a 95% share of the Japanese market and 92% share of the U.S. Other vendors in the field didn't stand a chance on the fertile ground that Nintendo had exploited for years. Success would not be found in playing by Nintendo's rules on Nintendo's turf, but by taking the fight to a new arena, with new rules and standards of play. That arena was the next-gen wave of its day: the 16-bit generation of home consoles.

By this time Sega was already enjoying considerable success in the arcades with 16-bit hardware and extremely popular games such as *Afterburner 2*, *OutRun*, *Shinobi*, *Space Harrier*, and *Super Hang-On*. Sega had a reputation for producing arcade games like no one else, due largely to its use of the high-end 16-bit Motorola MC68000 CPU – or in some cases, two – in conjunction with the best 16-bit video display processors (VDPs) and sound systems it could devise. The major iteration of this design scheme was called System 16, and many a Sega game based on – or derived from – it could be found with a crowd of eager gamers clustered around it. The success of System 16 in the arcades, coupled with Sega's console woes, inspired CEO Hayao Nakayama, who reasoned that the time was ripe to literally "bring the arcade experience home." If Sega could devise an all-new console, one radically different from Nintendo's, and appealing to an all-new user base, it might find a niche upon which it could build. Producing a 16-bit console, as opposed to yet another system based on tried-and-true 8-bit technology, would put Sega on technological footing no competitor could soon be able to match. And by the time the competition – that is to say, Nintendo – caught up, the tables would already have been turned, with Sega's box an established leader sporting a healthy software base. To Sega, the time was now to bring this new system to market. A new customer base was already in place, and Sega would not let Nintendo snare them first.

Super Hang-On advertisement

It was a good thing for Sega that they chose to act when they did. Nintendo already had its own 16-bit console in the pipeline, the system that would be known as the Super Famicom in Japan and the Super NES (or SNES) to the rest of the world. Nintendo CEO Hiroshi Yamauchi had warned his company that they needed to be poised to seize the 16-bit console market by 1990; however, his statement did not carry the insistence his pronouncements typically did. With Nintendo still reaping huge profits from the NES, there was no apparent urgency in devising its successor. Additionally, Nintendo was having development problems with its newest box. At this point, it was little

more than a design concept and a few barely working prototypes, but already certain issues had surfaced. As originally designed, the system was far too expensive for the average consumer, let alone cost-effective for Nintendo. On top of that, project leader Masayuki Uemura was unable to meet Yamauchi's demand that the new box be backwards compatible with the NES. That feature was eventually abandoned, but only shaved about $75 from the anticipated end-user price tag. The core of the problem lay, of course, in the all-new graphics and sound-processing suite upon which Yamauchi insisted. Designed in anticipation of the coming multimedia boom, it drove up costs so much that Nintendo faced scrapping it all, risking being left behind. Its solution was to install a slower CPU – a Motorola-based WDC65816 CPU – over the faster 10 MHz MC68000 that Uemura originally intended. This yielded performance not much faster than the NES itself, so a relatively inexpensive math coprocessor was added to help ease processing strain.

Super Nintendo Entertainment System

Meanwhile, over at Sega R&D, a team of engineers under the direction of Hideki Sato proceeded at a rapid pace on development of Sega's new 16-bit system. This was little more than a redesigned System 16 arcade board, scaled-down and shoehorned inside a sleek-looking black case. An RF adapter and SMS-style audiovisual port replaced the custom arcade cabinet monitor

connections, and a cartridge slot replaced the on-board EPROMs. The results worked so well that Sega turned right around and used it as the basis for three more arcade boards (MegaTech, MegaPlay, and System C). The similarities between existing arcade hardware and Sega's new console ensured it would be relatively easy to convert existing System 16 games for play at home. The resultant ports were near-letter perfect versions of the arcade originals, enabling Sega to quickly build up a large library of games, and allowing its console programmers the time to develop all-new titles specifically for the new system. And all of those games – both old and new – would be running on 16-bit hardware, making it easy to discern the difference between Sega's and Nintendo's consoles at a glance.

There was another advantage to Sega's new system exploited right off the bat. Sega typically built its arcade games using a layered approach, adding bits of new technology to older designs until the new stuff was deemed worthy, and then designing a successor system using the new technology throughout. This was the case with System 16, which retained vestiges of its 8-bit ancestor boards, components practically identical to those found in the existing 8-bit SMS console, save in layout and the absence of the SMS boot ROM. In finalizing the design for its new 16-bit console, Sega R&D made sure to include a mode making it backwards compatible with existing 8-bit SMS games. All that would be lacking was the SMS boot ROM and the appropriate adapter for the cartridge port, so an external accessory was designed just for this purpose. This immediately opened up the entire 8-bit SMS library to the new console, comprising some 80 games as far as the U.S. was concerned, and even more in Japan and Europe. Backwards compatibility made for a tantalizing selling point: Sega gamers could play their 8-bit favorites on the new system while saving up money to buy new and better 16-bit games.

Nintendo Logo

As with Sega's pervious home consoles, a number of peripherals were planned. The half-moon shaped controllers – now the norm – were the first of their kind. Next came the SMS cartridge adapter, which by now had gained the unwieldy but workable title of Power Base Converter. Third was the Mega Modem (aka Telegames Modem), designed expressly for a series of modem-playable games that Sega planned to market in Japan in cooperation with Sunsoft. Three other accessories were also planned at this point: A keyboard, disc drive, and SG-1000 style drawing tablet. Their eventual market materialization hinged largely on the Mega Modem. If it failed, there would be no point in wasting money on the additional peripherals. Besides, Nintendo was already experimenting with modem-based technology for the NES, making it a logical choice.

All that was left was to give the new system – designated internally as MK-1601 – a new name. After much debate, Sega's Japanese executives finally settled on Mega Drive, which its small but loyal customer base would understand. Most Japanese have basic training in the English language, and English loanwords are frequently used in various industries for the purpose of emphasis. The English loanword "mega" was already part of Sega's SMS advertising campaign, promoting games that were supposed to be more powerful than their ancestors. Tacking on another English loanword, "drive," conjured up the mental image of some massive, powerful engine churning away.

Sega Mega Drive

Unfortunately for Sega of America, another American firm had already registered "Mega Drive" as a trademark, so the console was renamed "Genesis" for its U.S. launch. This proved to be a fortuitous decision. The name's Biblical connotations were not lost on conservative American parents, many of whose kids wanted the new system. The word "genesis" in Hebrew also means "in the beginning," and that is exactly what Sega had in mind; the next-gen wave of consoles began with a Sega system. Until this point Sega had been playing catch-up to Nintendo. Now it would be leading the way.

Sega Genesis advertisement

Here are the final specifications for Sega's new 16-bit home console as they stood prior to the official system launch. Unsurprisingly, they are nearly identical to a stock Sega System 16 arcade board, save for the obvious cabinet issues.

Component	Description
Processors	• Motorola 68000 CPU at 7.67 MHz (7.61 MHz PAL) • Zilog Z80 co-processor at 3.51 MHz • Yamaha YM7101 VDP
Graphics	• 16-bit VDP for playfield and sprite control • 3 graphics planes, 1 sprite plane, and 2 scrolling playfields • 64 simultaneous colors on-screen from a 512-color palette • 256x224, 256x448, 320x224, and 320x448 supported resolutions • 40x28 text display mode • 80 on-screen sprites
Sound	• Texas Instruments TI-76489 sound generator • Yamaha YM-2612 FM synthesizer • 14db signal-to-noise ratio
Memory	• 2 KB system ROM • 64 KB system RAM • 64KB VRAM- 64x9kbit CRAM (dedicated color RAM) • 8 KB sound RAM
Connection	• 1 sidecar expansion slot • 1 cartridge port • 2 joystick ports • Commodore-style A/V port • Internal RF adapter
Storage	• Videogame cartridges
Other	• Backwards compatible with all Sega Master System (SMS) games through use of the Power Base Converter accessory

Sega planned to deliver nothing less than a full-fledged arcade-quality gaming console into the living rooms of average consumers. It was a bold move for a bold company, and a massive expenditure, but Nakayama was confident the new system would succeed in creating its own market. After all, given Nintendo's continuing dominance of the old one, Sega had nothing to lose.

Sega Genesis motherboard

At this point, the only wild card was NEC. Sensing potential profits in a new field, the Japanese computer giant had decided to join the resurgent video game market. Not only did this prospect alarm Sega, but Nintendo as well. NEC had everything going for it: resources, personnel, and a hefty bank account that dwarfed even mighty Nintendo's, whose total net profits were roughly equivalent to what NEC budgeted on R&D, alone. NEC had the best hardware money could buy, could afford the best developers in the business, and was already working on a home console called the "PC Engine" (PCE). Details were scarce, but one thing was certain: NEC had the best hardware money could buy, could afford the best developers in the business, and was already working on a home console. And if it had the games to match, it would prove a worthy competitor to Nintendo, derailing Sega's carefully laid plans. The PC Engine was an ever-present shadow over Sega's efforts to bring its newest home console to market. In the third quarter of 1988 – the time of year in which new products are generally released to the public – the first of the great console wars was about to commence.

The initial campaign

Some would say the first of the console wars took place from 1982 to 1983, between Atari, Mattel, and Coleco, but any battle was prematurely terminated during the "great crash." Almost a decade later, the playing field had been cleared of American pioneers, and a new breed of Japanese contenders had entered the fray. And it wasn't until Sega's Genesis challenged Nintendo's illegal monopoly over the market that the real fighting began. There had never been a battle for dominance quite like this in the history of video games, and the titanic struggle between Nintendo and Sega for control of the U.S. market would set the stage for all others that followed. Unable to generate the large revenues that could be reaped from millions of cash-toting American buyers, Japan and Europe were mere side players in the ensuing fracas. And so it was that in 1989, the first great console war commenced on U.S. soil.

NEC PC Engine

The staging area for this campaign (and those to follow) was, of course, Japan. The island nation was home to the three major combatants: Nintendo, the veritable 900-pound gorilla and longtime dominator; Sega, the presumptive rival with a reputation for talent (and a hidden ace up its sleeve); and newcomer NEC, a resource-rich dark horse fully capable of outspending both. This promised to be a real knock-down, drag-out fight.

NEC got the jump on the competition by releasing the PC Engine on October

20, 1987, approximately one full year before the Mega Drive would enter the fray. It was impressive hardware – for an 8-bit system, that is. Like the NES, the PC Engine was actually driven by an 8-bit CPU, but NEC had used its technical prowess to craft a console with enough graphical processing pizazz that it could justifiably claim to belong to the 16-bit generation. Its games looked and sounded better than anything Nintendo had done or could do for the NES...and therein lay the problem. They didn't play any better than NES games; in fact, many of early PCE games played decidedly worse. There were two reasons for NEC's blunder. First, Nintendo had the best of the Japanese third-party software community happily signed up to its restrictive yet lucrative development contracts. Second, NEC's own stable of programmers were not yet up to speed on the full capabilities of their own system. It was an awesome box for its day, and would see several great games a few years later, but by that time NEC was no longer a contender. First-year PCE sales were decent, but did not so much as put a dent in Nintendo's market share.

The first true contender joined the fight on October 29, 1988, when Sega launched the Mega Drive in Japan. The initial price was ¥21000 ($145), and the first two games available were *Space Harrier 2* and *Super Thunder Blade*, both ports of popular arcade games. The new console was respectfully acknowledged…and then everyone went right back to purchasing and playing Nintendo's products. Undaunted, Sega stuck to its plan of direct arcade ports, while dedicating some of its in-house programming teams to developing all-new games. It was early, and Japan would be the hardest market in which to seek a foothold. This was going to take time.

Sega Genesis Power Base

Sega got its first big break the following year when Namco, the premier third-party developer in Japan and creator of the arcade classic *Pac-Man*, abruptly joined the Mega Drive fold. Until then, Namco was one of the few companies to enjoy a sweetheart deal, struck during the early days of the Famicom (NES), when Nintendo was trying to sign as many teams as it could to code for the new system. Namco's lucrative contract ended in 1989, at which point Nintendo's Yamauchi bluntly informed Namco representatives that they would have to sign the same standard development contract as everybody else. This would cut Namco's profit margins, severely restricting the number of titles it could develop, and making said titles exclusive to the Famicom. In other words, no more side benefits. Namco CEO Masaya Nakamura is said to have exploded in a fit of rage when given the news, and promptly did what no other Nintendo licensee in Japan had yet dared to do. In a carefully worded interview with the Nihon Keizai Shinbun, Japan's top-selling newspaper, Nakamura accused Nintendo of holding an illegal monopoly over the Japanese video game market, and being quick to silence any company that dared question its judgment. To question Nintendo would be to commit virtual suicide, claimed Nakamura, and many in the industry wondered if Namco was about to do just that.

The ensuing war of words was predictable. Yamauchi promptly gave his own interview, in which he publicly chided Namco for not being more gracious

about the profits it had earned as the Famicom's very first licensee. As a result, Namco's "privileges" would be withheld from any future contract. Namco promptly responded that they would support the newcomer, Sega's Mega Drive, over Nintendo's aging warhorse. Claiming that Namco's threat was hollow, Nintendo again accused the company of welshing on its exclusive privileges. When Namco responded by filing a federal lawsuit with the Kyoto District Judiciary, charging Nintendo with anti-competitive behavior and monopolistic practices, Yamauchi laughed it off. "Frankly, Namco is envious of us," he said in an interview published in Zakai magazine. "If they are not satisfied with Nintendo and the way we do business, they should create their own market. That is the advantage of the free market." This was not entirely truthful – the market was not free, no matter what Yamauchi claimed – and Namco would be forced to face that sad reality soon enough.

Burning Force

It did not take long for Namco to go crawling back to Nintendo. They had five arcade ports already under development for the Mega Drive (*Burning Force, Dangerous Seed, Klax, Megapanel*, and *Phelios*), but none would be ready for market until the middle of 1990. In the meantime, Namco's bottom line sagged beneath the loss of its Nintendo license. Several months after the

fireworks had been ignited, Namco quietly withdrew its lawsuit, with Nakamura sullenly instructing his staff to secure a standard Nintendo development contract. Namco's latest financial returns, in all their dismal splendor, ensured there would be no argument. Namco's new contract would include Nintendo's standard restriction clauses, severely limiting its ability to develop for the Sega Mega Drive and other competing platforms. The behemoth had flexed its muscle, and even Namco, one of the founders of the arcade video game industry, had been forced to toe the Nintendo company line. Nakamura would never forgive his humiliation at the hands of Yamauchi, who did not particularly care how his company's behavior was perceived.

The affair would come back to haunt Nintendo years later. As soon as it was able, Namco dropped out of the Nintendo fold, openly developing software for its competitors. This grudge has separated the two companies to this day, and it is a rare and notable event whenever a Namco title appears on a Nintendo console exclusively. Meanwhile, over at Sega, Hayao Nakayama got the message loud and clear. Despite fielding a superior console for the second time in a row, Sega would have a hard time making serious inroads into Nintendo's home turf. If it had any chance of surviving and growing, Sega's new console would have to be taken abroad. And that is just what Sega did.

Hyakumandai!

Having seen unimpressive results in Japan, NEC executives felt the PC Engine stood a better chance in North America, and once again tried to get the jump on Sega. Rechristened the "TurboGrafX 16" (TG16), NEC's powerful 8-bitter hit U.S. store shelves approximately six months prior to the scheduled launch date of the Genesis. Unfortunately for NEC, its initial U.S. lineup was even less impressive than it had been back in Japan, the best title it could field at launch being the rather bland side-scroller *Keith Courage in Alpha Zones*. As a neophyte to the console market, NEC had yet to grasp a lesson that Nintendo had learned early on: good software drives console sales.

As it turned out, Nintendo really didn't have to do anything to combat this

new threat from NEC; the befuddled computer giant was doing their job for them. In time, the TG16/PCE would see some excellent titles that truly showcased the system's power, but it was too little, too late; NEC had been effectively eliminated from the console wars. The TG16/PCE would prove the most notable of the lesser niche systems, acquiring a small yet doggedly loyal following, and over the years gradually gained a reputation for being the system that should have won the first console war. Thanks to NEC's first, fumbling steps and software library, of course, it never had the chance. Sega of America remained unruffled, responding to the early launch of the TG16 with an official press release trumpeting the impending arrival of the 16-bit Genesis to North America:

"Only Sega, the master of arcade entertainment, could introduce a whole new dimension in home video entertainment – the Genesis System. The first and only system with true 16-bit technology to bring you the ultimate in game play fun and excitement. Your world will never be the same again once you've experienced Genesis' high-definition arcade quality graphics, stereo music and sound effects, realistic voices and unsurpassed gameplay."

The press release went on to describe the new system's features, stressing Sega's experience in creating top-notch arcade games – and how that resulted in the Genesis. Also included were an initial release date (09/01/1989) and pricing information ("under $200" for a complete system), with additional tidbits made available in subsequent announcements. There were about a dozen titles scheduled for release at launch, most of them ports of popular Sega arcade games already available on the Mega Drive back in Japan. Sega's own *Altered Beast*, the third game released for the system, was to be a pack-in title with every console sold. Michael Katz, hired by company founder David Rosen as the new president of Sega of America, was taking no chances with the launch, and putting all of his ducks in a row, convinced that the Genesis – and not the TG16 – would be the only worthy competitor to mighty Nintendo.

The Sega Genesis debuted in the U.S. on August 14, 1989 in Los Angeles

and New York, and across the rest of the country on September 15, along with a launch lineup of six games (due to the limited nature of its initial debut, the latter is generally regarded as Genesis' "official launch date"). A complete system retailed at $190; even less than originally planned. *Altered Beast* was packed-in, as promised, but gamers could also pick up *Last Battle, Space Harrier 2, Super Thunder Blade, Thunder Force,* and *Tommy Lasorda Baseball*. The advertising tag line for the new system was coined by Michael Katz: "Sega Genesis does what Nintendon't."

Last Battle

U.S. gamers could immediately see that the Genesis was an entirely different animal from the aging NES. It was blazingly fast, with eye-popping graphics, stereo sound, and faithful ports of some of the best-known arcade games of its day. There were other, less obvious differences, too: It was black – and black was cool. It had a straightforward, top-down cartridge port – no door and spring-mounted loading bay – ensuring that the Genesis Game Genie (which everyone knew was coming) wouldn't be the convoluted affair that Nintendo had forced for its NES after much legal wrangling.

Initial sales of the Genesis were respectable enough, if not about to break Nintendo's 92% market share. More importantly, gamers and game magazines were talking about Sega's newcomer. In their eyes, the Genesis was a speedy

black Porsche to Nintendo's lumbering two-tone Volkswagen. Now, if only it had really great games to go with it…

Europeans would have to wait until November of 1990 to get their hands on the system, with Great Britain, Sega's predominant European stronghold ever since the early days of the SMS, the first country to see the Mega Drive. Originally retailing for £190 per system, the initial shipment of some 30,000 consoles first went on sale in major British department stores such as Dixon's and Rumbelow's. Its arrival came as welcome news to gamers across the continent, who had long enjoyed the fruit from Sega's vine, but not to Nintendo, whose still-struggling European division was in the process of opening a major distribution center in Grossheim, Germany. Nintendo may have dominated the Japanese and U.S. video game markets, but in Europe, Sega ruled the roost. Nintendo's measly 10% market share stood in stark contrast to its utter dominance elsewhere, and that inescapable fact largely drove its European strategy. The Mega Drive went largely unchallenged while Nintendo worked to increase their market share to a modest 25%, concentrating on more profitable products such as the Game Boy. So it was that the Mega Drive took Europe by storm, remaining the dominant home video game console until the mid-1990s. It would, in fact, outsell all other Sega systems – even the 32-bit Saturn – until being officially discontinued by Sega of Europe in 1998. Without the resources and market share to compete, Nintendo of Europe had no choice but to stand by and let it happen.

One common observation made by gamers about the Genesis in those early days stands out, and that was about the games. They weren't lacking in ear and eye candy – that much was obvious – but fell short when it came to good gameplay. Knowing that good games would push system sales, Sega made sure that top-notch ports of many of its hit arcade titles were available right at launch. Unfortunately for Sega, what worked well as an arcade game did not necessarily work so well in the living room. Players no longer had to worry about having a pocketful of quarters in order to beat the bad guys and move on to the next level; they could take as much time as they wanted, and many of

them did. Soon, the words "short," "shallow," and "repetitive" were all too commonly used to describe the Genesis' offerings. The anticipated success of Sega's near-perfect arcade ports never materialized. For example, the pack-in arcade conversion of *Altered Beast* was roundly criticized as being far too short for a home console game. *Michael Jackson's Moonwalker*, a game upon which Sega had reportedly spent millions in securing the rights, was derided for repetitive gameplay. A common theme was beginning to emerge regarding Sega's first crop of Genesis titles: Great-looking games, with no gameplay. Even Sega's early, original efforts suffered from this affliction. *Castle of Illusion* and *Fantasia*, produced under license from Disney, set new standards for sprite animation in a video game, but played little better than their ported arcade predecessors. Sega's games may have looked better than Nintendo's, but they were not necessarily more fun. It was evident that better-playing games were needed if the Genesis was to avoid the fate of NEC's failed system. Genesis as yet had no "killer app" to push console sales, because Sega seemingly lacked its own Shigeru Miyamoto (*Super Mario Brothers*) or Alexey Pajitnov (*Tetris*), key players in driving Nintendo's success. This was in fact incorrect, although Sega had yet to recognize it.

Castle of Illusion

In the meantime, the cavalry rode to Sega's rescue in the form of noted software powerhouse Electronic Arts (EA). The company was already a

legend in its own time: It was well known in the PC games space for such groundbreaking fare as *M.U.L.E.* and *Seven Cities of Gold,* and now wanted a slice of the highly profitable console market. EA had passed on an NES license in 1984 (the system's early days), which it could have gotten on favorable terms, and had lamented that mistake ever since. Now, EA president Trip Hawkins, eyeing the emergence of 16-bit consoles, came to the conclusion that the Sega Genesis would be the next big thing. His R&D teams had already examined the hardware, and were confident in their ability to develop and port EA games onto Sega's new system. In early 1990, Hawkins directed his staff to enter into formal negotiations for a licensing deal with Sega – with terms favorable to EA. The gist was that EA would be free to make as many games as it wanted – something Nintendo wasn't about to offer – while enjoying reduced licensing fees. Sega said no, and planned to impose a restrictive contract on EA just as it had done its other licensees, echoing similar Nintendo arrangements. Hawkins had anticipated this, however, and pulled a one-two sucker punch on Sega. EA's negotiators brusquely informed Sega of America that it didn't have that kind of clout to throw around; furthermore, EA had already reverse engineered the console, and was capable of manufacturing its own, unlicensed Genesis cartridges. Sega caved; after all, EA assessment of its market presence was correct, and besides, both parties wanted to drive Genesis sales. The two eventually settled on a licensing agreement that, if not exactly what Hawkins originally sought, suited his purposes. In exchange, Sega got one of the best third-party software houses in America on its side and their best programming teams to boot.

EA games began to appear for the Genesis as fast as the company could churn them out, and this sudden influx of new and more sophisticated titles helped push hardware sales. Three of these early hits were Will Harvey's *The Immortal* (an isometric-view RPG), *Budokan: The Martial Spirit* (a fighting game), and the first installment in the now-legendary *John Madden Football* (aka *Madden NFL*) franchise. *Madden* competed directly with Sega's own *Joe Montana Football*, and a friendly rivalry grew between the two companies'

sports game divisions that would eventually result in some of the best 16-bit sports video games ever created.

"The success of Genesis initially came from us having the "personality" licensing position for software. It was defensive, and brilliant, if I do say so myself. We COULD NOT compete with the strength of the Nintendo arcade licenses, so as a defensive move, we decided to get (for awareness) personalities: Montana, Pat Riley, Lasorda, Michael Jackson, Holyfield; develop good games around them, and make the most of a tough competitive positioning stance… This was smart marketing, and, as Howard Lincoln (from Nintendo) is quoted as saying, was what caused Mr. Arakawa [Nintendo of America's president] to admit privately, had turned the tide toward Sega in 1991."

- Michael Katz (2006)

John Madden Football

By now, it was evident who would make up the next-gen console market – the niche in which Sega was struggling to establish its beachhead. These were older kids – mostly teenage boys – that had comprised the original Nintendo masses of the mid-1980s. Some were even the forgotten gamers of the Atari generation almost a decade before. This was a generation raised on a steady

diet of computers and video games, the first such generation in America to do so. Their tastes in games had grown more sophisticated as they aged, and they had for the most part moved beyond the simple, safe, family-oriented fare that Nintendo was still turning out. They envisioned themselves as anti-establishment, living on the edge (as a popular Aerosmith music video put it), and wanted to get most out of whatever experience they had. They were already attracted to the looks and power of the Genesis, and the arrival of EA – with its reputation for excellence – impressed them. In their minds, if you wanted to play baby games, you played Nintendo. If you wanted a real game, especially a real sports game, you played Sega.

Sega's new system got a big boost with the arrival of Capcom's *Strider* later that year. A perfect port of an arcade game largely ignored when it first arrived in the U.S., it was the title that finally offered these gamers something of the mind-torturing, thumb-callusing, hell-on-wheels quality (and quantity) of gameplay that they so desired. *Strider* would win Capcom the prestigious Console Game of the Year Award for 1990; more importantly, it helped build Sega's reputation with its growing fans, and marked the beginning of a long-standing relationship between Capcom and Sega. Genesis was becoming the embodiment of all that was cool in a video game console. The one thing still lacking was a killer app to make that oft-whispered opinion fact.

By the summer of 1990, sales of the Sega Genesis had surpassed the one million mark in North America. This had been Nakayama's original first-year sales target for the console; he had even gone so far as to have Sega employees chant "hyakumandai" (Japanese for "one million") at the end of each day's morning briefing sessions. By the end of the year, Sega's new console had raked in over $100 million in sales. A modest profit, to be sure, but it was a definite profit. This was not enough, however, to satisfy Nakayama, who – still irked by Nintendo's stubbornly clinging on to its 92% market share – sacked Katz in January of 1991, replacing him with longtime friend Tom Kalinske. Despite this, video game historians still credit Katz with the successful launch of the Genesis in the United States. One million Genesis

consoles sounds like an impressive number today, until one considers that Nintendo had an installed user base of 31.7 million NES consoles. Thirty-to-one – those were odds that no Las Vegas bookie would take. But this wasn't Vegas, and Nakayama probably would not have listened anyway. He was used to getting his way, and he wasn't about to let something as trivial as long odds stop him. Besides, he had more immediate concerns. Nintendo was beginning to stir.

Super Mario World

The sleeping giant had at last awakened to see that its next intended market was being seized by an upstart – one it had thought buried back in Japan years before. With this shocking realization in mind, Nintendo promptly swung into action. Work on the company's next-gen console was wrapped up and the system quickly rushed to market. Shigeru Miyamoto and his team of developers hurriedly assembled a new Mario game for it. Nintendo of Japan officially announced the Super Famicom in October of 1990; by early November pre-orders had reached 1.5 million units and the company was forced to stop taking them. On November 20, a large assortment of panel trucks were driven through the night to Nintendo's main warehouse in Kyoto, quickly filled with cases of boxed consoles and cartridges, and dispersed to select retail locations all across Japan in an event known as "Operation

Midnight Shipping." It was a mess; despite Nintendo's best production efforts, there were simply not enough consoles to meet customer demand. Over 300,000 Super Famicoms were sold the next day, along with copies of the system's two launch titles (*Super Mario World* and *F-Zero*), but Nintendo could have sold considerably more had it not been caught napping. Things settled out by year's end, though. By the first quarter of 1991, Nintendo had sold some two million Super Famicoms in Japan, proving beyond a shadow of a doubt that the system would be as successful as its predecessor.

With the Japanese debut of the Super Famicom now under its belt, Nintendo made ready to launch the SNES (the export version's official name) in the U.S. on September 9, 1991. The company had every reason to believe that its American debut would prove even more successful than in Japan. Its American division would have a full year to iron out the kinks and build brand awareness via the usual full-court press advertising campaign. It even had a tag line for the new system, throwing Sega's own right back into its face: "Nintendo is what Genesis isn't." Nintendo was poised to do something no other player in the industry had yet pulled off: Dominate the market two generations in a row. It was guaranteed to succeed, because Nintendo still owned the U.S. market. Nothing would stand in its way. Nothing could go wrong.

Nakayama was not about to let Sega get caught again beneath Nintendo's thumb, and planned to unravel his rival's stranglehold on the U.S. market long before the SNES arrived. When that time finally came, Sega would break Nintendo's monopoly with a market-shattering sonic boom heard around the world and that still echoes to this very day.

Hayao Nayakama

Move over, Mario

The stage was set for a full-blown war. According to Nintendo of America's Minoru Arakawa, Sega had fired the first shot by challenging its right to "cultivate" the U.S. market. According to Sega of America's Tom Kalinske, Nintendo had started it by dominating the market in true yakuza fashion. Whatever the reason, whatever the cause, both companies were now locked in a wrestler's embrace and determined to pin the other guy to the mat. Nintendo had the obvious advantages: Reach, size, and strength. Sega enjoyed the adrenaline rush of someone with nothing to lose and a willingness to try any tactic. It had everything it needed to beat the video game industry's 900-pound gorilla save two items: A corporate mascot and a marketing campaign. Like Mario, Sega's mascot would have to be instantly recognizable, easily associated with the company, and star in one bad-ass game. Regarding marketing, Sega would have to come up with a new advertising campaign that would let the average consumer know within the space of a few seconds exactly who Sega was, and what the company was all about. The mascot was addressed first in Sega's hope to kill two birds with one stone, and develop what it hoped would be the system's first true killer app. The ensuing marketing campaign could then use the new game as a starting point and build from

there. It was time to take on Mario.

Hayao Nakayama was, if anything, a meticulous planner. When it came time to take on Nintendo's mascot, he had his staff analyze everything about the plumber and try to determine just exactly what made him tick. If Nintendo considered the arrival of the Sega Genesis to be nothing less than the coming of the Antichrist, fine; Sega would take the antithesis one step further. It would conjure up its own mascot that was everything Nintendo's rotund spokesman was not. Even as the early U.S. sales figures began to come in, Nakayama put out the word to Sega's R&D teams worldwide. He wanted them to come up with a mascot and video game to compete against Mario. His instructions were quite specific: The new mascot would have to be as easily recognizable as Mario, yet as unlike him as possible. The new mascot would have to be an unorthodox character, and the game developed for him would have to reflect this. And above all else, the new mascot could not – and would not – be cute.

"We had already created some Sega heroes on the Master System, [such] as Alex Kidd, Wonderboy or again Shinobi, and it is obvious that such characters contributed to the success of this console. With the arrival of the Mega Drive it seemed to us important to create a new character that the public could identify to this console…"

- Minoru Kanari, Producer

Several proposals were submitted and rejected, with the one coming closest to acceptance by an American. Programmer Mark Voorsanger's submission was a pair of "funkadelic" aliens named Toejam and Earl, who were both very cool. Nakayama liked the idea – and the game – but had two problems with it: First, Toejam and Earl were too laid back for his sensibilities. Second, they were too American in nature. It was a noble effort, but Nakayama wanted a mascot with worldwide appeal. Rejected as Sega's mascots, Toejam and Earl were still deemed appealing enough that their game as greenlit. If nothing else, it would be yet another completely original offering in the growing Genesis library. The solution to Nakayama's problem was still out there somewhere,

waiting to be discovered. "Ah, if only we had the likes of Shigeru Miyamoto on our staff!" he would often reflect to himself. And then he heard from someone in his own back yard. One of the programming teams from Sega of Japan – Sega Consumer Department #3, aka AM8 – had come up with a mascot, and a game to go with it. Intrigued, Nakayama contacted the team leader, Shinobu Toyoda, and asked to see it and the man who would be responsible for the game. Together with project director Naoto Oshima and lead programmer Yuji Naka, Toyoda took their work to Nakayama's office for review. When all was said and done, Nakayama nodded his approval. The presentation had been most impressive, and it was obvious to him that AM8's lead programmer was a very talented young man. Nakayama had found what he sought, and Sega had found its Miyamoto.

Yuji Naka

Yuji Naka was born on September 17, 1965 in the old provincial city of Osaka. A bright, energetic young lad, he found himself as a teenager attracted to the music of Riyuchi Sakamoto and his Yellow Magic Orchestra. His love for Sakamoto's synthesized strains were what led him into his lifelong attraction to computers, and the new phenomena known as video games. Naka not only played every one on which he could get his hands, but analyzed them, trying to figure out how they worked. Shortly thereafter, he began coding his own. The gifted young student could have had his choice of any of Japan's top colleges, but passed on enrollment. Given Japan's cultural emphasis on a good

education, this was a daring move, but Naka did not feel like wasting four or more years at university when the personal computer revolution was unfolding about him. In 1983 the newly graduated Naka moved to Tokyo and applied for employment with Namco, at the time the world's leading arcade video game company. His lack of a college degree hampered any chance he had, and Namco did not offer him a job. Undaunted, he continued to shop his talents around and in 1984 found himself working as an entry-level coder at Sega. The mid-1980s were tough years for Sega – struggling against Nintendo like everybody else – but Naka made the most of it. It was a steady job, and creating video games was one of the things he truly loved to do. Quickly earning a reputation as a micro-managing perfectionist, it was not unusual for him to be heard arguing with his co-workers over some seemingly insignificant coding detail. "Not just programming," Naka would comment many years later, "everything...the graphics, the pictures. I'm really careful about everything." It was a personality profile that fit well with Nakayama's autocratic management style, although Naka was hardly known to Sega's boss until his programming efforts bore fruit.

Naka's very first effort for Sega was *Girl's Garden* for the SG-1000, its first home console system. Over the next seven years, Naka's programming excellence demonstrated itself in a number of impressive original games and console conversions for Sega. His credits during this period include such legendary titles as *OutRun, Space Harrier*, and the groundbreaking RPG *Phantasy Star* – widely regarded as the best game ever released for the SMS. In 1988 his team was detailed to begin developing software for the Mega Drive, and again Naka made his programming presence felt. He was the one responsible for *Super Thunder Blade*, a port of the arcade original and one of the system's two launch titles, and no one else could have been called upon to develop the system's first hit RPG, *Phantasy Star 2*. After that monumental effort, he assisted in the port of Capcom's *Dai Makai Mura* (aka *Ghouls 'n' Ghosts*), spending much of his spare time trying to figure out how to make Nintendo cartridges work with the Mega Drive. His efforts would eventually

result in the world's first video game system emulator; although he knew it could never be released. All this gained him the respect of his fellow AM8 team members, who were willing to put up with his idiosyncrasies because he was obviously one hell of a good coder.

It was in the first few months of 1990 that AM8 got the directive from Nakayama to come up with a new company mascot and a game to go with it. Team leader Shinobu Toyoda and his staff began bouncing around ideas. The first character they came up with was a rabbit-like being with long, extendable ears that could pick up and throw objects at his enemies, but it proved difficult to execute and the concept was abandoned. Looking at the rough sketches one day in April, Naka remarked to fellow team member Naoto Oshima that what was needed was something fast. Oshima was intrigued, so Naka continued. Years ago, he'd conceived of a character that could roll himself into a ball and then slam into his enemies, knocking them over. "You're talking about a hedgehog," Oshima replied. "Yeah," said Naka, "you're right." Both grinned as the realization dawned upon them. Naka elaborated on the character's creation in a 1992 interview with Sega Visions:

"At first we used a character that looked like a rabbit with ears that could extend and pick up objects. As the game got faster and faster, we needed to come up with a special characteristic to give our character some power over his enemies. I remembered a character I had thought about years ago who could roll himself into a ball and slam into enemies. Hedgehogs can roll themselves into a ball, so we decided to go from a rabbit to a hedgehog."

True to its nature, the new character evolved quickly over the next few days. He would be blue because that was the color of Sega's corporate logo. And as a round ball did not offer much visual impact, and quills could not be easily depicted on screen, he was given spiked hair. As he would be a fast character – and hedgehogs are not known for speed – he was given a pair of running shoes. These sneakers would also serve as a good power-up in the game that Naka was now beginning to code. One day, Naka gave his fellow AM8 team

members a demonstration of his earliest efforts on the new game. They watched in amazement as the speedy blue hedgehog zipped around the screen. "You know, that fellow's supersonic," one of the team members remarked. Naka never forgot the comment. The hedgehog now had a name.
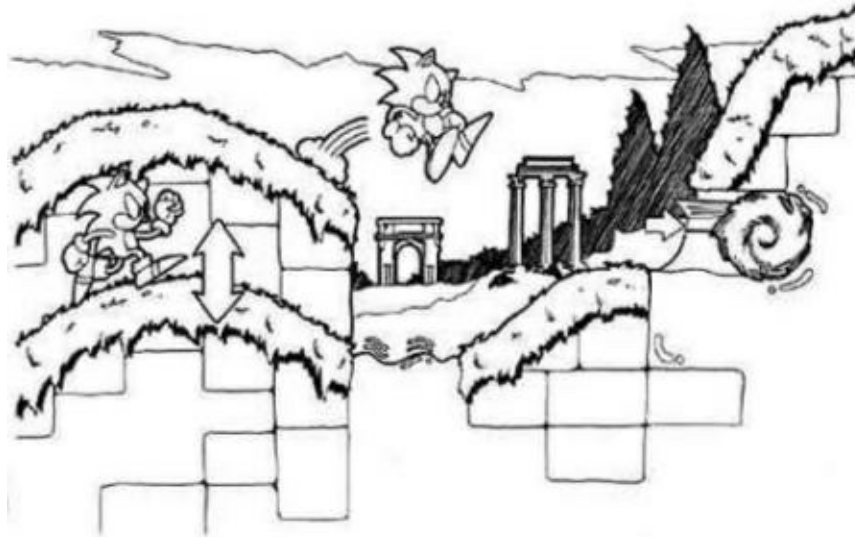
Sonic concept art

Sonic's very look conveyed his attitude, so Naka built his new game to showcase as much of AM8's new star – a fast, impudent little fellow who blazed his way through intricately designed levels – as he could. Originally conceived as a power-up, what would become Sonic's trademark red sneakers soon became an essential part of the character. He needed them, because he was almost always on the move. And Sonic wasn't limited to simply running; he could exert extra bursts of speed when needed, and went even faster when rolled up into a blue, spikey-haired ball. Since Sonic seemed to crave being in constant motion, Naka added an extra programming touch: If Sonic stood still for too long due to player inaction, he would give the gamer a cross look and begin tapping his foot impatiently. And Naka didn't stop there. Each and every move that Sonic made was exquisitely animated: running, jumping, leaping, falling, spinning, and so on. Sonic had a unique pose and facial expression for every move in his ample repertoire. Levels were large, colorful, highly detailed, and best played with Sonic scooting along at full tilt all the way.

Sonic concept art

The game Naka wound up creating is often, aptly compared to a 2D side-scrolling roller coaster ride, and helped to emphasize the differences between Sonic and Mario. In comparison to the speedy little blue hedgehog – with his punkish, spiked hair and rebellious attitude to match – Mario seemed a fat, slow, lackadaisical old fart. The rest of the game was built around Sonic's colorful and stylized world, and he was given an arch nemesis that could seemingly kick King Koopa's ass any day of the week. Dr. Ivo Robotnik (AKA "the Eggman," as he's known in Japan) didn't have to recruit his underlings – he created them. Tapping into a common Japanese theme of encroaching mechanization, Naka made the Eggman a mad scientist bent on industrializing the entire world. His goons were actually Sonic's fellow animals trapped inside mechanical shells; Sonic could rescue them by cracking shells open with his trademark rolling "spin attack."

It all seems so obvious now that gamers today tend to take Sonic's success for granted, but what's key to remember are the circumstances that brought it about. Sonic was Sega's answer to Mario, and if he proved anything less than a total success, it would have been quite easy for Nintendo to bury the Genesis beneath SNES hype. The fate of the company was now resting in the hands of Yuji Naka and his fellow team members at Sega AM8, and no one,

not even Naka himself, could be sure the gamble would pay off. Nakayama was betting the company's future on Naka's efforts, but he wasn't about to bet the bank. Under his direction, Sega quietly built up a $400 million dollar contingency fund, to see the company through hard times should Sonic fail to deliver the goods, until new ideas could be developed. Years later, former Sega of America president Michael Katz would say: "We thought it was silly, but to the credit of (Naka's) game, which was so good, the character of Sonic became established... The character could have been anything, but it was a hedgehog which would have died a dismal death had it not been for a very good game."

The very first inkling that the gaming public got of Sega's new mascot was on November 7, 1990. Dreams Come True, a J-pop band that had hit the Japanese music scene the year before, went on a nationwide tour to promote their second album, Love Goes On. The album had spawned the hit single "Warai Gao no Yukue" ("The Whereabouts of a Shining Face"), which dedicated otaku will instantly recognize as the theme song to the hit anime TV series Graduation. Splashed across the tour bus and equipment trailers was the image of a blue, spike-haired hedgehog. What was then unknown to the public was that the band's composer, Masato Nakamura (no relation to Namco's CEO), had contributed the music for Yuji Naka's new video game. The image caused quite a stir, because nobody knew what it meant.

In the amusement scene the new mascot was initially met with indifference; instead, gamers were eagerly awaiting Sega's new racing game. November saw the first appearance of its *Rad Mobile*, which utilized the latest graphics architecture (System 32). But it wasn't only the amazing high speed action and rotating sprite graphics that enthralled players, there was also that unusual blue, spiky mascot dangling from the windscreen. Few in the amusement trade would recognize the significance of this character's inclusion in what proved a popular release. This was the character's very first appearance in a video game, as if Nakayama still entrusted the final validation of the concept to appearing via Sega's amusement roots.

Sonic's own game would not be released until the summer of the following year. Nakayama had entrusted the game's debut to newly installed Sega of America president Tom Kalinske; after all, it was in the U.S. that the stakes were highest for Sega. Immediately realizing what Sonic could do for the company, Kalinske designed his ad campaigns accordingly, the tagline declaring the game to be "the fastest video game in history." *Sonic the Hedgehog* sped its way into video game history on June 23, 1991, debuting on U.S. soil before making its way back to Japan on July 26. Naka used the extra time to insert a few additional graphics enhancements, such as scrolling clouds and improved water effects. Sonic did not grace the European market until June of 1991, but by that time he needed no introduction.

Sonic the Hedgehog

To call *Sonic the Hedgehog* a success would be an understatement; players had never seen anything like it before. Sonic's cocky attitude coupled with the game's sheer speed, great music, and brilliant graphics immediately struck a chord with many a rebellious-minded American youth. No other game at the time – even Nintendo's much-lauded *Super Mario World* for the SNES – could compare with Sonic. Not only did Nakayama finally get the mascot he so desperately sought, the Genesis finally got its "killer app." The game sold out wherever it was on sale, and sales of the console skyrocketed as news about

Sonic spread among U.S. gamers. To commemorate its newfound success, Sega launched a massive $10 million, two-day nationwide media blitz on September 15, 1991 – the week after the SNES launched – touting the proven capabilities of Genesis and Sonic against Nintendo's new arrival and its own platformer, *Super Mario World*. "This is war!" declared, Sega of America's marketing chief, Al Nilsen, while Sega's new ad campaign touted the "Sega advantage": over 100 titles available or in development for Genesis, including *Sonic*, in comparison to the limited and rather lame offerings fielded by Nintendo for the SNES. It was now – and, for once – "easy going" for Sega; seemingly overnight, Sonic had become nearly as well-known as Nintendo's acerbic plumber.

While most critics insisted that *Super Mario World* was actually the superior game, the general public wasn't paying them any mind. Independent market research conducted at the time showed that 7 out of 10 young gamers – Nintendo's traditional audience – preferred *Sonic* to *Super Mario World*. Nintendo's first reaction was to belittle Naka's achievement. "It was not a great game," comments unofficial Nintendo historian David Sheff in his book *Game Over*. Richard Brudvick-Linder, one of Nintendo's top accountants at the time (who later left to work for Sega), has his own opinion as to what happened. "People were saying, 'Look, they're trying to copy us with *Super Mario Brothers* and it's the same kind of game. They can't do anything really as good as we do it.' Over time, there was this kind of dawning realization that this was... not such a bad product." Even as notable a figure as Nintendo of America president Minoru Arakawa admitted, "They (Sega) came up with a darn good game." Arakawa's statement was made in sworn testimony during the hearings conducted that year as part of the ongoing Nintendo v. Atari lawsuit. He more than anybody else recognized the fact that *Sonic the Hedgehog* had hit Nintendo right in the gut, a blow from which the aging NES would never recover. Thanks to the instant and steadfast popularity of *Sonic*, over 2.3 million Genesis consoles were sitting in the U.S. homes by the end of 1991, in comparison to just under two million of the newly arrived SNES

consoles – a figure far off the mark from the four million units Nintendo had originally predicted. "Nintendo's failure to blow Sega away with the SNES was a sobering cold shower," notes David Sheff in *Game Over*. Sonic had turned back the Nintendo tide. In fact, his popularity among U.S. gamers led Kalinske to pack the game in with every console…something the Japanese board of directors weren't thrilled about.

"They were all talking in Japanese and I didn't have any idea what was going on. When they got to the door, Nakayama said, 'No one in this room agrees with one thing that you have said.' I thought to myself, 'That's nice, it was a short career. I guess I'll go find something else to do.' Then Nakayama said, 'But we hired you to turn this situation around, so go ahead and do what you want and we will fund you.'"

- Tom Kalinske

Tom Kalinske

The *Sonic* pack-in versions of the Genesis base system would sell for only $150 – a substantial price drop. It was a great bargain for a great console, and best of all, Sega's best game came included! That was the public perception, anyway, and Kalinske's plan worked. Genesis sales continued to

climb, and Sega's overseas branches subsequently followed suit. Before long, Sega had become king of the U.S. video game hill, and it all started with one little game.

The Sega scream

One of the most popular shows on MTV from 1991 to 1996 was Mike Judge's first full-length animated TV series, *Beavis and Butt-head*. The show followed the hilarious misadventures of two moronic juvenile delinquents, along with their *Mystery Science Theater 3000*-style commentary on a number of selected music videos. *Beavis and Butt-head* did just about everything most misguided young American males had wanted at some point to do, terrorizing their home town of Highland, Texas – often at the expense of their high school, local businesses, or nearby neighbor Tom Anderson. An instant success, the show was considered very cool by its audience – this author included. I was a zealous fan of the show, videotaping it every night while I was away at work and dubbing archival copies on the weekends, editing out the commercials in the process. Starting in 1992 and continuing well into 1993, I began to notice a series of commercials for a well-known video game company that were so off-kilter – and fit so well with the show's anti-establishment theme – that I left them in place. The passage of time and two moves have since claimed my Beavis and Butt-head videotape archive, but one of those crazy commercials has forever stuck in my mind. The setting is the inside of a school classroom. A very nerdy looking boy, complete with glasses, is sitting at his desk with two larger boys sitting behind him and flicking his ears. "Young Bobby Engels has a problem," states the announcer, "He needs to earn the respect of his peers. So he gets Sega Genesis, the ultimate action system!" Immediately the viewer is barraged with a cacophony of fast-moving, fast-playing video game imagery, while the announcer extols the names of the titles as they appeared, with highlights including *Mortal Kombat, Shinobi 3*, and Marvel's *X-Men*. "Now things are pretty much okay," concludes that announcer as we see the two bullies bringing Bobby a plate of glazed cookies with a glass of milk. "I said

chocolate-chip," commands Bobby as he knocks the cookies off the plate. It cuts to the black board where we see "WELCOME TO THE NEXT LEVEL" spelled-out in a 5x4 grid. It cuts back to Bobby, now holding the bullies' ears, saying "Say it. Say it." Both boys open up their mouths and scream just one word: SEGA! It was the original Sega scream, and arguably the most memorable video game advertising campaign in U.S. history.

Genesis advertisement

Recall that Nakayama's Genesis success strategy was two-pronged. First, create a corporate mascot and accompanying game worthy of taking on Nintendo's plumber. Second, to create a full-scale advertising campaign to promote both game and system, the likes of which would dwarf all such previous efforts in comparison. There was an edge of desperation in Nakayama's efforts. First-year Genesis sales, while moderately successful, had not been as strong as hoped for, and had done little to diminish Nintendo's lead. Nakayama felt that they might not be enough to boost sales of *Sonic the Hedgehog*, thereby offsetting the arrival of the SNES. The new ad campaign would be his ace in the hole, an insurance policy guaranteeing Genesis sales. Desperate times called for desperate measures. Once the replacement of Michael Katz by Tom Kalinske was complete, Kalinske would take Sega for a wild ride.

A long-time advertising executive with a reputation as a maverick, Tom Kalinske had graduated from the University of Wisconsin with a degree in marketing, and had a proven record of success. His first major job was with Mattel, where his boldness and self-assured style caught management's eye.

Moving quickly through the ranks, he was put in charge of Mattel's highly lucrative Barbie accounts. In the twelve years that followed, Barbie grew from a $42 million to a $1 billion dollar a year franchise for Mattel, all under Kalinske's oversight. Kalinske was also one of the Mattel executives that oversaw the swift rise and fall of the Intellivision video game console. By this time he was a member of the corporation's board of directors, and prudent enough to spin off Mattel's new electronics division into its own separate company, Mattel Electronics, which helped Mattel better absorb its losses after the video game market crash of 1983. Kalinske spent the last three years of his tenure at Mattel as president, during which time he helped create and market the *He-Man and the Masters of the Universe* animated TV series and product line. It was during this three-year period that he went toe-to-toe with the American television industry, learning firsthand the lessons of television marketing. Kalinske cut his teeth creating, promoting, and selling a successful product advertising campaign with the *He-Man* account, paving the way for the years to come.

The first thing Kalinske did upon his arrival at Sega was to learn everything his staff could teach him about the video game industry, which they did with some reluctance. Many had been supporters of Katz, feeling he'd been unjustly dismissed, and weren't overly fond of Nakayama's "Ken doll," as some staff members nick-named him due to his time with Mattel. Yet they eventually complied, helping Kalinske to find his way around. Once he had a grasp of his duties and the market he was supposed to conquer on Sega's behalf, Kalinske swung into action. He surrounded himself with an executive team comprised of some of Sega's top people and talent quietly spirited away from rival Atari. Together, they analyzed the market performance of the Genesis from launch to present, noting what had worked, and what had not. He solicited the services of the Goodby, Berlin, and Silverstein advertising agency, who had won the $45 million account to promote the Genesis by converting their board room into a Sega arcade, and inviting a team of Sega executives over to enjoy the spectacle. The firm had a number of good ideas on how Sega should change

its advertising, which Kalinske incorporated into his team's own internal analysis. It was during this phase that Sega of America began to gain confidence in its new boss. He might not know video games very well, but he was a quick study and his management style was one of detached confidence. Kalinske was quite capable of making the big decisions, but he also made a point of listening to his subordinates and trusting their judgment in lesser matters.

When all was said and done, Kalinske confronted Sega of Japan's board of directors in a meeting that is now the stuff of Sega legend. It began with Nakayama questioning Kalinske's idea to attack Nintendo head-on. "I don't understand," Nakayama is reported to have said. "Why do you want to do it this way? I don't like it." Kalinske then proceeded to explain his plan, and its scope went beyond anything in Sega of Japan's worst nightmares. What was needed, he argued, was a radical change in the way Sega of America was doing its business. Here is the proposal he boldly spelled to his shocked Japanese counterparts:

Sega had to adopt aggressive marketing tactics:

Aggressive marketing was a concept completely unknown in Japan, where subtlety was a time-honored tradition. Americans were aggressive, Kalinske argued, and so was the American market. Sega would have to be more assertive than ever in order to seize that market from Nintendo. If Sega did not come out swinging, he warned, Nintendo would surely crush it yet again.

Sonic advertisement

Sega had to pitch the speed of the hardware:

Sega was an amusement company at heart, making the best-looking, best-sounding, best-playing arcade games in the business. That reputation would have to be transferred to the Genesis, and straightforward ports of old arcade games weren't going to cut it. Genesis was a fast console, and a fast console needed fast games. Sonic was a solid start, but the Genesis needed more games like it – faster, and with more flair than their Nintendo counterparts.

Sega had to grab and hold its audience:

It did Sega no good, Kalinske argued, to have discovered a new audience without tailoring its marketing to suit their tastes. Theirs was a very hip audience, in whose eyes the Genesis was the epitome of cool. Now that Sega had grabbed their attention, Kalinske reasoned, Sega needed to hold onto it with both hands via a marketing campaign specifically geared to their tastes. If Sega failed to do this, they might lose interest and drift back to Nintendo again.

Sega had to drop the price of key products:

In keeping with his theme of aggressive marketing, Kalinske proposed two specific changes to the Genesis product line. The first was to lower the price of the console itself from $200 to $150. The second caused the board of directors to sit upright in their chairs: Kalinske coolly informed them that he planned to replace *Altered Beast* with *Sonic the Hedgehog* as the console's pack-in title. *Sonic* was Sega's best-selling game, went his reasoning, so prospective buyers would be more inclined to buy the system with the *Sonic* pack-in than they would with *Altered Beast*. Kalinske, a keen student of the "razor and blades" school of marketing, and having learned his lessons well during his tenure at Mattel, reminded his audience that software was the true money train for any computer system. It meant losing money up front on standalone *Sonic* cartridge sales, but the game's popularity would help sell consoles and additional software, thereby offsetting any potential lost revenue.

Needless to say, the board of directors was outraged. How dare this impudent American tell them how to run their own company?! He had no experience in the video game industry. Who the hell was he to tell them what to do?! "Are you out of your mind?" one of them is said to have exclaimed, and then others chimed in. "You want to lower the price until we don't have any profit at all? You want to take out our regular software and put in our best software? You want to take on a company that has 92% of the market with an advertising campaign?" All eyes turned to Hayao Nakayama, who sat quietly at the head of the table. The aging, autocratic ruler of all that was Sega seemed unperturbed by the ruckus that Kalinske had caused, and sat quietly as the others prepared to leave. When he spoke, everyone froze in their seats. "I hired him to make the decisions for the U.S. market," Nakayama slowly said. "If that is what he thinks needs to be done, then he should go ahead and do it." He now looked directly at Kalinske. "It's your call. This is why I hired you. Do whatever you think is right."

"From that day, for the next four years, I don't think they ever interfered in any decision we made. Now, part of that is because it all worked!"

- Tom Kalinske (2006)

The Sega scream advertising campaign was based on the research of Irina Heirakuji, associate planning director for Goodby, Berlin, and Silverstein. "We knew that we would have to make Sega a cultural phenomenon if we were going to beat Nintendo," Heirakuji said in an interview with Wired magazine. The GBS staff spent many months during 1991 observing American youth in their own homes, "…filming what kids wanted, what kids said, and why kids thought Sega was cool." Their research not only mirrored Sega's own earlier analysis but expanded upon it. Here is how Wired described their findings:

"Heirakuji's research and the frenetic ads that sprang from it captured the post-MTV mores of a culture hooked on visual images, an impatient culture that absorbs and processes information literally in four-frame riffs. In schoolyards, living rooms, workplaces, even in bars and other "grown-up" venues, perfectly normal folk might look at each other, pause for a pregnant second, then exclaim with lunatic eyes: SEGA!"

Produced in just four months, the first 35 commercials made their debut not during Saturday morning cartoons – traditional Nintendo stomping grounds – but at the 1992 MTV Music Video Awards, where Sega's core audience was more prone to be found on the TV dial. New sets of commercials were cycled every few months. Why so many? "Kids don't want to see the same commercial over and over again," commented Greg Stern, director of the Sega account. "We focused on new games and branding the Sega image." Shortly thereafter, Sega expanded its coverage to include many of MTV's top shows, and that is where many people discovered the glory of the Sega scream.

The Sega scream was not just limited to Genesis. Kalinske had the campaign expanded to cover the entire Sega product line. One of the most controversial of these was for the Game Gear. The scene, filmed at a Batman-esque cocked angle, depicts a family of stereotypical Southern rednecks taking great delight in the power of their bug zapper. "Some people are content to be entertained by simple one-color electronics." ZAP!!! The rednecks snicker and chortle in delight. "Somehow these people have never heard of

Game Gear, the multicolor portable from Sega with tons of new titles." ZAP!!! Snicker-snicker-snicker. "Yeah, some people are like that, but then…" and with this the family's fat patriarch reaches into a greasy looking jar, "…some people like to eat pickled pork lips, too." Chomp-chomp, slurp-slurp. ZAP!!! The bug zapper fires, and the newly fallen fly screams, SEGA! Nintendo executives were outraged. Company attorney Harold Lincoln promptly promised a lawsuit, accusing Sega of slandering its customers. Sega was eventually forced to pull that particular ad, but by then it had done its job, and the rest of the campaign continued unhindered.

Sega Genesis advertisement

"We did a great advertising campaign with the Sega Scream and Welcome to the Next Level, and of course ridiculing Nintendo. We developed some great software in the U.S., developed some strong sports franchises and American licensed characters, as well as continuing to sell the strong Japanese software."

- Tom Kalinske (2006)

Europe has its own fond memories of Sega's multimedia marketing from this time, particularly the character of Jimmy, a rather irritating young man who helped promote the launch of the Mega Drive back in 1990. While Europe did

not get the notorious Sega scream, they got an ad campaign that was every bit as worthy. The new campaign opened with the infamous *Apocalypse Now* advert, inspired by the Francis Ford Coppola film. It depicted a group of adventuresome gamers piloting their boat up the Mekong Delta to a lost temple. Once inside, they discovered the Mega Drive. It was without doubt one of the most controversial adverts to ever air in the United Kingdom, and rumored to have cost Sega of Europe some $500,000, but it was apparently worth every penny spent. In its wake followed the Pirate TV ad campaign, created by Philip Ley, in which Sega of Europe played off the romanticism that the continent's hackers had for their nonconformist brethren for all it was worth. All of the adverts began the same way: A faux cat food or washing detergent commercial would start to air, only to be jammed and then knocked off the air by Pirate TV, an unlicensed television station presumably operating from inside a mobile studio somewhere in England. Pirate TV's punkish announcer, actor Steven O'Donnell ("Spud Gun" from the comedy TV series *Bottom*) would then extol the virtues of Sega and its Mega Drive games. The old commercial then morphed into something cooler right before the viewer's eyes, and the announcer would rejoice in glee at the way Sega could change the world. The Pirate TV adverts shared several things in common with the Sega scream: They were radical and hip, there was a veritable multitude of them, they were designed to appeal to Sega's core audience, and they all concluded the same way. Each Pirate TV commercial closed with the image of a skull and crossbones and the tagline "To be this good takes ages." It was a deliberate wordplay on the Sega name: "Ages" spelled backward is Sega. Soon, Sega's big black Pirate TV truck would be as familiar to European Sega fans as the Sega scream was to Americans. Pirate TV eventually proved so successful that it resulted in another wild round of Sega advertising. The best of these was the award-winning Cyber Razor Cut commercial, one of the most famous video game adverts ever made in the United Kingdom. It was produced by Geoff Boyle, who also did Sega's famous "Howdedodat!" advertisement.

Sonic as he appeared in Wired Magazine

"It is clear that a rebellious image sells," noted Professor Graham Barfield in an article about Sega for the UK's Living Marxism magazine. "No amount of hysteria will stop them coining it. If anything, the latest video nightmare scenarios were made in marketing heaven. After all, who needs to pretend to be a pirate station when every columnist and news broadcaster is already telling your target audience that you're the devil incarnate?" While you may not agree with Barfield's politics, he did score a telling point – one borne out by Sega's own market research. This attitude is best exemplified by American actor Corey Haim – one of the stars of the Sega CD game *Double Switch* – who at one time courted the possibility of becoming Sega of America's celebrity spokesman. "Sega is definitely where it's happening," he told a Wired reporter in an interview. "Like, have you seen their ads? Far f***in' out. I want to be in them. I want to be, like, the Sega boy." A lot of other young men across North America and Europe felt the same way, too. Cory Ker, an editor at the website Gaming Target, put it this way: "While Nintendo appeared to barely squeak out its name in a pre-pubescent whisper, Sega went right for the balls. You couldn't help taking notice of this company when it was yelling "SEGA!"

Sonic 2

A lot of attention has been paid to the fact that Sonic the Hedgehog helped define Sega's corporate identity. What many people forget is that both the Sega scream and Pirate TV gave the company its reputation for rebelliousness. Together, they tapped a deep vein in the psyche of Western youth, who promptly responded to the call and drove the company's eventual success. When Sega of America finally abandoned the Sega scream in 1996 as part of the company's effort to reshape itself for the Saturn, many gamers quickly assumed that Sega was no longer hip – it had become the establishment. This impression would deal a major blow to the company's image and helped contribute to its rapid decline. It would not be until 2000, with the arrival of the Dreamcast's SegaNet online gameplay service, that the Sega scream would roar across America once more, to the delight of Sega fans of old.

From 1992 to 1993 were the salad days for the Genesis. Nakayama's gamble had paid off handsomely, and Sega now enjoyed the fruits of his long labor. These were the best days that Genesis would ever see, and it had taken the likes of Yuji Naka, Tom Kalinske, Irina Heirakuji, and Philip Ley to bring his plans into reality. In the opening days of 1992, many of the third-party holdouts from the Genesis' early days threw their support behind the console.

Acclaim, Capcom, Electronic Arts, Micronet, Namco and other early supporters were now joined by the likes of Activision, Core, Konami, Taito, Tecmo, and many more. Yuji Naka travelled to the U.S. in order to work with his colleagues at the Sega Technical Institute, Sega of America's playground for its own stable of video game programmers, and the end result was *Sonic the Hedgehog 2* – the best-selling Genesis game of all time.

"The main reason we had the team over here [in America] was to figure out how to best appeal to the U.S. Sega also wanted to make the Mega Drive a bigger hit in Japan, so we wanted to put a label on Sonic 2 saying it was a huge hit in America. We were starting to create Sonic 2 in Japan, but were kind of guessing; "maybe they'd like something like this, maybe we can do it this way." I decided the best way was to go to America and get their feedback directly. We went to San Francisco, and watching the kids in the focus groups play it and see their reactions was really helpful. And that certainly changed my game creation style – my concept of game design was on a more worldwide scale, and that was a really important highlight of my life.

Another thing I thought of: In Sonic 1, it was all about how fast you could move, and so one thing we wanted to add was a race where you could compete against someone else. We made the two-player mode with a split screen, but the only problem was the screen was too small back then. So, after we started on Sonic 2, I thought we really needed a two-player mode as part of expanding on the original. We did a lot of fine adjustment in the speed and such, but I think it turned out how we envisioned it."

- Yuji Naka (2010)

With Nintendo's exclusive contract keeping Sega away from Capcom's lucrative *Street Fighter 2* for a few years, Sega's programmers created the now-legendary *Streets of Rage* in reply. *Sonic 2, Streets of Rage, Toejam & Earl*, and other irreverent fare spearheaded Sega's 1992 marketing assault on Nintendo. The low price of the console, combined with a 10-to-1 ratio of software availability compared to the SNES library, and Sega's radical

philosophy on both advertising and games resulted in an assault that Nintendo was simply ill-equipped to handle. According to official U.S market data compiled by the NPD Group, Sega passed Nintendo in 1992 to become the #1 vendor in the U.S. video game market. Sega finished the year with a 55% market share, while Nintendo limped into second place with 45%, a far cry from the 92% they held a mere two years before. Sega had sold an additional 2.2 million Genesis systems in 1992 and now had over 10 million of them in the homes of young American gamers, whereas Nintendo had managed to sell just under two million SNES consoles – an official NPD TRST (Toy Retail Sales Tracking) figure that Nintendo still disputes to this day. Instead, they claim that the market was already trending towards them, and often cite the official NPD TRST figure of 5.6 million SNES consoles sold throughout 1992 – roughly 10% more than what Sega Genesis sold in the same year.

Streets of Rage

Despite Nintendo's claims to the contrary, Sega was so popular by the end of 1992 that when Sony ran its initial U.S. video game market surveys, they discovered that most gamers who owned an SNES refused to admit it to their friends. "They always claimed that there was a time after the (SNES) launch when they pulled ahead of us, but our research said there wasn't," Kalinske later commented. In reward for the support of his customers and in response

to new measures from Nintendo, Kalinske had the price of the Genesis base system cut again, from $150 to $130.

The great console war was not without its casualties, and 1992 saw it claim its most prominent victim. NEC had never been able to keep pace with its older and more established rivals in the U.S., and the best its TurboGrafx 16 could do was establish a small-yet-vocal niche market. The console had a loyal following in Japan, where it was the #2 system on the market, but its insignificant North American market share was not large enough for it to successfully compete. In 1992, NEC cut its losses and ceased vending its video game console in the U.S. marketplace, turning over responsibilities for the system to a smaller vendor, Turbo Technologies. The new company would fold up shop approximately two years later, and with it would go the last and most powerful of the 8-bit consoles.

By the end of 1993, Nintendo was still playing catch-up. Sega maintained its lead over its rival, and now controlled 56% of the market with over 12 million consoles spread across North America. It also controlled a healthy two-thirds of Europe and showed no signs of giving ground anytime soon. Sega's net Western sales for 1993 came to some $230 million dollars – a sizeable sum by any measure. This, of course, was music to Nakayama's ears. The company was now at the top of its game, with the Genesis established as the market's dominant console and its successor system, Sega CD, emerging into its own. While it remained a distant third in the East, behind both Nintendo and NEC, Sega was the undisputed master of the West. It had been one hell of a ride for Nakayama, Kalinske, and company, but it had been worth it. Thanks to their tireless efforts and those who supported and worked with them, Sega had grown from an $813 million company in 1989 – the year the Genesis launched – to a $3.6 billion dollar conglomerate by the end of 1993. Within five years, Sega would throw it all away.

Sega TMSS boot screen

Setting a legal precedent

Before we continue, let's take a moment to examine an important lawsuit involving Sega's revolutionary 16-bit console. It was a classic case of restrictive licensor versus creative licensee, in which a third party vendor sought and found a way out of the limitations of a development contract. Together with the Nintendo action against Atari that ended about the same time, the case of Sega v. Accolade would set a new precedent for computer video game development. It would also have profound indications for a sub-genre of the computer industry that was still widely considered to be the domain of the hobbyists and hackers.

If you will recall, it was none other than Electronic Arts who first determined how to bypass the proprietary Sega code in the Genesis and thereby produce its own video game cartridges. In response to EA's actions, Sega developed a new security system for the Genesis, quietly incorporating it into the system boot ROM starting with the 1991 production batches. Sega called this proprietary code the TradeMark Security System (TMSS). In essence, it was a simplified version of the 10NES lockout chip that Nintendo had used in the NES, a complete lockout solution that Sega deemed needless overkill. Their

solution, the TMSS, was based on very simple principles of intellectual property law. A bit of code burned into the Genesis boot ROM would look for a header code that was supposed to be part of every Genesis program stored in cartridge format. If the header code contained certain unique characteristics, then it was a legitimately licensed Sega product. If the TMSS did not find what it sought, then it would refuse to boot up the system. If the system booted correctly, then the TMSS would display the phrase PRODUCED BY OR UNDER LICENSE FROM SEGA ENTERPRISES LTD. on the screen for a few seconds before running the program contained on the cartridge. Both pieces of code, the one in the TMSS and the correct cartridge header code were copyrighted Sega property. The TMSS also generated a trademark display every time it was activated: The Sega name itself. In essence, the TMSS was a double tripwire for anyone trying to produce unlicensed Genesis cartridges. If you made an unlicensed cartridge that activated the TMSS, you were in violation of both copyright and trademark law. If you could figure out a way to get your game running without tripping the TMSS, you were legally in the clear.

Ishido: The Way of the Stones

It is an established fact that some of EA's early cartridge releases cause problems with all except the earliest Genesis consoles – those produced between 1989 and 1990. These are the same games that would cause

headaches for Genesis emulator developers at the end of the decade due to the non-standard way in which they interfaced with the system. The answer is simple: The earliest Genesis consoles do not contain the TMSS, so older EA cartridges work just fine. EA apparently had the program code ready to burn into the cartridge ROMs during its negotiations with Sega, and then used it anyway once the contract was secure. As this code was made prior to the introduction of the TMSS, the resultant games do not work on later consoles. EA eventually released new versions of some of these games with the offending code removed, but those that hadn't sold well weren't reissued. As a result, EA's early workaround was out there waiting for anybody with the programming skills and a good ROM dumper to discover.

Accolade was founded in 1984 by Bob Whitehead and Al Miller, two of the original team of VCS programmers who revolted against Atari and started Activision. They began by releasing high-quality games for personal computers, the most notable being the original *Test Drive*. When the Genesis was released in the U.S. in 1989, they realized it would be easy to convert a number of their Commodore Amiga games to work with the console. Both were based around the MC68000, so porting would only be a matter of reallocating program resources to match the rest of Sega's hardware. With this in mind, Accolade approached Sega about obtaining a Genesis license. Sega offered the standard contract under which 30 or so other third parties were working at the time, but Accolade found the terms too strict for its liking and rejected the contract. That should have ended the matter, but instead, like EA before it, Accolade instead chose to find some means of releasing its own unlicensed Genesis cartridges. They bought a number of currently available Genesis games, dumped the ROMs inside the cartridges, dumped the system ROMs inside the Genesis, and began to analyze the code. They also created a semi-independent subsidiary, Ballistix, to market their new games. Steven Kent, in his book *The First Quarter: A 25-Year History of Video Games,* gives an excellent description of how Accolade went about reverse-engineering Sega's products in order to come up with its first unlicensed Genesis game,

Ishido: The Way of the Stones.

"Mark Lorenzen led a team of Accolade engineers who purchased a Genesis console and three game cartridges, then wired the console so that they could make printouts of the executable code of the games. They compared the code of each of the games to locate identical chains, believing that all of the games would use the same programming instructions to disable any security locks Sega placed in the Genesis. They used this information to create a "development manual" for making Genesis games."

It's not known which three games Lorenzen and his associates purchased. If the batch had included one of the early EA efforts, the situation would have been most ironic, indeed.

Like other unlicensed developers at the time, Accolade was caught flat-footed by the introduction of the TMSS. Sega demonstrated the console's new security system at the 1991 Winter Consumer Electronics Show (CES) in a manner that must have been a nightmare for Accolade's staff. At the show, a Sega representative pulled out a copy of *Ishido* and stuck it into the redesigned system. The cartridge failed to boot up. The demonstration's intent and audience were clear. Accolade accelerated its efforts, acquiring one of the new consoles and a new batch of games, wiring them up to Lorenzen's Rube Goldberg-esque apparatus, then collecting and analyzing the results. There had been a significant change to the header portion of the game programs. A new string of code had been inserted into a previously unused location which corresponded to the "power-up function" portion of the program header. This new code also happened to include the word "SEGA" at a specific location. Lorenzen and his team had already noted this previously unused portion of the header during their earlier efforts, and commented that "...it is possible that some future Sega peripheral might require it for proper initialization." With five new games already in development and nowhere else to turn, Accolade executives decided to take the risk, incorporating the new header code into its programs. It was the only way that they could get the games to market on

time. The moment the games – *Hardball, Mike Ditka Power Football, Onslaught, Star Control* and *Turrican* – were released (again without the proper license) Sega of America swung into action, and had its engineers disassemble them. *Onslaught* would not work on anything but the older consoles, but the rest worked just fine on the new ones, including the activation of the TMSS display. Sega's engineers were not surprised to discover that Accolade had copied the proprietary TMSS header code in order to get the games to work. The only reason *Onslaught* did not was that the new TMSS header code had been copied incorrectly and the word SEGA was in the wrong place.

Onslaught

On October 31, 1991, Sega sued Accolade in the U.S. District Court for the Northern District of California on one charge of trademark infringement and one charge of unfair competition. On November 29, Sega added a copyright violation charge, claiming illegal reproduction and adaptation of a copyrighted work. Accolade counter-sued, claiming injury of its reputation and contending that its efforts were protected under the fair use doctrine of copyright law. Accolade had hoped that the judge for the case would be Robert Peckham, who was already familiar with similar cases and "was felt to be sympathetic."

Unfortunately for Accolade, Peckham suffered a heart attack and was replaced by Barbara Caulfield, a new appointee to the bench. Caulfield was a strict interpreter of federal law, and ruled on Sega's behalf on all counts. She also issued an injunction barring Accolade from its reverse engineering efforts, forbade it from issuing any games not yet released, and ordered the recall of all of its unlicensed Genesis games within ten business days. Accolade promptly appealed and got the last part of the injunction reversed on April 23, 1992, but Judge Caulfield's order otherwise remained in effect. Accolade was now stuck with thousands of unsold Genesis cartridges – which would be going nowhere until the legal battle was resolved – not to mention approximately $500,000 in attorney and court fees. The costs were only going to get higher, but Accolade felt it had no choice in the matter. Reverse engineering was a common practice in the computer industry – even if not entirely sanctioned under federal law – and Judge Caulfield obviously did not understand that important factor. "This was a fundamental step backward," said Accolade's Alan Miller many years later, "from the way product development had always been done in (Silicon Valley) and in general throughout the world." If Accolade did not win its case on appeal, the affair would probably put them out of business for good.

Sega Genesis advertisement

The first inkling of how the case was going to go came on August 28, 1992. Both Sega and Accolade had spent days before the federal bench in both the district and appeal courts, arguing their respective positions and demonstrating their supporting evidence. Sega had every right to believe it would win; it had wowed Judge Caulfield with a demonstration by Sega engineer Takeshi Nagashima of how to make a Genesis game that would not trip the TMSS or make use of its code. They had denied Accolade's demand to examine Nagashima's efforts, and Judge Caulfield had sided with them. She had also ruled in their favor on all counts, with the trademark and copyright issues being the most important. Those were the legal protections that the TMSS had been designed to trip, and it appeared as though the courts would do Sega's dirty work for it, exactly as planned. For its part, Accolade stuck to its guns, insisting it had done no wrong, and clinging stubbornly to its fair use defense. Sega expected to win and Accolade expected to lose. Both were surprised when Ninth Circuit Court of Appeals Judge Stephen Reinhardt reversed in full the original injunction by District Court Judge Barbara Caulfield and announced that a decision would soon follow. And when it did, the decision brief rocked the computer industry. In the following quote, Judge Reinhardt is speaking on behalf of the full court. The complete decision brief is easily available on the Internet.

"We conclude that where disassembly is the only way to gain access to the ideas and functional elements embodied in a copyrighted computer program and where there is a legitimate reason for seeking such access, disassembly is a fair use of the copyrighted work, as a matter of law."

Although Accolade was not completely absolved of wrongdoing, neither did Sega get the absolute victory it desired. The real winner was the computer industry. The principle of reverse engineering was now legal under case law. Sega v. Accolade is one of those few precedent-setting cases that made legal history, and it has been cited in almost every major court battle involving the

computer industry ever since. It established the right of a software owner to make as many copies of a legitimately obtained program as was needed for a reverse engineering effort, so long as none of the copied code wound up in the final product. This would prove to be a key issue in the battle over the legality of video game emulation almost a decade later. It would be another seven years before the notion of reverse engineering itself would eventually be made a part of federal copyright law.

So what did Accolade get for its trouble? Roughly $20 million in lost profits and legal fees, along with the realization that it was going to have to accept a Genesis contract on Sega's terms if it wanted to keep making games for the console. As for Sega, its TMSS was vindicated – but that was about it. Anything else Sega would gain would have to be from Accolade's hide, for it had decided to settle rather than continue the legal fight. Under the terms of the contract that Sega forced upon them, Accolade was required to produce five original Genesis games for every game it made for "another system." It was a contract worthy of Nintendo's strong-arm tactics, but there was nothing Accolade could do. The new contract would ensure Accolade would do its part to bring original efforts to the Genesis software library. More importantly, it practically guaranteed Sega would earn a hefty amount of royalties from a steady stream of Accolade products.

Ninth Circuit Court of Appeals Seal

Ironically, Accolade may have had the last laugh. In order to meet its contractual obligations, Accolade's programmers produced anything and everything they could for the Genesis. A large part of it, such as the *Accolade Sports* series, was not particularly good. Some of it, such as *Super Off-Road* and *Warp Speed*, was pure junk. Accolade's Genesis titles were never the top sellers that the company had originally intended. In fact, things got so bad at one point that industry observers complained that a situation had been created "... where Accolade felt obligated to produce titles for the Genesis whether they sucked or not." The Accolade deal may have been good for Sega's pockets, but consumers gained only what could be called "shovelware."

Schizophrenia can be good!

The split personality that defined Sega at this point defined what the modern Sega would go on to become. The company that could do no wrong was a powerhouse of innovation and amusement success. During what was seen by some as "Sega's Golden Age," the structure and focus of the AM (Amusement Machine) divisions was defined and refined. Beyond producing a frenetic and important canon of titles, these divisions set the foundations that enabled the

company to understand the needs of an evolving game audience, as well as the sophistication needed to marry the needs of the playing experience with the latest immersive technology.

Virtua Fighter Advertisement

Within the hierarchy of the AM/R&D operation, stars were born, but it also contributed to the development of game content that inevitably hindered and undermined the 'studio' structure so carefully put in place by the Sega board. Leading up to 1994, Sega could look back with pride on a crop of amusement titles that defined a generation of gaming.

Sega saw the 'R360' – the Hi-Entertainment game series system – as part of its invasion of the amusement machine operation scene; meanwhile, *Galaxy Force* and *Rail Chase* marked the culmination of its sprite-based amusement efforts. Though not recognized at the time, this period saw the ushering in of the next generation in immersive entertainment with computer-generated imagery (CGI). The innovative architecture, a marriage of General Electrics' military simulation technology and Sega architecture design, resulted in the Model 1 hardware that issued the first salvo in the 3D game war. The 1992 amusement releases *Virtua Fighter* and *Virtua Racing* heralded the explosion in 3D rendered environment gaming, as well as Sega's infatuation with the word "Virtua."

This technology ushered in a new world of graphical representation in games, and would force an escalation in the means by which games were created. At this time Sega, and those competing against it, were the only ones who understood the fundamentals that would shape the creation of 3D gaming,

but soon all aspects of the digital gaming revolution were driven by this technology. Once again amusement led the charge towards the application of a gaming environment that would rock the foundations of the gaming experience.

Winds of fortune

As the fateful year of 1994 unfolded, Sega was still the dominant force in the North American video game market, and poised to remold the industry in its own image. By year's end, it was a deeply troubled company, beset from within by disputes between its Japanese and American branches. It was operating under a mountain of debt and practically nonexistent profits, and had great difficulty supporting all of the various products it had on the market. It also suffered from an image problem with both developers and gamers, who felt Sega had become fat, sassy, and directionless. And those weren't its only problems. Under assault by its rivals, the company was already witnessing the rise of the new next-gen wave – 32-bit consoles – and could ill afford to be left behind. It would watch as a resurgent Nintendo reasserted itself, winning the first great console war. It would also see the arrival of a new player on the console scene, a former third-party vendor for both Sega and Nintendo whose own next-gen video game system would initiate the second great console war. The time had come for the Genesis to step aside.

It is a rule of thumb within the video game industry that the average market cycle of any console is five years. In 1994, the Genesis was already six years old, and showing its age rather poorly. This was the time that another vendor would have had its next-gen system ready to unleash upon the public, stepping in to fill the shoes of its aging predecessor. Unfortunately, Sega was having problems doing just that. Sega CD was struggling, and both Sega of Japan and Sega of America were fighting over the path to a 32-bit video game system. This particular issue is best addressed elsewhere; suffice it to say that in 1994, a definite successor to the Genesis was not certain. Sega's Japanese

executives blamed Tom Kalinske for mishandling the American business and reasserted themselves. By 1995, Sega of Japan was effectively running Sega of America as it wrangled with what it perceived to be Kalinske's poor judgment.

In reality, it was back in 1992 that the winds of fortune started to blow against the company. Sega was still the new master of the U.S. video game market; however, its reign was by no means assured. Having seized the throne from Nintendo the year before, Sega wasted no time in committing many of Nintendo's same mistakes. In fact, Sega had already begun the process years before their swift ascent to power: restrictive licensing agreements (not as harsh as Nintendo's, perhaps, but still quite strict), the all-too-familiar and carefully manipulated "inventory management" techniques, the expensive (and not always successful) side ventures, the emphasis of breadth of product over substance, and more. Nearly every single mistake Atari and Nintendo had made during their respective turns in the catbird seat were now being committed by Sega; and like them, Sega seemed blind to its growing corporate arrogance.

Sega made grandiose plans for a video game future molded in its own image, confident that the new systems and software it had on the drawing board or commencing production would redefine the industry as everybody knew it. No one listened when former ally Trip Hawkins tried to warn Sega in 1993 that it simply did not have the resources to support all of those systems. Not that he had any credibility with Sega by then – that was the year he'd jumped Sega's ship by backing the launch of Panasonic's ill-fated 32-bit 3DO console. Of course, Sega's behavior did not go unnoticed. It was more sensed than known at this point by its loyal customers, who were growing confused and more than a little annoyed at Sega's seemingly never-ending array of expensive software, peripherals, upgrades, and systems. It was noted by industry watchdogs, who tried to warn Sega just as Hawkins had. It certainly did not escape the ire of the third party developers, the one group that represented the key to any video game system's success. One licensee put it

rather bluntly when he said, "As often happens, a revolutionary accomplishes a coup and becomes the next despot. Sega was as bad as Nintendo because Sega wanted to be Nintendo." They neither forgave nor forgot the cold shoulder treatment they were now beginning to receive – behavior they'd already received from Sega's rival. Interestingly enough, many of their eyes were turning back towards a resurgent Nintendo that was suddenly all smiles and warm hugs again. "Come back to my fold," the plumber promised. "I'm sorry. I'll do better this time." The third parties had no problem with this proposition; after all, healthy competition among multiple platforms was what they had wanted all along.

Sega Genesis 2

More than anybody else, Nintendo had watched, endured, and studied Sega's sudden takeover of a market they could rightly claim to have single-handedly saved from certain death almost a decade before. Nintendo had expended over $25 million on the SNES launch in 1991, only to see Sega not only survive the launch but almost blow the it out of the water the next year. Hiroshi Yamauchi commissioned a study by the independent Market Data Corporation (MDC) evaluating Nintendo's future, with the results delivered at a special meeting of the board of directors. That report, combined with the insights of Nintendo's own analysts, spelled out Sega's path to success in cold and inescapable logic. It was a sobering assessment.

Panasonic 3DO

• Nintendo had failed to grasp the significance of sewing up the next-gen market, even at the expense of current market sales. The success of the Genesis in a market that should have been Nintendo's was evidence enough of this.

• The SNES needed a strong library of games if it was ever to have a chance of catching up with the Genesis. The Sonic franchise and ever-popular EA Sports library, both popularized by Genesis, were a testament to that fact.

• Nintendo needed to diversify its software libraries if it wanted to retain its customer base. Young kids, Nintendo's traditional target, would always be there, but the first generation of Nintendo gamers were getting older and developing more diverse tastes, and Sega's system and games better appealed to them. To borrow a quote from the *Star Trek* episode "Shore Leave," "The more sophisticated the mind, the greater the need for the simplicity of play." Nintendo still enjoyed near-synonymous identity with video games as a whole, but it would have to release new and better games and expand its presence in other genres in order to recapture the older gamers it was losing to Sega.

The aging 8-bit NES was by now far too old to maintain Nintendo's monopoly. The 16-bit SNES was superior to the Genesis in almost every aspect save raw processing power, but it lacked market presence and diverse, high quality software. The SNES was Nintendo's only hope. Despite the

announcements of its own next-gen console, (Project Atlantis, aka Ultra 64, aka N64), Nintendo's executives knew the new system would not be ready until 1996 at best. They would have to remold the SNES in Western gamers' eyes in such a way that it could successfully take on Sega's current and next-gen systems simultaneously. With this in mind, Nintendo commenced a comeback the likes of which have yet to be duplicated in video games.

Mortal Kombat

One of the first things Nintendo did was to start revamping its software library with higher quality and greater diversity, securing an exclusive deal with Capcom in 1992 for the console ports of the popular *Street Fighter 2.* That didn't keep Capcom from squeezing out a Genesis port of *Street Fighter 2 Special Champion Edition*, but it did ensure that the console port of Super *Street Fighter 2* would be a four-year SNES exclusive. It was a blow to the Genesis software library that would see no solution until the following year, and then from a different vendor entirely.

Nintendo also tried augmenting the processing power of the console through the use of external processors fitted inside specially designed SNES carts. The Super FX is the best known of these, and *Star Fox* is the best known Super FX title. It was a well-designed space shooter featuring 3D polygonal ships whose

game engine was almost exclusively handled by the Super FX. This freed up system resources inside the SNES, making for one very fast, great-looking, great-playing game. It was impressive, and made Nintendo a lot of money, but there would be few other Super FX games. These and other such customized co-processor carts were expensive to produce, and before long Nintendo explored other, cheaper avenues of assault on Sega. On May 1, 1992, Nintendo of America president Minoru Arakawa lowered the price of the SNES to $150. This was partially to celebrate the legal victory Nintendo had just won over Atari and its unlicensed Tengen games, but it also gave Nintendo the chance to better position the SNES with potential customers. It was a move Peter Main, Nintendo's vice president of marketing, heartily endorsed; he had wanted a $150 price tag right from the system's U.S. launch, claiming "I could have sold an extra million." Over at Sega, Tom Kalinske promptly responded by dropping the price of the Genesis to $130, but sales of SNES consoles had already begun to pick up. The Genesis was still the cheaper console, but not by much.

Video game violence

One key event in 1993 bears on the first great console war: The "violence in video games" debate and the political quagmire it became. While this is not the place to deal with that particular subject in great detail, it does involve the Sega CD, which played a more prominent role in the ensuing debate than any other single video game system. Examining the true cause of the affair, it comes as no surprise that Nintendo was behind it.

The video game sensation known as *Mortal Kombat* was first released to U.S. arcades in 1992. A Midway/Williams product, it was an instant hit. A fighting game spurred on by the success of *Street Fighter 2*, it distinguished itself with its own character mythos and impressive array of secret and finishing moves, the latter of which caused the biggest stir. Once an opponent had taken enough of a pounding to be near collapse, he or she would stand in place, swaying dizzily. An unearthly voice then solemnly intoned "FINISH HIM!"

at which point players were supposed to execute their character's trademark finishing move. If performed correctly, the results were spectacularly gruesome: decapitation, disemboweling, flaying, organs ripped out, and so on. "It became a huge part of the game," noted designer Ed Boon. "We didn't know that was going to be such a big attraction. It just happened." Acclaim Entertainment owned the exclusive rights to any console ports of *Mortal Kombat* and its successors. Both Sega and Nintendo wanted the game – badly – and both paid well to get it.

Joseph P. Lieberman

There was just one, minor difference between the two ports, but it would prove to be the distinguishing selling point between them. The Genesis version was faithful to the arcade original, right down to the bloody finishing moves. Nintendo's was not. Acclaim was forced to remove the finishing moves from the SNES port due to Nintendo's strict quality control standards. "Having a toned-down version for Nintendo – do you guys really want us to do that?" Acclaim reps warned. "Does that really make sense?" To many of Nintendo's American team, it did not – but they weren't the ones running the company. Both editions were released in September of 1993, and the Genesis port promptly outsold the SNES version by a ratio of 4-to-1. "*Street Fighter 2*?" Genesis fans sneered. "Who needs it?! We've got *Mortal Kombat* – and uncensored, to boot." SNES owners were furious at the decision to gimp their port, and they let Nintendo know it.

Nintendo's solution was simple: fight dirty. If Sega was going to use violent video games as a positive selling point, Nintendo would have to pull the rug out from under them. Nintendo began lobbying the U.S. Congress about the rise of violence in video games, willingly providing carefully edited videotapes containing footage from the Genesis port of *Mortal Kombat* and the Sega CD game *Night Trap* to anyone who would listen. One of these was U.S. Senator Joseph P. Lieberman (D) of Connecticut. Lieberman had heard some of the hubbub, and was curious as to what it was all about. Lieberman obtained a copy of *Mortal Kombat* as a favor to his chief of staff, Bill Andresen, whose son was interested in the game – but who also had misgivings about buying it. "I was startled," Lieberman would later recall. "It was very violent, and as you know, rewarded violence." The rest, as they say, is history.

The one thing that Nintendo got out of the U.S. congressional hearings of 1993-1994 into video game violence was the smearing of Sega's reputation in the minds of America's parents. They began second-guessing their children's judgment, seeking to protect them from this perceived threat. By openly promoting such violent fare, Sega was guilty of poisoning the minds of America's youth. Whether or not that was true was beside the point. Nintendo had shifted public opinion against Sega, and it was all that they needed.

The Software Difference

By the beginning of 1994, both Sega and Nintendo had marked their respective consoles down to $100 each. The two were now on an even playing field as far as the more informed gaming public (who had cared little for the congressional hoopla) was concerned, and so all eyes now turned to the software. Sega's was the same as always: The expected Sonic titles, the usual array of platformers and action games, and some kick-ass sports games. Over at Nintendo, innovation was in full effect. 1994 saw Nintendo release the two SNES games that finally brought it back to a position of strength. That summer saw the coming of *Super Metroid*, considered by Nintendo fans as the greatest platform shooter ever made. *Metroid* had been

one of the hit shooters for the NES, and its fans had been clamoring for the series' return.

Super Metroid

They got their wish, and the game sold by the truckload. But *Super Metroid*'s sales would pale in comparison to the monster Nintendo was about to unleash upon the fall shopping season.

Donkey Kong Country

One of the most notable programming houses from the glory days of the NES was a company called Rare, best known for their hit fighting games *Double Dragon* and *Battletoads*. It was not long after that Rare dropped off the radar, not to re-emerge until 1994. When they did, it was with the killer app of the year. *Donkey Kong Country*, based on the original Nintendo arcade game, was without doubt one of the best-looking platformers to grace a 16-bit console. Rare's development teams had found a way to convert 24-bit animation sequences into a format that a 16-bit console rich in system resources could handle – a console like Nintendo's SNES. The game's pre-rendered graphics were created on a high-end SGI workstation and then ported to the SNES. The game's humor evoked the dry wit typical of England. Oh, and it was a great-playing game, too.

Donkey Kong Country was the video game hit of the 1994 holiday season, with 2.2 million copies pre-ordered – far more than Nintendo claimed it could deliver in time for Christmas. The initial shipment of 500,000 cartridges was sold even before it hit store shelves; a second shipment sold out within the week. The game would go on to sell over nine million copies during the official lifetime of the SNES, making it Nintendo's second-best selling game (after *Super Mario Brothers 3* for NES). The roles were now reversed. In comparison, Sega's *Sonic and Knuckles* seemed rather lame. There was a cooler Sega game out there – *Star Wars Arcade* – but it required the 32X to play, and most folks weren't willing to buy the expensive peripheral. Sega still outperformed Nintendo in overall holiday sales, but Nintendo had the #1 game of the season.

Nintendo also addressed the issue of genre diversification in the years following the MDC study, with one genre in particular deserving special mention. The lack of role-playing games (RPGs) had always been a glaring weakness of the Genesis software library. It had them, but it didn't have enough to satisfy fans of this rapidly growing genre. This is ironic when one considers the fact that it was Sega who first introduced the U.S. to console RPGs back in 1987 with the groundbreaking *Phantasy Star*. The game

eventually evolved into a franchise, with three more titles in the series released by Sega for Genesis. There were also the two *Shining Force* games from Climax Graphics, as well as Will Harvey's *The Immortal* and Yu Suzuki's *Sword of Vermillion*. And let's not forget Ancient's *Beyond Oasis* and Falcom's *Ys 3: Wanderers of Ys*. These were the best RPGs the West would ever see for the console, and there weren't that many average or bad ones, either. Japan enjoyed a few more, but only a few: A special edition reissue of the original *Phantasy Star*, Falcom's *Dragon Slayer: The Legend of Heroes* series, Hot-B's *Blue Almanac*, Compile's charming *Madou Monogatari*, Namco's *Nadia: The Secret of Blue Water* (based on the anime TV series of the same name), and Japan Media's *Surging Aura*. All in all, there were only some two or three dozen RPGs in a worldwide software library of several hundred games. Unfortunately, even the best of these could not measure up to the avalanche of RPGs being released by Nintendo for the SNES. It was a lost opportunity for Sega upon which its competitor eagerly seized. "While Super NES pushed out *Final Fantasy* and its sequels," noted Game Players magazine in its holiday 1995 issue, "Sega almost entirely ignored the role-playing audience."

Nintendo had openly courted the RPG community since the days of the NES, and the resource-laden SNES made the prospect of producing better and more sophisticated efforts all the more tantalizing. It was not a big niche, to be sure, but it was growing fast, and made up of those who'd willingly pay full retail for quality software. Nintendo, needing all the market share it could get, quickly moved to claim RPG players before Sega took them away. There were dozens of SNES RPGs being released in Japan on a regular basis, and Nintendo's quality control team made sure that many of the best of these made it to Western shores. The company had already enjoyed success on its own with two *Zelda* games for the NES, and worked hard to ensure that *Zelda: A Link to the Past* for SNES would be the best yet. It turned out to be one of the console's best-selling games. Nintendo also managed to keep its two best third-party RPG programming houses in the fold – names revered by RPG players even today. Both Enix and SquareSoft stuck with Nintendo, although

Square did take the time to dabble with the Genesis with its *Bahamut Bahant Senki* (later reissued in a superior remake as *Bahamut Lagoon* for SNES), which would be the only Square title to ever appear on a Sega console. Enix is best remembered for its *Dragon Quest* (aka *Dragon Warrior*) series, which made the successful transition from NES to SNES, and still soldiers on today. Other notable Enix titles for the SNES include the *ActRaiser* series, *Evo: The Search for Eden, Star Ocean*, and *Terranigma*.

Square, of course, needs little introduction. Its flagship series, the *Final Fantasy* franchise, debuted on the NES, going on and against all odds to become one of the system's hit titles in Japan. As with Enix, Square's most notable franchise also made the successful transition to the SNES. The steam-punkish *Final Fantasy 3*, one of several *Final Fantasy* titles released for the SNES, is considered by many to be the finest fantasy RPG ever burned into a cartridge ROM (the best RPG ever created for a cartridge-based console, 1995's legendary sci-fi RPG *Chrono Trigger*, also came from Square). Other notable SNES RPG efforts by Square include such well-known titles as the *Breath of Fire* and *Romancing SaGa* series, *Secret of Evermore, Secret of Mana*, and the delightful *Treasure Hunter G.* Square was also responsible for RPGs based on two popular franchises at the time: Bandai's *Sailor Moon: Another Story* and Nintendo's *Super Mario RPG: Legend of the Seven Stars*.

Secret of Mana

All told, there were well over a hundred RPGs from a dozen or so different vendors available for the SNES, and at least a good two-fifths of those made it to Western shores. They pushed the console for all it was worth, and – as RPG gameplay generally does not require as fast a processor as an arcade or sports title – they made the SNES shine. It was no wonder that even the best of Genesis' RPG offerings seemed somewhat shabby in comparison. Genesis lacked the audiovisual resources that Yamauchi had insisted on for the SNES, and the difference was compared side-by-side. However one chooses to interpret the causes and effects, there is no doubt that Sega missed a golden opportunity by failing to more thoroughly exploit the rise of the RPG, leaving a door wide open for Nintendo. Although a niche market at first, the popularity of RPGs grew rapidly throughout the 1990s. This surge of interest came at a critical time for both companies, and would eventually prove to be one of the primary forces driving the video game market from that point on. Sega may have brought the first RPG to the West, but it was Nintendo that reaped the bounty of this particular harvest.

By the end of 1994, Nintendo was back on top. Sega's market share had shrunk to only 35% – down some 30% over the span of one year. Sega executives claimed the slump was due to a traditional summer rollback in its

advertising campaigns, but everyone knew better. Nintendo's new marketing campaign had succeeded. The SNES was now the dominant 16-bit console, with the aging Genesis playing second fiddle. That SNES would remain the dominant 16-bit system from here on out was not Sega's only problem. By the end of 1995, Nakayama was forced to face the reversal of his company's fortunes and the rise of the 32-bit video game systems. It was an acknowledged fact that the new kid in town, Sony Corporation, had an excellent system with its PlayStation, and wasn't about to go away anytime soon. Nakayama then made a decision that would decide the course of Sega's fortunes for the next three years, and still resonates to this day.

Twilight time

On Nakayama's decision to kill the Genesis in favor of the Saturn, author and longtime video game industry reporter Steven Kent claims that "Concentrating on Saturn proved to be a tactical mistake that cost Sega millions, if not billions of dollars." Nakayama had not made his decision in the dark. He knew full well that Nintendo CEO Hiroshi Yamauchi was spending millions more than Sega could hope to match on secret alliances with technology companies and software houses, many of whose products were for the SNES. "No one can stop us," Yamauchi is reported to have said in December of 1992. Nintendo of America president Minoru Arakawa, Yamauchi's son-in-law, was not afraid to let his opinions be known, stating in a 1993 interview that "I don't think the other companies understand that they do not have what Nintendo has. It is why we will grow. Maybe that growth will not always be as fast as it has been, but it will continue." Nintendo was playing for keeps. No matter what they had to do, the lengths to which they would go, or the time it would take, they fully intended to put Sega back in its place – and they had the cash, company resources, and sheer force of will to do it. Even Tom Kalinske, in 1994, stated that "The 16-bit business....is going to be very, very strong for at least another two to three years." It was as candid an assessment as to be heard from a senior Sega executive; the only problem

was that his superior was no longer listening to him.

Minoru Arakawa

Nakayama's decision to discontinue Genesis support in 1995 made little sense, unless you were part of the narrow-minded corporate culture at Sega of Japan that brought it about. Within that context, focused as it was on the rise of the 32-bit next-gen market in Japan alone, it made perfect sense; all other opinions be damned. Kalinske was vindicated when his prediction came true. The 16-bit market remained strong all through 1994, 1995, and well into 1996, finally giving way to the 32-bit systems in the fall; even then, 16-bit software sales made up a significant slice of the market for another year or so. In cutting short support for the Genesis, Nakayama practically handed the 16-bit market to Yamauchi on a silver platter, and much of Sega's potential profits went with it. With the 16-bit console market all to itself, Nintendo's performance during the 1996 holiday shopping season would be the most profitable yet of any vendor in the U.S. video game market.

When Sega officially announced that it was dropping the Genesis in favor of

the more expensive Saturn (and its obvious dearth of games), the retail community raced to clear their inventories in order to make room for products by Nintendo and Sony. Sega and its largest third-party licensee, Acclaim, were now stuck with warehouses literally brimming with unsold Genesis carts, and no one willing to buy them. Both took a financial beating in the fiasco, but Sega lost more than just money. It had squandered its hard-won reputation with the gaming public. To its fans, Sega was no longer cool, but arrogant. Nakayama's decision was a direct slap in the face of Sega's core consumer group of pre-teen and teenage boys, a perceived insult that would take years to heal. Sega had deliberately bowed out of a race that they could have won, and Nakayama's choice would be the catalyst for much of Sega's subsequent misfortune.

Tom Kalinske resigned as president of Sega of America on July 15, 1996. He had arrived five years earlier as an outspoken, self-confident executive with a reputation for success and the resume to back it. He left embittered, fully aware that his foes at Sega of Japan blamed him for all of the company's misfortunes, regardless of actual cause. Arguably worst of all was that his former friend and confidant, Hayao Nakayama, appeared to have bought into his colleagues' anti-Kalinske propaganda, albeit unintentionally. Sega of Japan turned its back on him, taking away direct control of Sega of America bit by bit until he was left as little more than a figurehead. He knew what was ailing Sega – had said as much time and again – only to see his actions and recommendations thwarted or overruled. Michael Latham, a former Sega producer during Kalinske's days at Sega, says of the final years of Kalinske's tenure, "He was not allowed to do anything. The U.S. side was basically no longer in control." Kalinske would write surly or sarcastic memos to subordinates whenever they made obvious mistakes. He rarely contested the decisions of Nakayama or his representatives, who were by now paying frequent visits to Sega of America to dictate how it would conduct its affairs. People would come into his office to find him doing nothing but staring out the window. While we may never know the full story, Kalinske left Sega a very

different man than when he first arrived.

"I think somewhere in the mid '90s, '94 or '95, they built up a great deal of resentment, and I didn't realize it at the time, until probably the latter part of 1995, when one of my colleagues in Japan, who I knew well and had a good relationship with, said to me something to the effect of "you don't understand how browbeat and annoyed the Japanese executives here are because of your success. Every meeting we go into, Nakayama asks us why can't you do things the way the Americans and Europeans did? Why aren't you guys as successful as they are? We've been around longer." I think the local executives didn't appreciate that he'd take that tone with them. Apparently, he also beat them up over Sonic, which was never as successful in Japan as it was in the U.S. and Europe (to this day, that's the case), and I think he was always throwing that in their faces too. So clearly, by late '95 there was great resentment built up: jealously, resentment, and kind of a desire to get back at those Americans that Nakayama kept throwing in their faces."

-Tom Kalinske

Last gasps

Although officially dead in North America and Japan (it would not be discontinued in Europe until 1998) the Genesis roared briefly back to life in South America. Tec Toy, Sega's Brazilian distributor, had enjoyed considerable success with the SMS and decided to give its successor a turn at the wheel. The Mega Drive had been produced in Brazil as early as 1991, but this was the time to pull it out from under the shadow of the SMS. Success was practically guaranteed: Tec Toy and its Sega lineup had held 75% of the Brazilian video game market since the top of the decade. Rival Dynacom, who pushed Nintendo's systems, never came close. As with the SMS before it, Mega Drive consoles and games were produced at Tec Toy's main plant in Manaus – Brazil's rather unique take on Tokyo's world-famous Akihabara district. Visitors will tell you that conducting business in Manaus brings entirely new meaning to

the terms "trade free zone" and "carry-on luggage." It was an apt place for Tec Toy to place a plant, for it reflected perfectly the company's free-wheeling, free-dealing nature – often to the benefit of Brazilian gamers. The Mega Drive hit its stride in Brazil in 1996, just as the popularity of the SMS was beginning to wane. It officially replaced the SMS on Tec Toy's production schedule as of 1997; consoles and games continued to be produced until the end of 1998. Those three short years would also see a handful of games unique to Brazil, including the only 16-bit console version of *Duke Nukem 3D* ever produced.

Duke Nukem 3D

In late 1997, New Jersey-based Majesco Sales approached Sega with the idea of refloating the Genesis as a low-budget alternative system to the higher-priced Sony PlayStation and Nintendo N64. Majesco felt the Sega brand retained enough value on the U.S. market to make a go at it, and offered to handle marketing, distribution, sales, and more. In exchange, Sega would receive royalties on every piece of hardware or software sold. It didn't take long for Sega to assent; after all, it was still sitting on warehouses full of unsold Genesis inventory and needed to move them any way it could. Due to a shortage of consoles, Sega went ahead and produced for Majesco what would be the very last iteration of the Genesis.

Sega Genesis 3

The Genesis 3 was released to little fanfare in early 1998. It was a decidedly no-frills version of the console that had brought about the 16-bit revolution a decade earlier. Gone were the sidecar expansion bus (for Sega CD) and Z80 processor (creating some minor incompatibility problems). The new system was a tightly integrated box about the size of an outstretched hand, resembling a cross between an oversized hockey puck and a space-age portable CD player. It was priced at $50 – a far cry from the original 1989 launch price of $190, and only half the system's last official price from back in 1996. Along with it came the first new Genesis game in three years: *Frogger*, a perfect port of Konami's original 1981 arcade hit which Sega had vended in the US and was now owned by Hasbro Interactive. It would be the last officially licensed title ever released for the console.

Sega 3-button controller

The re-emergence of the Genesis after a self-imposed two-year absence also (albeit briefly) reignited the first console war. Nintendo, too, had been trying to clear its back inventory of SNES stock, having produced its own budget version of the SNES in 1997 and filling the shelves of any willing retailer with excess SNES inventory. With Majesco horning in on the action with a $50 Genesis 3, Nintendo matched its price. Majesco then dropped the price of the Genesis 3 by $10, and then another $10, with Nintendo matching them dollar-for-dollar every step of the way. Software prices for both systems remained stagnant, ranging anywhere from $10 to $25 per title. By this time 16-bit sales only accounted for 10% of the total U.S. console market, but even this was a brisk and fiercely fought share. "I think you may see some sharpening of the SNES price in the holidays," said Nintendo vice president George Harrison. "It's the best kept secret in the industry," noted Majesco's Morris Sutton. "Retailers have been making a lot of money on 16-bit." Majesco wound up selling one and a half million Genesis 2 and Genesis 3 consoles, along with 10 million or so games in fiscal year 1998. In comparison, Nintendo would only sell one million SNES consoles and six million carts. As with the American Civil War, the rebels would win the last battle - if not the war itself.

In retrospect

Competition promotes excellence. The SNES would not be what it is today if not for the Genesis. Historical record shows that Nintendo was in no hurry to release the console – let alone decent games – until the Genesis entered the scene. It was the benchmark system around which the fortunes of the SNES revolved, something even top Nintendo executives have grudgingly conceded. Consider what games were available for the SNES before 1992-1993, and what came after. Can we honestly claim there would have been a *Super Mario RPG, Super Metroid, Donkey Kong Country, Chrono Trigger*, or hundreds of other excellent SNES titles from 1993 onward if not for the challenge posed by Sega? I think not. Nintendo may have won the first great console war, but the Genesis endures in the minds of nearly 30 million former users – silent tribute to Nintendo's monopoly on the U.S. market being broken, never to be regained. Even after clambering its way back to the top, Nintendo was knocked off again just two years later by Sony's PlayStation. Like it, admit it, or not, the Sega Genesis was the system to beat.

Sega Genesis advertisement

Genesis/Mega Drive factoids

NOTE: For the sake of convenience I abbreviated "Genesis/Mega Drive" as "GMD" throughout.

• The Genesis is Sega's all-time best selling console, enjoying worldwide sales of some 37.3 million units.

• There are three primary official variations of the GMD listed below. All appear identical in Sega's various worldwide markets save for small differences in case color schemes and product labels.

• **Genesis/Mega Drive Model 1 (MK-1601)** - Produced by Sega of Japan or under license to other vendors from 1988 to 1992, this is by far the most ubiquitous version to be found in Japan and North America. It is the only model with a volume control for the headphone jack. The North American version features a set of tabs on the cartridge port to prevent the use of overseas (Mega Drive) carts. Certain early accessories – including the Power Base Converter, Sega CD/Mega CD Model 1, and Sega's karaoke unit – are designed specifically around the case styling of this particular model and must be modified to work with later models. There are two different unique production batches. GMD MK-1601s made from 1989 to 1990 feature limited firmware protection and will work with any vendor's cartridges, both licensed and unlicensed (including the early non-standard Electronic Arts and Accolade carts). Units produced starting in 1991 will only work with cartridges that can properly interface the TMSS code in firmware.

• **Genesis/Mega Drive Model 2 (MK-1631)** - The sudden success of the Genesis caused Sega to redesign its product line in 1992 for a sleeker, cooler look; these redesigned products hit store shelves in 1993. The MK-1631 has a more streamlined case and smaller planar than its predecessor, and also lacks the headphone volume control. Other than the reduced size, it has identical internal hardware to that of the older GMD MK-1601. This is the

version of the console better known to European, Brazilian, and Australian gamers. As with the GMD MK-1601, North American Genesis versions include tabs on the cartridge port to prevent the use of overseas Mega Drive carts. Certain accessories designed for the older GMD MK-1601 cannot be used with the GMD MK-1631 without significant adaptation. All GMD MK-1631s incorporate the TMSS into system firmware.

- **Genesis/Mega Drive Model 3 (MK-1641)** – This last version of the Genesis console is exclusive to North America and Brazil. It had the smallest footprint to date, roughly the size of an older model portable CD player. Another significant difference is the lack of the tabs on the cartridge port, which enables the use of overseas Mega Drive carts. The major internal difference is the complete absence of the Z80 processor from the sound-processing suite; this change has been documented to cause compatibility problems with certain Genesis carts. It also lacks the sidecar expansion port, prohibiting the addition of a Sega CD unit. Diehard Genesis fans shun the GMD MK-1641, derisively dubbing it "the hockey puck."

- **Genesis Firecore/Blaze Mega Drive** - The final Genesis console, released in 2009. The smallest of all the official consoles, this model was manufactured by ATGames and targeted at the low-end gaming market. Similar to the Genesis 3, the Firecore does not contain an expansion slot, making it incompatible with the Sega CD. It is also incompatible with the 32X, the Power Base Converter, and *Virtua Racing*. The audio is handled via emulation, making some games playable only without music, while those with sound only support mono. The console does come with 20 built-in games, and can also play international titles. The unit was released at a retail price of $50.

Sega Genesis Firecore

And that's not all, folks. There are many more Genesis-based systems out there, with new ones being released all the time. Ready to see other variations on the Genesis by both Sega and other vendors? Well then...here we go!

• Conceived by Sega of Japan in 1992 as a means of developing a portable Genesis along the lines of Game Gear, this 16-bit portable was based on the MegaJet, an older, screen-less portable originally developed by Sega of Japan as a promotional item for Japan Air Lines. The end result came to market in October of 1995. It featured a backlit color LCD screen and works with almost every single cart in the entire GMD library. Its $180 price tag was prohibitive, and it burned through batteries in record time (about three hours of gameplay); nevertheless, it was quite popular among hardcore Sega fans. It was discontinued in mid-1996 along with the Genesis itself in order for Sega to focus its resources on the Saturn. Because of its heritage, the Nomad works with both Japanese Mega Drive and North American Genesis carts. A PAL Nomad was never released in Europe, although I've heard that a lone prototype exists. I'm also told that the Nomad was the first iteration of the console to drop the Z80, therefore suffering from the same compatibility problems as the later Genesis 3 console. Because of its self-contained, portable nature, the Nomad is the most sought-after version of the console to be had. They were last priced at $40 (brand new in the box) at Toys 'R' Us in the spring of 1999 and promptly sold out shortly after the announcement was made. If you can find a used one for that price, consider yourself lucky. The

idea of a portable GMD was later revisited in 2009 with the Firecore Retrogen, a portable version of the Firecore console released the same year. Although suffering from the same pitfalls as the Firecore console, the Retrogen could also play games off of an SD card. Unlike its console counterpart, the Retrogen is free of Sega and Genesis branding. This unit retailed for $50.

Sega Nomad

- An unusual hybrid, the Sega TeraDrive crammed a Genesis and an IBM compatible personal computer into a single unit. It was designed in conjunction with IBM and first marketed in May of 1991. There are three different versions of the system. The first sports a 10 MHz AMD i80206 CPU, 2.5 MB of RAM (maximum), and 640x480 SVGA graphics. Model 2 uses a Motorola 680000, but included an additional floppy drive. Model 3, the most expensive, had a Zilog Z80 and 30MB HDD. Similar – but unrelated to – the TeraDrive is the Mega PC, manufactured and released by Amstrad in 1993 under license from Sega. While it also featured the ability to play GMD games, it could be equipped with an Intel 80386SX at 25MHz (faster than the TeraDrives options).

- Ironically, the Genesis – based on Sega's System 16 arcade hardware – served as the foundation for three more Sega arcade boards. All of these

used plug-in carts for their games, like the Genesis; these were in a custom format, and are not compatible with Genesis consoles. They are the single-game System C (1990) and the multigame MegaTech (1991) and MegaPlay (1992) arcade boards. The MegaTech is also designed to work with Master System games; again, it uses a unique format incompatible with either the SMS or Genesis consoles.

- MSX was Japan's attempt at defining a worldwide standard for 8-bit personal computer systems. It may come as a surprise to learn that there are two MSX computers, both created by Sakhr under license from Universal, which were produced for distribution in Kuwait and Yemen. Based on the Yamaha AX-330 and AX-990 MSX2 computers, the Sakhr versions included built-in Mega Drive hardware and a cartridge port. The AX-990 variant included additional firmware with 50 games in Arabic burned into its ROMs.

- Two more standalone Genesis clones hail from South Korea. Produced in 2000, the Noritul FX was vended by Unitech at a price of 95,000 won (US$85). Nothing more than a Genesis housed inside a Dreamcast-like system, it has 14 games built-in, most of which are believed to be unlicensed. Sega has refused to offer public comment on Noritul's unit, but many are of the opinion that it was produced without Sega's permission. This is also true of Shinco's DVD-868 unit, a DVD player with a built-in Mega Drive emulator, PlayStation-like controllers, and no cartridge port. Shinco also distributes nine CD-ROMs containing ROM dumps of nearly every GMD game ever released.

- All Sega-produced GMD consoles and official derivatives include firmware market locks to prevent cartridges produced for one market to be used in another. A number of well-known hardware hacks to circumvent this can be found online. North American owners of Model 1 and Model 2 Genesis consoles will also have to break off the tabs located on either side of the cartridge port in order to accommodate the slightly wider Mega Drive carts.

- The Super NES launched in the U.S. on 09/09/91. The Sony PlayStation,

which become the dominant console in the latter half of the 1990s, made its U.S. debut on 09/09/95. The Sega Dreamcast, the first of the 128/256-bit wave of consoles, made its U.S. debut on 09/09/99. The ninth of September appears to be something of a sacred date in the U.S. video game industry due to widespread belief among vendors that companies who debut systems on that day will enjoy successful market runs. Coincidence? Superstition? Perhaps...

• The Mega Modem was developed partly in response to the Nintendo Network, which was first unveiled in Japan in 1989. Nintendo's NES-based telecommunications system was geared largely towards businesses, so Sega opted to take up the slack on the modem gameplay front. The Mega Modem failed miserably; there simply wasn't enough of a market to support modems for video game consoles. Only two games were ever released for the device, Sunsoft's *Tel-Tel Baseball* and *Tel-Tel Mahjong.* A Western counterpart, the Telegames Modem, was announced but never released. A handful of Western video games were developed for use with the Telegames Modem, including the unreleased *Combat Aces*. Sega did not abandon networked video games entirely, however, and would pick up the torch again approximately five years later.

• A joint venture by Sega, TCI, and Time Warner, The Sega Channel used existing Genesis technology to deliver a game-on-demand system to users of TCI's and Time Warner's various U.S. cable TV franchises. Test-marketed through the summer and fall of 1994, the service saw its debut in Pittsburgh, PA in December of 1994, launching nationwide in both the U.S. and Canada in March the following year. It was eventually introduced in Europe in June of 1996 through a variety of distributors, including Flextech (UK), Detusche Telekom (Germany), Eneco (The Netherlands), and Telenor (Norway). For U.S. $15 a month, Sega Channel subscribers could download their choice of up to 50 different Genesis games inside specially built combo modem/RAM save adapters based on Catapult's X-Band modem hardware. Many of these,

such as *Time Killers*, were previews of up-and-coming games; others were custom versions of existing games, such as the 24-bit version of *Super Street Fighter 2: The New Challengers* and a custom port of the Sega CD's *Earthworm Jim Special Edition* (sans FMVs). Others were titles never released in their subscriber markets, such as *Mega Man: The Wily Wars* (a European market exclusive that only U.S. Sega Channel subscribers got to enjoy). Downlink transmission of the Sega Channel was carried nationwide across the U.S. on transponder 1 of the Galaxy 7 communications satellite. At the peak of its popularity in 1997, the Sega Channel was carried by over 100 cable TV systems in 140 U.S. cities and enjoyed a steady subscriber base of some 250,000 users. The Sega Channel was officially discontinued in the U.S. on June 30, 1997, due to declining popularity in the wake of the Sony PlayStation.

Sega Channel adapter

- A 1993 commercial for *Sonic 2* spoofed then-popular infomercials. According to the commercial, *Sonic 2* works on stubborn stains while also being able to slice, dice and more! True to form, the advertisement directed you to the store for details on how you could get a copy of *Sonic 2* for free.

- The term "J-Cart" refers to special cartridges released by Codemasters with two extra joystick ports built into the cartridge, enabling four-way gameplay

without a multi-tap adapter. Only six J-Carts were released: *Micro Machines 2, Micro Machines 96, Micro Machines Military Edition, Pete Sampras Tennis, Pete Sampras Tennis 96* and *Super Skidmarks*. All were later released as standard carts that retained the distinctive J-Cart curved housing (sans extra ports, of course).

Sega Genesis J-Cart

The future?

Interest in the Sega Genesis/Mega Drive has been recently rekindled by several startling events, as list that seemingly grows longer each day:

• The release of a new Genesis console, the Firecore, in 2009.

• The December 2010 release of *Pier Solar and the Great* Architects, the first original title for the Mega Drive in 14 years. Developed by WaterMelon, who followed up with another Mega Drive game, code named "*ProjectY.*"

• The re-release of classic Genesis/Mega Drive titles for Nintendo's Wii, PS3, and Xbox 360.

Pier Solar and the Great Architects

A Console Too Soon:

The Sega CD

Introduction

This is the story of a remarkable piece of video game hardware that, through no fault of its own, ended up a mere footnote in the annals of video game history. Long the butt of jokes and snide remarks, it was nevertheless a remarkable feat of engineering for its time that helped pave the way for the type of console we now take for granted. Overpriced and underrated, with vast storage resources at its disposal but a dismally small selection of games (few of which actually took full advantage of the system), it has staggered into cult status among a few diehard loyalists. Oft maligned and openly derided, its legacy endures – one that even its most virulent critics can't take from it.

Planning ahead

By 1990, it had become obvious to Sega executives that the Mega Drive

was not about to put a dent into the competition's profits. Nintendo ruled the Japanese roost with its aging Famicom (NES) and newer Super Famicom (SNES) systems. Something had to be done to revive flagging Mega Drive sales, but what? The answer appeared to lie in new technology that had just made its way into the personal computer market in the form of the very first CD-ROM drives. Derived from patented Sony-Phillips compact disc (CD) audio technology, PC owners were presented with a mass storage media capable of storing over 500 MB of data; this at a time when the average home-user PC hard drive could store about 200 MB. The implications were enormous, and the arrival of CD-ROM is but one of several factors that helped usher in what is now called by some the multimedia revolution. All of this was not lost on the video game companies. Back in the 1980s, laserdisc technology had already graced the arcades. Don Bluth's *Dragon's Lair* and an assortment of knock-offs met with a fair amount of success with the gaming public. While these older machines were cumbersome and difficult to maintain, CD-ROM technology seemed to promise the arrival of a media capable of storing software that would approach – if not equal – a cinematic experience. With judicious use of the new multimedia compression codecs being developed as fast as the fledgling industry could create them, video game companies could now pack a CD-ROM full of movie-quality graphics and sound – something players had been demanding for years. Sega was well aware of these and other such trends unfolding, and with their characteristic willingness to field-test new technology before the competition, took the plunge. And so commenced planning for a CD-ROM-based video game system that would build upon existing Mega Drive technology to provide just the kind of new experiences the multimedia revolution seemed to demand.

Dragon's Lair

It should be noted in all fairness that Sega was not the first console maker to consider the concept. NEC was the first to employ CD-ROM technology in a video game system with its PC Engine CD (aka Turbo Duo and Turbo CD). The PC Engine was selling very well in Japan at the time –well enough to pose a direct threat to the Mega Drive's fortunes. While the Turbo Duo never proved to be the overseas contender that Sega of Japan expected it to be, its very existence was nevertheless an important factor in Sega's console plans. The real enemy, Nintendo, was also rumored to be considering a CD-ROM add-on drive for the SNES. This project was said to be in partnership with none other than Sony itself, with the working title of "PlayStation." As usual, it would be Sega who took take the biggest plunge into this brave new frontier. And as is often the case, those who take the biggest gamble often pay the biggest price.

NEC PC Engine CD

Building the system

"You have to remember that this was the very beginning of the optical medium in terms of a video game experience, and none of us knew what the hell we were doing! I mean, it was really an experiment, a great learning experience."

- Tom Kalinske (2006)

CD-ROM technology was regarded by Sega of Japan as one of the company's biggest experiments in console technology; so significant, in fact, as to hold up development of Sega's 32-bit next-gen systems (Mars and Jupiter). The concept seemed simple enough: Combine existing Mega Drive hardware with a CD-ROM drive. In reality, it proved less than easy – especially after the designers decided to add some extras in order to compensate for some of the Mega Drive's shortcomings. The new system would have to be able to compete on its own terms as far as graphics and sound were concerned, which required extending the capabilities of the Mega Drive along with adding the CD-ROM drive. It would also need to deliver CD-ROM games that were at least as good as – if not better than –NEC's CD-ROM console. The result was

a completely new system that – while based on older, proven technology – would end up functioning quite differently than its noted ancestor.

Sega Genesis with Sega CD add-on

So what other upgrades were added in making the Mega CD, and how could they compete with both the PC Engine CD and SNES? Five items immediately come to mind: extended data storage, biaxial sprite rotation, ultra smooth graphics scaling, standard use of CD-based soundtracks, and support for full-motion video (FMV). Sega CD titles could in theory have over 150 times more data than their cart-based ancestors. Rotation and scaling were standard features on the SNES, so their inclusion on the Mega CD would put Sega's system on equal terms with its competitor. The built-in support for Sega's FMV codecs meant that Sega CD would be able to deliver larger and more graphically impressive titles than the pokey SNES could ever hope to accomplish. When all was said and done, he final system specs for Mega CD were quite impressive, indeed.

SEGA CD

Component	Description
Processor	• 12.5 MHz Motorola 68000 16-bit CPU
Graphics	• Sega custom ASIC graphics processor • 64 on-screen colors of 512 color palette • 256 color palette for FMV sequences
Sound	• PCM Stereo Sound • 8 channel audio • 32Khz sampling
Memory	• 768K RAM on-board (added to stock Genesis memory) • 128K RAM dedicated to CD-ROM • 128K ROM • 64K backup RAM
Connection	• Custom sidecar connector for console connection
Storage	• 500 MB max capacity utilizing standard CD-ROM discs • Audio CD and CD+G
Other	• CPU and RAM are added to existing console capabilities

The only major drawback to this impressive array of hardware was the fact that Mega CD would for the most part still be using the same color palette and audio hardware as a stock Genesis. Sega decided to forge ahead anyway, feeling that the advantages gained by the rest of the new system would compensate for these two notable flaws; besides, it would have driven costs too high to upgrade or rebuild them.

Mega CD made its official debut at the 1991 Tokyo Toy Show. At the time, it was on paper the most advanced video game console of its day. It was superior to NEC's PC Engine CD in every way, and could certainly compete with the SNES on an equal footing – in theory, anyway. Truth be told, Sega's newest system anticipated the arrival of the long-delayed CD32 system; it could do practically everything that Commodore was advertising for its new box. Consider the mindset of the typical video game player, circa 1991-1992: Sega, the number one company on the market, is about to release a brand new console on par with the Amiga – the most sophisticated personal computer of its day. Best of all, it uses CD-ROM instead of carts for its software! Imagine the games that could be made with that much processing

power and storage space! Think of the possibilities! Sega knew they had what appeared to be another Genesis on their hands. Now all they had to do was sell it.

On the road to success

The Mega CD launched in Japan on December 1, 1991 priced at ¥49800 ($380). Fewer than 100,000 Mega CDs were sold over the following year – an inauspicious beginning for their "SNES killer." For one, many complained (rightly) that the price was far too high for what amounted to an add-on unit. Second, the only two Mega CD games available at launch were *Heavy Nova* and *Sol-Feace*, neither of which took advantage of the system's capabilities beyond spooling CD-quality music from the CD-ROM. In fact, *Sol-Feace* was nothing more than an old Mega Drive game, called *Sol-Deace*, which had been given a cosmetic facelift via a CD soundtrack and some stilted attempts at anime-style cut-scenes. Once again, Sega made the mistake of releasing a new system sans "killer app" to attract potential buyers. It was the same mistake they'd made with the Mega Drive; fortunately, Mega CD owners wouldn't have to wait quite so long for a quality title to appear.

Sega CD motherboard

Meanwhile, JVC had been sufficiently impressed with Sega's CD-ROM console experiment during their work together on its hardware to license the technology for use in their own, similar product, springing the WonderMega on the Japanese market in April of 1992. Essentially an enhanced, all-in-one Mega Drive and Mega CD contained within a single case, it did everything that a Mega Drive/Mega CD combo could do and more (and more quietly). It could play CDs faster, too, which meant a lot to Mega CD gamers. While it may have only been 15% faster, every little bit mattered where single-speed CD drives were concerned. It had special enhancement technology to enrich both CD and cartridge audio playback, as well as two extra connections absent from the Sega system: An SVHS video jack and MIDI output jack. It also had two microphone jacks and an echo effects switch, both of which were included expressly with karaoke use in mind. It was compatible with multiple CD formats, including one that the Mega CD did not support – CD+MIDI – and came with two pack-in discs: JVC's own *WonderMega Collection* game library and a karaoke disc. All of this, along with one gamepad, a special RF adapter, and the power supply for only ¥81,000 ($600). It was a lot of money for an all-in-one console, but it certainly could do a lot of things. Given the small size of the Japanese market, the system did about as well as could be expected, and both JVC and Sega made plans to send the system overseas to the United States by the following fall.

JVC WonderMega

Without question, the one product that made people finally take notice of

Mega CD was a piece of software that has since become the stuff of legend. On June 26, 1992, Game Arts quietly released a game called *Lunar: The Silver Star*, a fantasy RPG for Mega CD. Even though the final production version was not what its creators had intended (a good third of the game was left on the cutting-room floor due to deadlines), it took the market by storm. *Lunar* was the first megahit Mega CD title, selling well over 100,000 copies (its entire production run) during its initial run. Sega of Japan directly attributed increased consoles sales to *Lunar*, causing many developers to sit up and take note of the system, including an American importer of Japanese RPGs with the rather unusual name of Working Designs.

Let's us step back for a moment and examine Sega's overseas concerns. Sega of Japan had gotten so wrapped up in the possibilities of their CD-ROM experiment that they didn't tell the company's Western offices what it was really all about. They deliberately kept the project hidden from their American and European counterparts until mid-1991, finally sending Sega of America a deliberately crippled Mega CD prototype in the summer of 1991, not long after the system's Tokyo Toy Show debut. "They were concerned about what we would do with it and if it would leak out," recalls former Sega executive Michael Latham. "It was very frustrating." Sega's Shinobu Toyoda, who was assigned to the U.S. offices at the time, managed to get one of the systems working so his America counterparts would know what it was they were dealing with. They were delighted with what they saw.

Lunar: The Silver Star

Sega of America officially announced the release of Mega CD to the highly profitable North America market in September of 1991 – just three months before the Japanese rollout, and nearly a full year before Americans would see the system. Why so soon? Nintendo had just released the SNES to eager American fans – a system specifically geared to do everything that Genesis could not. Regardless of which system was actually superior, there's no arguing the fact that Nintendo's reputation for excellence and large, dedicated customer base spelled serious trouble for Sega. After all, it was then in the process of surpassing Nintendo to become the #1 video game company in the States, and knew it needed to do everything it could to stay ahead of former #1 Nintendo. The only thing that Sega had ready to combat the SNES was Mega CD, so Sega of America played what they saw as their trump card for all it was worth. Their attitude that Mega CD was worthy of being treated as a console in its own right was met with bemusement by its Japanese creators. "It wasn't a new system, and that was always the confusion internally," Latham would later say. "The internal people believed it to be a completely new system with new abilities." Of course he and a few others who had actually dealt with Sega of Japan knew the real story, but few of their Western colleagues ever caught on to their little scheme. Mega CD had yet to launch stateside, but

already Sega of America was beginning to believe its own PR. They began making plans to launch Mega CD in the U.S. the following year, and arrangements were made with a new software house called Digital Pictures to begin producing FMV titles for the new system.

Sega of America officially unveiled its version of Mega CD in May of 1992 at the Summer Consumer Electronics Show (CES) in Chicago, Illinois, half a year after Mega CD had released in Japan. Sega CD, as it was dubbed, would make the Genesis "the console of the future" and would launch in November (although Sega hinted that it might make it available to gamers as early as October). Priced at $300, the Sega CD was essentially identical to its overseas counterpart, save for some minor cosmetic changes to the case and a slight revamping of the CD control menus. It had the requisite country lock, thus making it impossible to play Japanese Mega CD imports. All of the regular players in Sega's stable of licensees promised at least one game for the new system, including the software marketing division of Sony Corporation. Sony announced that Imagesoft would actively support Sega's new platform for the time being; however, it was in the planning stages of releasing the PlayStation CD-ROM drive for the SNES and would switch support as it neared completion. Nintendo, insisting the SNES PlayStation would ship by the end of 1993, had already distributed development kits to its own stable of licensees. Sony saw Sega CD as a valuable opportunity to gain experience developing and marketing software on a CD-ROM based system without having to spend nearly as much as Sega did at this point. Odd behavior for a supposed system supporter, but ignored or overlooked by practically everyone at the time, including industry insiders.

Sonic CD

A number of pack-in possibilities for Sega CD were discussed at CES, starting with the games. Three titles were announced as possible pack-ins: *Sherlock Holmes, Consulting Detective* by Icom, *Sega Arcade Classics 10-in-1*, and a third "brand-new multimedia CD" Sega had in development. And then there was the music disc. Sega announced that it was making arrangements with several major record labels in order to include either a multimedia or CD+G music disc. This mirrored Sega's dual-track plan for CD software development: One for regular games, and the other consisting of multimedia titles. "But what about the games?" inquisitive types asked. "They're coming," responded Sega of America. At the top of the list was *Joe Montana's NFL Football* – no surprises there, considering the Genesis franchise's existing popularity. The Sega CD version of *Batman Returns* was advertised as playing at twice the speed of the cartridge version, and featured an all-new Bat-Ski level and additional bonus levels. Sega CD's very first RPG was also announced: Kenji Terada's *Dark Wizard*. Lunar was nowhere to be seen, but had not been forgotten; even then, Working Designs was entering negotiations for an English-language version of the game for Sega CD to be released sometime after the system launch. Other offerings mentioned at CES included *Black Hole Assault, Dune, Panic, Rise of the Dragon, The Terminator* and

Wing Commander, as well as special releases of *Instruments of Chaos, Fantasia,* and *Star Trek: The Next Generation*.

One title deserves special mention at this point, as its impending arrival was emphasized at the 1992 Summer CES: *Sonic CD* was on its way. Sega's hyperactive hedgehog was going back to his roots, with Yuji Naka and the rest of Sonic Team hard at work on a release worthy of Sega's new hardware. The game promised a return to the simple formula that had made the original *Sonic* so successful, while including some of the complexities and fiendish level design that was the highlight of *Sonic 2.* No Tails this time – this adventure would be purely Sonic's – but the possibilities seemed endless. This was good news to potential Sega CD buyers, many of whom were ardent Sonic fans, who began scrimping together the money needed for Sega's expensive upgrade. It was also good news to Sega's accountants, who were banking on the potential profits a new Sonic game would bring to the troubled system.

In the meantime, Sega of Japan was keeping busy improving the Mega CD. As far as the hardware was concerned, there was a new version of the console in the works, designed with the same styling as the smaller Mega Drive consoles Sega was readying for market. In terms of software, the biggest news by far was with the *Phantasy Star RPG* series; two Mega CD titles were announced as being in development. The more notable of the two was the all-new title *The Return of Alis,* which was set immediately after the events depicted in *Phantasy Star 3*, and told the story of the fight against a revival of the intergalactic slave trade. This new installment in the saga would be 20 times the size of the earlier game and would incorporate both audio and anime clips. *Captain Commando* would be a straightforward port of Capcom's fighter, and would be prototyped, but not released, as a cart before making the transfer to CD format. Word had it that enhanced versions of *Phantasy Star 3* and *Super Shinobi 2* were in the works, as well as such titles as *Chopper Command, Power Drift*, and *Super Gaiares*. Reliable sources were reporting that Technosoft was hard at work on an enhanced Mega CD port of *Thunder Force IV*. Konami had jumped onto the Mega CD bandwagon by this

time; among the (unconfirmed) titles were ports of *Castlevania IV, Contra Spirits, Life Force, Orius, Parodius, Super Contra,* and *Super Gradius*.

On October 15, 1992, Sega CD was officially launched in the North American market. Despite a noticeable lack of software, Sega loyalists did not seem to mind, and the system sold out instantly over those first few heady months. Each system came with a set of pack-in discs, enabling buyers to start using their new setup right away.

US Sega CD System pack-ins

- *Rock Paintings & Hard Hits* (CD+G samplers, 2 discs)
- *Sherlock Holmes, Consulting Detective (Volume 1)*
- *Sega Classics 4-in-1*
- *Sol-Feace*

US Sega CD launch titles

- *Black Hole Assault*
- *Chuck Rock*
- *Cobra Command*
- *Make My Video: INXS*
- *Make My Video: Marky Mark and the Funky Bunch*
- *Night Trap*
- *Sewer Shark*

Considering the cost of the system, these pack-ins were a good move on Sega's part. There was also a handful of retail titles available at launch and in the following weeks of the 1992 holiday season, with *Batman Returns* and *Sewer Shark* the two most prominent. The console proved an instant hit with Sega's core following, with all 50,000 units in the initial shipment sold out by Thanksgiving. All in all, some 200,000 units cleared American store shelves by the end of the year.

Sega CD advertisement

The 1992 holiday season was especially good for Sega gamers in the U.S. There was, of course, the Sega CD, along with its requisite games. The first batch wasn't terribly impressive, but Sega fans had faith that more, better games would come in 1993. There was a slew of new Genesis games available, and rumors of a port of the eye-popping 3D polygonal arcade game *Virtua Racing*. Sega of America was at the top of its form; its games dominated the charts, its presence dominated the market, and its dedicated customer base shared in the pride and glory. Nintendo may have cruising for a comeback, but for now Sega was king of the hill, and Sega CD the latest jewel in its crown. Nothing, it seemed, could go wrong.

Sega CD did not reach Europe until the following year. As the Mega Drive name had been retained before, so it was again: Mega CD made its European

debut in England in April of 1993. It was a logical choice. England was known as the "Sega stronghold" due to the Mega Drive being nearly as strong there as it was in the US. There was the usual advertising blitz, accompanied by an eight-minute promotional video touting new system's capabilities. Mega CD had one less pack-in title than Sega CD; *Sherlock Holmes Volume 1* was the odd man out, leaving seven other retail titles from which to choose.

UK Mega CD pack-ins

- *Cobra Command* (pack-in)
- *Sega Classics 4-in-1* (pack-in)
- *Sol-Feace* (pack-in)

UK Mega CD launch titles

- *Black Hole Assault*
- *Chuck Rock*
- *Prince of Persia*
- *Road Avenger*
- *Sherlock Holmes, Consulting Detective (Volume 1)*
- *Wonderdog*

It should be noted that some U.K. Mega CD units had problems with *Sega Classics* due to a bad batch of discs; a similar problem would occur with *Sonic Adventure* and the Dreamcast launch seven years later.

Mega CD wasn't cheap, initially retailing at a whopping £270 (about $400) – far more than in any other English-language market. While higher prices are typical in the European video game industry, this was small comfort to hardcore British Sega fans anxious to get their hands the new system. Even so, Sega of Europe sold 60,000 of the 70,000 Mega CDs originally allotted to the British market by August of 1993. So it's no surprise that Sega rushed to get the console's second incarnation onto the market. The Mega CD 2 hit British store shelves in October, selling well into the 1993 holiday season. More than anything else, price appears to have been the limiting factor for the rest of Europe. Mega CD sold slowly, not helped by the fact that some countries didn't get the system until its second incarnation. This was true in

Germany, birthplace of the legendary Amiga personal computer, where the Mega CD 2 launched in September of 1993 at a price of DM530 ($327) – and that without a pack-in game to boot. On the upside, there was a decent library of software available for launch, with the exception of sports games and fantasy RPGs.

German Mega CD launch titles
- *Afterburner 3*
- *Batman Returns*
- *Black Hole Assault*
- *Cobra Command*
- *Final Fight*
- *Jaguar XJ220*
- *Make My Video: INXS*
- *Make My Video: Marky Mark and the Funky Bunch*
- *Prince of Persia*
- *Road Avenger*
- *Robo Aleste*
- *Sherlock Holmes, Consulting Detective (Volume 1)*
- *Sol-Feace*
- *Time Gal*
- *Wing Commander*
- *Wolf Child*

Spain, however, wasn't so lucky, with only five titles in their launch list.

Spanish Mega CD launch titles
- *Batman Returns*
- *Final Fight*
- *Jaguar XJ220*
- *Road Avenger*
- *Thunderhawk*

With the exception of the British Isles, Mega CD did not receive the same warm welcome it did in Japan and the United States. Emotions were mixed, and industry watchers were voicing the same concerns as their American counterparts – lack of quality software, the slowness of the CD-ROM drive – only more loudly. The lukewarm response from Europe accounts for the fact that only about 400,000 units sold throughout the European Common Market during the system's Euro market cycle (1993-1996), and no more than one million for all of England and Europe overall. In fact only 4% of Euro Mega Drive owners bothered to buy either version of Mega CD for their systems.

Success spawns siblings

This is a good time to take a break and review the Sega CD hardware once again. There was by now more than one version of the console on the market or in the final production stages. Let's have a look at what these various Sega CD clone consoles were and how they fared.

Observant readers will have already noted that we are now talking about two different iterations of the same console: Mega CD 1 and Mega CD 2 (as European and Japanese system fans know them), or Sega CD 1 and Sega CD 2 (U.S.). The second iteration of the console was introduced in 1993 ($230) and represented a radical redesign of the case and internal layout tailored to fit the new Genesis/Mega Drive Model 2 console, which was smaller and had a lower profile than its venerable ancestor. The new CD units would work with the older consoles, however; Sega was thoughtful enough to make and include a tray extender to ensure compatibility. Other significant differences included a built-in tray upon which the console sat, and a top-loading CD-ROM setup, as opposed to the front-loading drive used in the earlier system. The Model 2 systems were first introduced in 1993 and heavily promoted by Sega in all markets; so well, in fact that they represent the bulk of Sega CD/Mega CD systems still in existence today.

Sega Multi-Mega

One other in-house variation on Sega CD deserves mention at this point. JVC's WonderMega had been popular enough in Japan that Sega decided to release its very own combination Mega Drive/Mega CD console. Resembling a black, oversized portable CD player, the Multi-Mega was first announced at the 1993 Summer Consumer Electronics Show (CES), and released in both Europe and the United States (where it was known as the CD-X). It lacked a built-in screen, meaning that users had to provide their own, but small LCD screens were still rather expensive; including one would have driven the price of the console beyond the reach of most consumers. While the Multi-Mega had no built-in RAM save function (as did the original Mega CD or JVC's WonderMega), its size and portability almost made up for this omission. It also came with three pack-in titles – the CD titles *Ecco the Dolphin* and *Road Avenger*, as well as a *Sonic 2* cartridge – in most markets. A spacer for use with Sega's 32X adapter was prototyped and advertised, but never released due to balance and overheating problems. These were the most expensive versions of the Mega CD that Sega ever produced, with a suggested retail price of $350 Stateside and UK£500 overseas, which (along with marketing challenges) probably explains why they never sold very well. First issued to the U.S. in April of 1994, only 5,000 of these ever made appeared on American

shores, making the unit, to quote the early 1990s publication Sega Force, "...rare, very desirable, and quite collectable."

While few may remember the JVC WonderMega, the company's foray into gaming didn't stop there. A third incarnation of the console – featuring a less expensive design that stripped out the SVHS video, modem, and MIDI functions – was renamed the JVC X'Eye and belatedly released to the U.S. market in September of 1994, a year after JVC's original target date of fall 1993. Its pack-ins included *Compton's Interactive Encyclopedia*, *Prize Fighter*, and a karaoke disc. JVC's target audience for the X'Eye was pretty much the same as Sega's for the CD-X: older, more affluent buyers. Unfortunately, it proved a flop, with only 10,000 or so consoles selling across all of North America. This was largely due to three factors: poor release timing, even poorer distribution, and JVC's misreading of the console's potential user base. It came on the scene just as Sega CD was entering full belly-up mode; typically found in a specialty music shop dealing in karaoke machines, if you could find it at all. Despite its high price ($500), those lucky few who did manage to buy one, or stumble across them in pawn shops years later for a fraction of their original cost (like me!), quickly grew to love JVC's thoughtful design. As an all-in-one 16-bit Sega console – lacking only 32X support – the JVC X'Eye is a highly prized collector's item today among Western Sega fans.

JVC X'Eye

There were at least two other Sega CD/Mega CD clones produced around this time as well. First released on August 20, 1993, the Pioneer LaserActive CLD-A100 was a combination laserdisc and video game unit with a plug-in bay at the bottom for three different modules: A Sega-produced Mega Drive/Mega CD module, a NEC-produced PC-Engine/PC-CD module, and a karaoke

module with accompanying microphone. The built-in 12" disc player could handle all major disc formats, and was also employed by the console modules in support of CD-ROM based games. The unit had its own unique video game format for Mega CD games called Mega LD (or LD-ROM), which allowed Mega CD graphics to be superimposed over streaming video from 12" laserdiscs. Nearly two dozen Mega LD games were released, but the system never really took off and was eventually discontinued – a shame, considering its digital A/V functions made it possibly the best Genesis/Mega Drive/CD experience one could ever have. Originally retailing for ¥89800, a £1000 (¥155750) PAL version was planned for release in England at the end of 1994, but never happened. The system did find its way to the U.S. in early 1995, with a whopping price of $1600 (¥160200), where it died a predictably quick death. It is one of the rarest of the tabletop Mega CD clone consoles, and collectors can expect to pay a princely, triple-digit sum should they find one in good, working order. The other clone console in question is perhaps the rarest Mega CD clone: the portable Aiwa CSD-GM1, released sometime around 1994. This was little more than one of Aiwa's portable "boom boxes" with a built-in CD player with integrated Mega Drive and Mega CD support. Released only in Asia with limited distribution, these are nearly impossible to find in the West.

Now to return to the tale of the actual console. By May of 1993, Sega CD was the most talked-about system on the U.S. market. The promise of cinema-quality FMV titles appealed to an audience hungry for new experiences, and more traditional titles in the Sega CD library were also doing quite well. The FMV shooter *Sewer Shark* was one of Sega CD's best-selling titles, and *Sonic CD* was widely considered to be the pinnacle of *Sonic* platforming bliss. By the end of the year, though, that would all change. Sega CD went from red-hot to stone-cold over the course of a few months, due in part to circumstances beyond Sega's control, and to the system itself.

An old demon rears its head

Let's first go back to 1991, when events unfolding in the video game industry

as part of the multimedia revolution would have a direct impact on Sega CD in 1993. Noted toymaker Hasbro was just beginning to join the multimedia revolution, and open to any decent video game projects that might further their aims. One such project was *Scene of the Crime* by Digital Pictures, utilizing the latest in FMV technology to deliver a compelling story about a series of mysterious disappearances inside a spooky old house. Hasbro liked what they saw, and commissioned it for release under the in-house title "Project NEMO." It would be the first truly interactive video game resembling a real cinematic experience, with the player's choices made during the course of the game determining the outcome. Adding to the aura of the project was its youthful star, the attractive Dana Plato, who was having difficulty after her long stint as Kimberly on the popular TV sitcom *Diff'rent Strokes* and was in desperate need of a job. When Project NEMO offered her that chance, she took the role of undercover police agent Kelli Medd to heart. Production wrapped in early 1992, with the game being released first for Panasonic's fledgling 3DO system and ported to other systems – including Sega CD – by the end of the year. Little did Hasbro or Digital Pictures realize what they had unleashed upon the video game industry. The game became one of the best-selling titles ever released for Sega CD in the U.S., with its premise – a bunch of pretty girls being chased around a creepy old house by vampires – appealing strongly to a gaming public comprised largely of young males. Its name was *Night Trap*.

Night Trap

On December 1, 1993, U.S. Senator Joseph P. "Joe" Lieberman (D, Wisconsin) launched a full-fledged Congressional investigation into the issue of violence in video games. "We are here today to talk about the nightmare before Christmas. Not the movie, but, unfortunately, the video games," he declared at the press conference that formally kicked off the investigation. Digital Pictures' *Night Trap* took center stage at the subsequent public hearings of Lieberman's committee, as did another well-known title. Midway's *Mortal Kombat* franchise had also drawn public ire for its "Fatalities" system, in which combatants could kill each other in spectacularly bloody ways, and there was growing public concern that violence in video games led to violence in real life. This was also the year that saw the release of the ground-breaking shooter *DOOM*; its on-screen violence also did not escape Lieberman's eye. The issue of violence in video games was not new – Exidy's *Death Race* suffered from a similar public outcry back in the 1980s – but this was the first time the hardware was capable of delivering the same kind of graphic violence one normally saw in other forms of visual media, such as artwork and film. This made for perfect political cannon fodder, and so it was with a great deal of gusto that Lieberman and his fellow senators plunged into the murky waters surrounding this debate.

The first round of public hearings began just eight days later, right at the height of the Christmas shopping season, and would prove to be one of the major causes for Sega's declining fortunes that year. In all fairness, the anti-violence activists had some cause for alarm. Market analysts had noted a steadily increasing trend towards video games with violent themes, such as action, fighting, and shooter titles. In a well-published study for Clinical Pediatrics, Dr. Jeanne Funk had discovered that 49% of junior high students preferred video games depicting human or fantasy violence, with sports games coming in second at 29%. California Attorney General Dan Lungren fanned the flames, calling for violent video games to be removed from store shelves. Actor Bob Keeshan, known to generations of U.S. television watchers as the original Captain Kangaroo, publicly rebuked video game manufacturers in testimony at the hearings for producing such titles. This was music to the ears of Nintendo CEO Howard Lincoln, who would go on to make a public spectacle of his appearance before Lieberman's Senate committee days later. He openly attacked Sega for releasing both games for its systems, noting Nintendo's long-standing support for anti-violent games, and gleefully agreeing with the committee's proposal to shut down noncompliant companies. As before, Nintendo was responsible for the *Night Trap* and *Mortal Kombat* outtake videos used by Lieberman's committee to illustrate their concern, driving home the point that Sega was in large part complicit in, if not totally responsible for, putting "this stuff" in the homes of unsuspecting children. Armed with this "evidence" and an assortment of stories – eagerly hyped by the press – about children going on violent rampages supposedly due to video games, Lieberman and fellow senator Howard Kohl (D, Wisconsin) eventually called for nothing less than a total ban on violent video games and the dismantling of companies that promoted such fare, including Sega.

One of the immediate results of the Lieberman hearings was the banning of violent video games in certain areas. It should have been expected; after all, controversial books continue to be banned even today despite others' sophistication in and acceptance of the ways of the world. It is a sad practice

that remains with us to this day, in all forms of media, including video games. The state of Utah, with its well-known conservative tendencies, banned Atari's *Primal Rage* for violent content, noting that its prehistoric combatants could and often did take the time to snack on the on-screen locals cheering on the fight. Other states and many localities adopted similar measures, and the more conservative minds in the video game industry began to fear a public backlash. The radical Christian community in the United States had an especially adverse reaction, and were quick to blame Sega for the sins of their children. "To most people, abstract constitutional arguments for prohibiting public school prayer seem an inadequate response to the terror of *Night Trap* videos and school shootings," noted Christian commentator Mark Meyer, only one among many to share this view.

Another result – and the only one that mattered to Nintendo – was bad publicity for Sega. Sega's market share took a major hit due to the Lieberman hearings, and Sega CD sales begin to dry up. Major retail distributors such as Toys 'R' Us responded to Lieberman's call and pulled *Night Trap* and other such "violent fare" from their store shelves. The fact that many of these games were made for Sega consoles was all the more news to rejoice at, for Nintendo. Time Magazine named *Night Trap* one of the worst products of 1993. The New York Times went even farther, dubbing Digital Pictures "the new digital pornographers." All of this combined to drive a dramatic downturn in Sega products during the most critical sales period of the year. The Sega CD, the offending console for which *Night Trap* was produced, took the biggest hit of all. Before the controversy unfolded, Sega had sold around 130,000 copies of *Night Trap*, making it one of the console's hit titles. Another 50,000 sold the week the controversy broke out, but very few after that. By the end of the Christmas shopping season, every remaining copy that had been on store shelves was now sitting in Sega warehouses. Retailers refused to sell them for fear of sparking protests, leading Sega to eventually yank the license for the game.

Primal Rage

Sega moved as quickly as it could to counter this turn of events – far more so than just about any other vendor in the industry, and in spite of Nintendo's underhanded efforts at putting them out of business. While the media feeding frenzy and Congressional posturing were ongoing, Sega was quietly sponsoring a number of round-table discussions with developers, gamers, and concerned citizens groups in an effort to find a workable solution to the issue. It also tapped the talents of noted public relations firm Manning, Selvage, and Lee in order to develop a strategy against these charges. The end result was an industry-wide press conference on December 9, 1993, the same day that the hearings were to commence, attended by some 125 of the major players in the video game industry. Nintendo, notably, was absent. The outcome of that conference was the Videogame Ratings Council (VRC), the industry's first-ever ratings system. Sega's quick action ensured that the VRC system was in place in time for the height of the holiday shopping season, garnering press coverage when they needed it most. Sega CEO Tom Kalinske also took the extra step of promising Senator Lieberman that they would pull *Night Trap* from the market and censor the offending bits, which they subsequently did. As for the VRC, it proved so popular with consumers that Senator Lieberman and his allies were forced to concede the point and praise Sega for its leadership, eventually

revamping the VRC into the Entertainment Standards Review Board (ESRB) in 1994. Sega was the first company to begin rating its titles for content and led the industry's public efforts to tone down (or at least notify consumers about) overt violence in video games. The ESRB ratings system, which they helped to develop, is now a standard fixture of the video game market in the United States, utilized by both the industry and concerned shoppers alike.

ESRB Ratings

The idea that violence in video games is a direct cause of violence in real life has been disproven time and again since the infamous Lieberman hearings of 1993. In 1997, Dr. Steven Silvern of Auburn University authored two independent studies which discounted this notion. "After playing video games, children don't necessarily feel angry, they feel aroused," he noted in an interview with U.S. News and World Report. Energy that would normally be funneled into physical activity is focused instead on beating the video game – regardless of its content. After the session is finished, the players are aroused and have a heightened sense of action. This is a routine response to any type of activity that causes stress, as many doctors have noted, whether playing a violent video game such as *Street Fighter 2* or getting involved in an actual fistfight. Dr. Silvern also noted that make-believe violence is a routine and

possibly necessary part of growing up, reminding parents of the games they used to play as children: Cops and Robbers, Cowboys and Indians, and so on. The supposed link between playing violent video games and desensitization to real-world violence has never been conclusively proven; no more than it has for watching violent images on television or at the movies. In short, while violent video games may be cause for concern for parents wishing to impart select moral values on their children, they are not nor have they ever been the source of all evil in the world. At best, they are only a contributing factor, and even their role in that regard is debatable. Nevertheless, the issue will remain with us as long as violent video games are produced, and the aftereffects of the Lieberman hearings continue to influence the video game industry to this day.

Tom Zito

Tom Zito of Digital Pictures has gone on the record defending *Night Trap*, noting, "These guys actually said in the hearing that the object of the game was to stalk and kill women. That clearly is not the object of the game... You could take 20 seconds out of *Bambi* and make it seem like the most horrific product ever developed, and you could similarly say how the Walt Disney Company could sell this horrible *Bambi* to children. Now the difference between *Bambi* and *Night Trap* is most people have seen *Bambi*, so if they tried to take something out of context, people would have understood that was the case. But most people hadn't seen *Night Trap*, and in fact, in 1993 during the hearings, the general population (for the most part), didn't have a clue that you could actually have real video playing on a game machine or a PC, and so

I think there was a kind of novelty shock." After the uncut version of the game was released for PC systems in 1996, vendor Hasbro produced a rather unusual television commercial poking fun at the entire furor. With a flashy background resembling the American flag, the ad featured footage from the game and an unseen commentator spouting lines like "...a bunch of sickoid vampires who do indescribably disgusting things to their victims..." and "Some members of Congress tried to ban *Night Trap* for being sexist and offensive to women." The PC version of *Night Trap*, which includes the previously censored footage and the accompanying Digital Pictures documentary Dangerous Games, is now something of a collector's item.

Lieberman and his supporters have continued on their anti-violent video game crusade, keeping the issue in the public eye in their never-ending quest to outlaw violent video games for good. Ironically, not long after the Lieberman hearings – and in response to demand from their customer base – Nintendo began incorporating violent content into video games for its own systems. The first such title? The SNES port of *Mortal Kombat 2.*

The promise founders

The Congressional hearings on video game violence make for one of Sega CD's more notable side stories, coming as they did in the middle of the system's lifetime. It could have been a lot worse had not Sega pulled out the public-relations stops. Even though the story moved from Sega and onto the new ratings system, the damage had already been done. Sega CD sales, already floundering, had taken a dramatic hit from the Lieberman hearings; but this was just one factor among many. In fact, things had not been going well for Sega CD from 1993 onward. What was supposed to have been Sega's new flagship console – its "SNES killer" – was doing a lackluster job in the Western markets. Even such supposedly killer apps as *Sonic CD* and *Eternal Champions* failed to elicit additional interest in the system. JVC's highly touted X'Eye and Sega's own CD-X came and went, and no one noticed. One can understand, if not approve, of Nintendo's taking the opportunity of the

Congressional hearings to trash the system and its vendor, further weakening Sega's support on all fronts.

In October of 1994, Sega was forced to reduce the Sega CD price from $300 to $150. It didn't help. The only major console Sega CD outsold was the Phillips CD-i, and sales of Sega CD systems and software continued on a downward spiral from which they never recovered. Sensing the impending death of the system, developers began to bail. Early losses for Sega CD included planned ports of such notable titles as LucasArts' *Indiana Jones and the Fate of Atlantis* and *Instruments of Chaos*. Sega cancelled the planned Sega CD release of *Phantasy Star 4*, opting instead for a cartridge-based Genesis game that bore little resemblance to its original Sega CD concept. Many of the games promised by various vendors (or rumored to be on the way) for either Mega CD or Sega CD, never materialized. The Sega CD's planned software library continued to hemorrhage throughout the rest of 1994 and into 1995, with SNES cartridges taking up more and more of the retail space formerly allocated to Sega. Sega CD was withering on the vine, and there was little Sega could do to stop it. By mid-1995, the system was doomed, quietly relegated to the bargain bins of retailers and the scrap heap of console history. Most gamers ditched it without a second thought, saving their cash for the newer 32-bit systems instead.

Considering that the Lieberman congressional hearings of 1993-1994 coincided with Sega CD's declining fortunes, are there other factors that bear mention? Two things immediately come to mind: A lack of quality titles, and the FMV debacle.

Phantasy Star 4

The lack of quality titles for Sega CD has been harped upon again and again by video game historians and Sega buffs alike. The sparseness of the Sega CD library of so-called top-notch titles stands in striking comparison to its chief competitor at the time, the NEC TurboCD. One of the reasons the TurboCD did as well as it did was its library of high-quality, CD-ROM only titles. In comparison, many of Sega CD's titles were obviously Genesis ports with a bit of graphical window-dressing and CD-ROM soundtrack. Several such titles immediately spring to mind: *Bill Walsh College Football, Brutal: Paws of Fury, Cliffhanger,* the *Chuck Rock* series, *Earnest Evans, Earthworm Jim, Hook*, the *Lethal Enforcers* series, *Mary Shelley's Frankenstein, Pitfall: The Mayan Adventure, Puggsy, Road Rash, Sol-Feace, Wolf Child*…and more. In fact, there are only a dozen or so Sega CD games in the entire worldwide library that would rate as a "9" or "10" on a ten-point scale; some would argue there are even less than that. Not surprisingly, Sega itself deserves the blame. The Sega CD software development kits (SDKs) reached Western licensees only shortly before the system launch, limiting the number of quality titles available for the first 12-18 months the system was on the market. Companies wishing to develop for this promising new system were in a bind; many were forced to either acquire rights to import titles, or do what some of their Japanese

counterparts had already done: take existing Genesis games, graft on a CD soundtrack and the odd bit of FMV cinema here and there, and kick it out the door. It was all they could do until the SDKs arrived, and – with commitments to meet – who could blame them? "Shovelware," the idea of taking a title for one console and quickly porting it to another with little or no change, is a practice as old as the industry itself. Sega CD has endured a greater reputation for shovelware more than any other console to date; and more than it deserved, in comparison to Sony and Nintendo's machines.

Five titles – all import RPGs – deserve mention at this point for standing out among the dismal offerings that comprise the bulk of the Sega CD's U.S. software library. Four of these come from one U.S. vendor, the fifth directly via Japan. The first four were released by one of Sega's newest licensees at the time, a little-known company named Working Designs. Founded in 1988 by Todd Mark and Sylvia Schmidt and originally conceived as a developer of PC business software, the company's focus changed to video games with the hiring of Victor Ireland two years later. As the first third-party company to release a CD-ROM based video game in the United States (*Cosmic Fantasy 2* for the NEC Turbo Graph/X 16 CD system), they were in a perfect position to develop for Sega CD. In 1993 they secured the rights to produce an English-language version of GameArts' monster hit RPG *Lunar: The Silver Star,* which was named Best RPG of 1993 by *GameFan* magazine, and eventually went on to become the #1 best-selling Sega CD title of all time. Three other RPGs followed: *Vay* (July 1994), *Popful Mail* (1995), and *Lunar 2: Eternal Blue* (June 1995), the best-selling Sega CD game of 1995. A fifth title, *A Side Story of Armageddon,* was planned but scrubbed due to the death of the system. Now defunct, Working Designs was, ultimately, best known for its high-quality imports for the PlayStation and PlayStation 2, but it was their work with Sega CD that made the company's fortunes – not to mention its reputation for excellent translations and high production values.

Popful Mail

It should come as no surprise that the four RPGs Working Designs released for Sega CD represent four of the five most-desired English-language Sega CD RPGs, in terms of possessing original copies. The complete set – *Lunar, Lunar 2, Popful Mail*, and *Vay* – would cost a princely sum if acquired as originally released, in the original packaging. The fifth of these high-grade import RPGs is also widely regarded as a classic: Konami's *Blade Runner*-esque cyberpunk sci-fi RPG *Snatcher*, the only English-language version of the game to date, despite numerous releases for various systems. Its relative rarity makes it an expensive item, and originals in the original packaging fetch high prices on the vintage video game market. Taken as a whole, these five RPGs represent the best of the Sega CD's limited offerings in this particular, popular genre of video games.

Most who have researched the history of Sega CD agree that another of the key causes of the Sega CD's failure was the veritable onslaught of FMV thrust upon its users. Most of it was garbage – poor excuses for video games using extensive digital rendering as window dressing – and the massive amount of system resources required for FMV often strained the console's hardware to near-breaking point. There were a few exceptions to the rule, but for every *Ground Zero Texas* and *Night Trap* there were at least a dozen duds, including

A/X-101, Double Switch, The Lawnmower Man, Mighty Morphin' Power Rangers, and *Wire Head.* The *Make My Video* series, in particular, arguably did more to destroy Sega CD's reputation in the eyes of gamers than any other FMV title for the system. Even as groundbreaking a title as *Night Trap*, arguably one of the best FMV titles in the Sega CD library, did not escape critics' eyes. "Offering little more than clever sprite effects, CD audio and FMV, this inauspiciously pricey add-on for the Mega Drive failed to deliver much in the way of innovation, let alone a killer app," noted website ISGN (now defunct) in its assessment of the console. "The controversial *Night Trap* title saw little more than poorly strung together FMV sequences, while *Sewer Shark* and *Cobra Command* only served to acknowledge Sega's injudicious gaming commitment. Despite Sega's suave 'Pirate TV' ad campaign, the shunt being exerted upon existing Mega Drive owners was the very catalyst for Sega's discord."

Silpheed

But wasn't FMV supposed to be the wave of the future? It was, or so it was widely believed back in 1992-1993. Short of spending thousands of dollars, the computer hardware of the day simply wasn't up to recreating cinematic experiences purely through processing power; FMV seemed the right road to

follow. Sega was in a position to monitor the market trends, and believed it, too, investing a lot of money into the technology, producing many titles on its own and licensing others for Sega CD. The only problem with this reasoning was that it left no room for technological advancements of the sort Sega itself was helping to push out the door. FMV required too much in terms of resources, and delivered too little in terms of a truly interactive experience to ever amount to more than a novelty. The more you wanted to make available to the gamer, the more FMV you had to produce and program into the game engine, which ate up system and storage capacity at a rate even the best compression codecs could not surmount.

Fortunately for the video game industry, the days of FMV games were numbered from the start. The rise of dedicated, cost-effective 3D-oriented processors in the mid-1990s doomed FMV as the basis for a video game engine. After all, who wanted to play *Prize Fighter* when *Virtua Fighter* offered better gameplay and a more visually satisfying experience? Who wanted to waste their time on *Star Wars: Rebel Assault* when *Star Wars Arcade* was clearly the better game? Gamers flocked to the newer, 3D-oriented machines, leaving the entire FMV industry to dangle in the breeze. The format survived, of course, but in the form in which it should have stayed all along: A supplement to – rather than basis for – a video game. Sega took a financial bath in the FMV market; they'd gone out on a limb, only to have it break beneath them. Sega corporate never admitted its mistake, and Sega of Japan blamed its American counterpart for the debacle, kicking off an internal feud that would almost destroy the company's market share in just a few short years.

It is a shame that so few Sega licensees chose to tread the trail blazed by companies such as Game Arts and Konami. Apart from their offerings, there are too few "great" titles for Sega CD, and surprisingly few "good" ones. In a survey at the Internet site Eidolon's Inn, representing a cross-section of Sega CD and Mega CD devotees from around the world, the following games were named as the top ten best and worst Sega CD titles of all time:

Top Ten Best Sega CD Games

1. *Lunar: The Silver Star (*Game Arts/Working Designs)
2. *Snatcher* (Konami)
3. *Sonic the Hedgehog CD* (Sonic Team/Sega)
4. *Shining Force CD* (Sega)
5. *Eternal Champions: Challenge from the Dark Side* (Sega)
6. *Lunar 2: Eternal Blue* (Game Arts/Working Designs)
7. *Popful Mail* (Falcom/Working Designs)
8. *Silpheed* (Game Arts/Sega)
9. *Heart of the Alien (*Delphine/Virgin/interplay)
10. *Ecco the Dolphin* (Novotrade/Sega)
Honorable Mention:
11 *Night Trap* (Digital Pictures/Acclaim)
12 *Vay* (SIMS Co. Ltd./Working Designs)

Top Ten Worst Sega CD Games
1. The *Make My Video* series (Sony Imagesoft)
2. Almost any FMV title
3. *Racing Aces* (Hammond & Leyland/Sega)
4. *Earnest Evans* (Wolfteam)
5. *Sol-Feace* (Wolfteam)
6. *Night Striker* (Taito)
7. *Iron Helix* (Spectrum Holobyte)
8. *Mortal Kombat* (Midway/Arena)
9. *The Space Adventure* (Hudson/Sega)
10. *Stellar Fire* (Dynamix/Sierra)

What was notable about this was the lack of agreement on the system's ten worst games. The only item on which every one agreed was that FMV games, as a whole, should have never happened. After that, the survey results were fairly wide-ranging, with few titles getting more than three votes aside from certain universally-despised Genesis ports.

Gamers in Japan, naturally, have differing opinions as to the best ten titles

for the console they know as Mega CD. Here is one such list that appeared on the Fanatics website (now defunct), reproduced here for the sake of fairness.

Top Ten Best Mega CD Games
1. *Lunar: The Silver Star* (Game Arts)
2. *Silpheed* (Game Arts)
3. *Lunar 2: Eternal Blue* (Game Arts)
4. *Popful Mail* (Falcom)
5. *Sonic the Hedgehog CD* (Sonic Team/Sega)
6. *Urusei Yatsura: My Dear Friends* (Game Arts)
7. *Shining Force* CD (Sega)
8. *Yuyumimi Mix* (Game Arts)
9. *F1 Heavenly Symphony* (Sega)
10. *Keio Flying Squadron* (JVC)

Note that the same six titles – all but one of them RPGs – appear on both lists. This tends to be true regardless of whose list it is, proving the point that there were only a handful of Sega CD titles widely considered to be "great." Add a handful or two to account for the differences between Eastern and Western tastes, and you're still left a couple of hundred games that definitely don't make the cut.

Keio Flying Squadron

A lack of good titles. A deluge of FMV. The Lieberman hearings. Add to those things Sega's arrogance – starting at the end of 1994 and lasting well into 1995 – towards developers and gamers alike, and it's easy to see why Sega CD died. Most of the available games were garbage – retailers wouldn't stock them, and were almost always out of the good ones – and interest in FMV was waning with 3D texture-mapped polygonal graphics coming of age. Developers were bailing because of the Lieberman hearings, and because they sensed (correctly) that the platform was dying. Sega, meanwhile, was too busy worrying about which new console to go with next to pay attention to what was really happening in the marketplace. Most hardcore Sega gamers shared the sentiments of Blake Kelley, who wrote about his past experiences with video game consoles in the article, "In Retrospect: The Tables Turn" for the Gamer's Alliance quarterly internet publication. "Support for the Sega CD died off and the game production came to a halt. I was at the game retailer once again. 'Take all this useless junk and gimme a SNES and one game.' I tell you, I felt like I have been violated or something. Some lessons are hard learned." No wonder that many a once-proud Sega gamer refused to invest in either the 32X or Saturn. "There was no way I was gonna give Sega one red cent of my money... Sega had points against it in my book right from the start."

quips Mr. Kelley in his article, and nearly every other disgruntled Sega gamer at the time agreed with him. If they were reinvesting on the cheap, they went with Nintendo's aging but still popular SNES. Given the money to spend on a 32-bit next-gen system, most opted for the inexpensive Sony PlayStation over the expensive Sega Saturn.

By 1995, the writing was on the wall. Sega CD developers quietly shelved existing projects or hurriedly wrapped them up to send to Sega for release. Some of the best games for the platform were released in 1995, among them JVC's decidedly wacky shooter *Keio Flying Squadron*, giving us our only glimpse into what might have been had Sega CD survived another year. Perhaps the most notable release, not surprisingly, was *Lunar 2: Eternal Blue*. Working Designs cemented their reputation for excellence with gamers worldwide by choosing to go ahead and finish their English-language release against common wisdom and marketing sense. It was the best-selling Sega CD title of 1995 and one of the best games ever released for the system, but by then, few gamers were buying anything Sega CD-related, at all. By the beginning of 1996, only two games remained on the official U.S. Sega CD release list: *Brain Dead 13* and *Myst*. Both were cancelled within months; their development teams re-tasked to make the ports for the 32-bit Saturn instead. Sega officially discontinued the system around the same time, and with that the sad tale of the Sega CD came to a close. In retrospect, its slow death marked the beginning of the end for Sega's fortunes, but no one realized what was happening until it was too late.

So why bother?

From 1991 to 1995, approximately 27 million Genesis consoles were sold around the world. In comparison, approximately six million Sega CD units total were sold during its entire lifetime – the same approximate time frame – across the same markets. That makes for approximately two to three million Japanese Mega CDs, 2.5 million U.S. Sega CDs, and one million English and European Mega CDs. Add to that 20,000 to 30,000 JVC WonderMega/X'Eye

consoles sold worldwide, a few thousand Mega CD-capable Pioneer Laservisions and other assorted clones, and the total tops at somewhere close to 6.1 million. 142 titles were released for Sega CD in the U.S., fewer in Japan and Europe. Compiling all of the titles from all markets results in about 200 titles ever released for the system – not exactly impressive for what was supposed to be a revolutionary video game console? One might think that with so few sales in comparison to its older and less capable ancestor, Sega CD isn't worth a second look, but that's not quite right.

Lunar 2: Eternal Blue

Sega CD was a console too soon, a system that tried to ride the cutting edge of new technology, technology that instead wound up bogging it down. Single-speed drives were just too slow, FMV-minded programmers too ambitious to make the most of the system. Those few titles that proved successful were developed by programmers focused on making the most out of what they had, rather than trying for ambitious experiences beyond what the hardware could offer. So it comes as no surprise that what many consider to be the ten finest games for the platform remain outstanding titles even today. No abusive use of FMV, no uninspired porting of existing Genesis games, no hammering of the CD-ROM drive at every opportunity, just – as gamers might

say – "a good game."

As a side note, one should not take lightly Sony's involvement in licensing and vending software for Sega CD. A good many titles bear the Sony Imagesoft logo, after all. Remember that Sony was at that time deep into negotiations with Nintendo about the possibilities of a SNES CD-ROM drive. Sega had one of only two CD-ROM-based systems on the market, so it comes as no surprise that Sony got involved. It was a valuable learning experience for them, and what they learned would be put to use just a few years later once Sony decided to strike out on its own. The implications of Sony's involvement with Sega CD went unnoticed by both Sega and Nintendo until it was too late to do anything about it.

So what can be learned from Sega CD? If anything, it made clear that neither the technology nor the intended user base was ready for prime time. The occasional cinema was fine, but the hardware would have to be capable of a lot more processing power if FMV was to enter the mainstream as a standard part of the gaming experience. The Sega CD, along with NEC's CD-ROM accessory for the Turbo Graf/X 16, also demonstrated that the public was willing to entertain the notion of a format change – from cartridges to CD-ROM – provided costs were kept reasonable, and high-quality games were made that actually took advantage of the hardware. Appearing three to four years too soon, Sega CD could never offer enough to compensate for its obvious shortcomings, leaving it a footnote, rather than an icon. Nevertheless, Sega CD helped pave the way for the acceptance of CDs over cartridges as the standard delivery system for home console video games during the 1990s. People were already becoming accustomed to CD-ROM drives via their personal computers, and the public acceptance of a CD-ROM based video game console was rapid and smooth. "I see CD-ROM for another four to six years," said International Computer Group's Barry Friedman, and he was right. While Sega CD and its fellow early systems failed to deliver on the promise of CD-ROM technology, its day was coming, and soon. The lesson wasn't lost on the major players in the home video game market, who moved quickly to

create second-generation consoles that made the dream a reality. The singular exception was, of course, Nintendo, whose realization would be long and hard in coming. Once again, the company would be forced to pay the price for its arrogance; only this time it would be former partner Sony – not rival Sega – to deliver that second humiliating fall from grace.
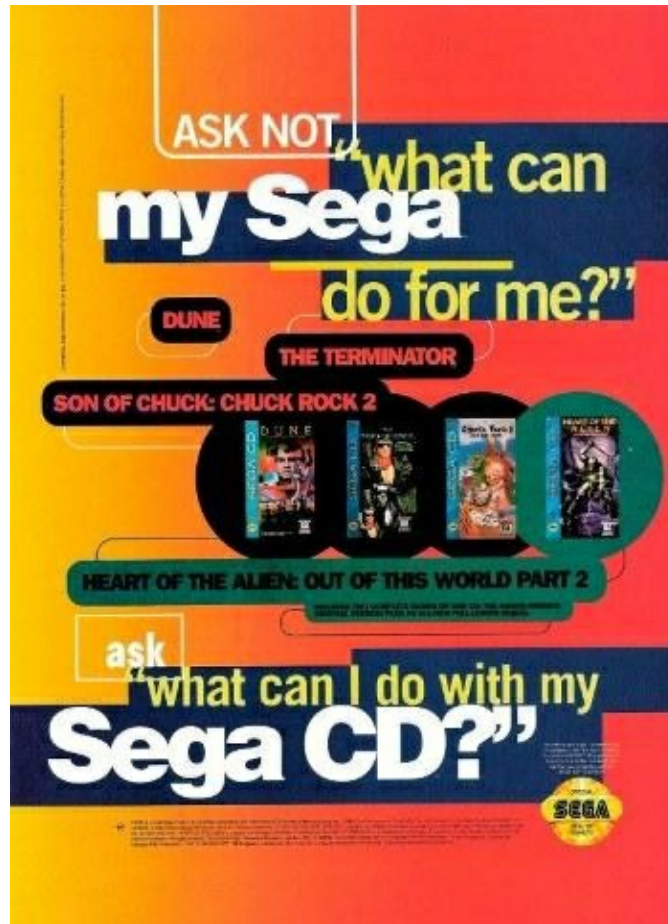
Sega CD advertisement

Sega CD/Mega CD Factoids

• There are two basic versions of the Sega CD/Mega CD console. The Model 1 version of the add-on unit fits beneath the Genesis/Mega Drive console; the retooled Model 2 version sits beside it in sidecar fashion. Both attach to the console in the same place – the right-side expansion port (normally unused) – but the Model 2 has a built-in tray on top of which both consoles sit. The Model 1 Sega CD uses a front-loading CD-ROM drive, the Model 2 a top-loading drive. The Model 1 Sega CD/Mega CD only works with a Model 1 Genesis/Mega Drive due to physical design; the Model 2 unit works with either the Model 1 or Model 2 Genesis/Mega Drive units (it originally included a tray extension for the older console).

• Sega of Japan released a karaoke module for the Model 1 Mega CD as a Japan market exclusive in response to the karaoke capabilities of JVC's WonderMega. It is designed to work with a Mega Drive 1/Mega CD 1 combo unit, attaching to the left side of the combined system. It came bundled with a microphone and a karaoke disc, and added full karaoke playback functions to the system. It reportedly did not sell well, as the JVC WonderMega was a better system for karaoke support.

• There are four known clones of Sega CD/Mega CD: The Sega MultiMega/CD-X, the JVC WonderMega/X'Eye, the Pioneer LaserActive CLD-A100, and the Aiwa CSD-GM1.

• There are three distinct casings and two distinct hardware variations of JVC's console. The WonderMega RG-M1 was the first, featuring a black base plastic case with silver over-coating. The silver was later changed to grey for the RG-M1A; the two are otherwise identical. The WonderMega RG-M10B (and its U.S. counterpart) have completely redesigned PCBs and cases that eliminate the S-VHS video and MIDI jacks.

• All Sega CD and Mega CD games are burned using an unprotected ISO-

9660 Mode 1 CD-ROM format. As a result, they can be copied using a standard CD-ROM burner and the appropriate software.

• The Sega CD console stores its bootstrap code at the beginning of Track 0 on the CD-ROM itself. Among other things, this includes checks for BIOS-defined regional market locks and startup code for such things as CPU synching.

• There are at least four known major BIOS variations for all Sega CD, Mega CD, CD-X, and MultiMega consoles. All of them had a master system BIOS available only to Sega personnel or licensees capable of playing all games for all regional markets. The other three major versions of the system are for the major markets – Europe (PAL), Japan (NTSC-J), and U.S. (NTSC-U) – locking the console to only play games keyed for the appropriate region. It is unknown whether JVC produced a WonderMega/X'Eye PAL BIOS for the European market; hence, only three major BIOS variations are known to exist for its WonderMega/X'Eye consoles. The only way to circumvent these hardwired market locks is with an external device such as Datel's Pro Action Replay CDX.

• There are various BIOS revisions out there for the differing versions of the system, ranging in rev number from 1.00 to 2.10. Regardless of market, the Model 1 consoles have a BIOS version number of 1.XX; the Model 2 consoles have a BIOS revision of 2.XX.

• It is possible to make many (but not all) Sega CD games perform a soft reset of the console by holding down A+B+C on the controller and then pressing Start. Dreamcast owners may find this familiar…

• *Eternal Champions: Challenge from the Dark Side* is the only Sega CD title to generate 256 colors simultaneously on screen. *Snatcher* comes in a distant second with 192.

Eternal Champions: Challenge from the Dark Side

• Some Sega historians, including the noted Barry Cantin, have argued that Sega CD was released to counter the PC Engine CD (aka Turbo CD) and not the SNES. I respectfully disagree with them based on what U.S. trade magazines of the day said on the topic. Such notable publications as GamePro and Game Players magazine were quick to point out the timing of Sega CD announcements in relationship to the increasing popularity of the SNES; Sega of America itself made clear that it considered Sega CD to be its next-generation console. What Sega of Japan thought is another issue entirely, but Sega of America apparently bought into its own hype. While they never claimed Sega CD to be an "SNES killer," their public statements and behavior, as reported, clearly implied that to be the case. The assertions of Cantin and others might be true insofar as the Japanese and European markets are concerned, but the highly competitive American market was an entirely different story. NEC was a minor player in the U.S., and its CD-ROM based console never posed a real threat to either Sega or Nintendo's U.S. market shares. Rather than the Turbo CD, the real threat in the U.S. for Sega was the SNES.

- Digital Pictures was one of the very first software houses contacted by Sega of America to produce FMV titles for Sega CD. The company already had two on the shelf – *Night Trap* and *Sewer Shark* – which had originally been produced for Hasbro's Project NEMO and were then offered to Nintendo for its CD-ROM system. The latter deal fell through as the Sony/Nintendo partnership collapsed, leaving Sega as the next – and only – option. "The incredible irony of it was that the video we plugged in the Super Nintendo was just terrific because Super NES could display 256 colors at once," Digital Pictures' Tom Zito would later recall. "Sega CD...had this horrible grainy look to the images."

- The very last Sega CD game for any market, *Shadowrun*, was produced in December of 1995, but not released until the following year. Sega ceased production of Sega CD titles at the end of 1995 in order to focus on Saturn.

- More titles were planned for the *Make My Video* series than the four released. As Sega and Sony shared production chores for the series, each sought to secure various music acts for new releases. While Sony's efforts remain unclear, Sega's attempts at lining up some of the most popular recording acts of the day are well documented, including Pearl Jam, Soundgarden, the Spin Doctors, Soul Asylum, MC Hammer, Guns & Roses, REM, and the Red Hot Chili Peppers. REM was aggressively sought by Sega for the *Make My Video* series' debut, but contractual obligations prevented their (otherwise willing) participation. The Red Hot Chili Peppers, on the other hand, demanded a sizable sum up front before they would even look at a contract; additionally, Sega of America's female employees protested en masse against the group's misogynistic attitudes and song lyrics. Within a year, both acts were at the top of the charts; Sega's Marky Mark and Kris Kross-branded *Make My Video* games, on the other hand, were not.

- The series intended to follow *Make My Video* was to debut with one of the best-known recording acts of the day. Prince, who had risen to pop music

fame out of the Chicago nightclub scene, was secured for the first of the new *Virtual VCR* series of music video CDs by Digital Pictures. Unfortunately, this was at the same time that Prince engaged in a serious contractual dispute with his recording label, Warner Brothers Records. Changing his name to an unpronounceable symbol, he refused to work on any projects as Prince until Warner either gave up its quest to secure exclusive rights to his master recordings, or permitted him to end his contract. *Virtual VCR* wound up being a casualty in this dispute.

- The top five Mega LD games (Pioneer LaserActive) of all time, according to website Trap Door (now defunct), are as follows:
  - *Ghost Rush*
  - *I Will: The Story of London*
  - *Manhattan Requiem*
  - *Pyramid Patrol*
  - *Rocket Coaster'*

- The Sega CD was not the first console to hype features, making them seem far better than they actually were. While marketing copy claimed gamers could "[control] the plot and the action of a real movie," most FMV games offered little more than a "choose your own adventure" of the "B movie" variety.

Sega CD advertisement

Anatomy of a Failure:

The Sega 32X

The stage is set

In 1993, the Sega's Genesis finally uncrowned the Nintendo Entertainment System (NES) as the number one video game console in North America. They'd been gaining on the giant for some time, and the dethroning of their rival was sweet...while it lasted. This was also the year Sega saw the handwriting on the wall: Nintendo, not thrown off by the release of the Mega Drive in 1989, continued to develop its own 16-bit video game console at a leisurely pace, content that the Famicom (NES) continued its worldwide domination of the home console market. They already had a strong worldwide market established, and took their time in coming up with a console that would meet their marketing needs. Furthermore, the existing Nintendo distribution pipeline could be used for the new console. Thus it was that Nintendo's 16-bit video game console did not hit the Japanese market until 1990. Universally derided by critics as overhyped and underpowered, the Super Famicom (SFC) nevertheless took the Nintendo-dominated Japanese market by storm.

Surprisingly, Nintendo did not immediately move to bring the SFC to Western shores. NES sales were still strong overseas, and the Genesis and the Turbo Graph/X appeared to be floundering against their venerable competition. All of that changed the following year, however, when Yuji Naka's *Sonic the Hedgehog* hit the gaming scene. This fantastic, legendary platformer

finally gave Sega the corporate mascot they so sorely needed, and eventually control of the much-coveted North American market. It was a hard-fought prize that they would not willingly relinquish. Nintendo would resort to every trick in the book (and then some) to get it back, but the one that eventually worked was the only one that could have: Nintendo rushed the SFC to the North American market. This meant they wouldn't be able to build up and hype the console as well as they did the NES, but Nintendo was a patient company. Their name had become synonymous with home video games ("Let's go play Nintendo"), and they were confident that this new system would eventually help them regain their market dominance. They had a virtual stranglehold on third-party development, and potential buyers could rest assured that "the good stuff" would most likely be exclusive to – or at least debut on – their console first. The Super Famicom finally saw its North American debut on September 9, 1991 accompanied by *Super Mario World*. The Super Nintendo Entertainment System (aka Super NES, or SNES) had arrived. Sega's market superiority in the Americas was doomed.

It's easy to see why Sega was so concerned about the Super Nintendo. While it may have lacked the Genesis' sheer processing power, its audiovisual capabilities were far superior. It could do graphic tricks that a stock Genesis could not, such as sprite scaling and rotation. It had superior, richer FM synthesized stereo sound. Moreover, right from the start, Nintendo and its developers started designing custom chips into certain cartridges that would provide the extra "oomph" that the stock console lacked. And let's not forget the worldwide popularity of the *Mario* and *Zelda* franchises, either. *Super Mario World* was an instant hit. Shooters such as *Gradius III, Super Metroid*, and the legendary *Macross: Scrambled Valkyrie* (which never saw an American release) showed the SNES could be every bit the arcade platformer the Genesis was – for those who knew how to work around its weaknesses. In addition, RPGs such as *The Legend of Zelda: A Link to the Past* and *Final Fantasy III* made the SNES the platform of choice for fans of that genre. It had taken Sega three years to wrest the number one spot away from Nintendo;

now it had to act – and soon – lest Nintendo reclaim the throne.

The Legend of Zelda: A Link to the Past

A variety of approaches was considered by Sega's development teams, ranging from the practical to the esoteric. Sega already had plans for a number of new consoles on the drawing boards; one or more of these seemed the ideal approach. Adding support via custom chips inside the carts – just as Nintendo and its licensees were doing – was also considered, and a development team was tasked to look into that possibility. There were also lessons to be learned from the relative failure of the Sega CD, which – while both innovative and comparable to a stock SNES – suffered from low sales due to a poor program base. Sega CD was a console ahead of its time, as we've seen, but the market wasn't quite ready for CD-based video games. Neither was the technology, for that matter, and gamers never really warmed to the idea of interactive movies, either. As a result, Nintendo continued to gain on Sega's lead. The SNES was doing a good job playing catch-up in the console wars; it seemed inevitable that it would soon pass the Genesis in the North American market. This is where Project Mars enters the picture.

The birth of Project Mars

Sega actually had several simultaneous projects aimed at developing new versions or incarnations of its video game console hardware for home use. Some of these were significant variations on the tried and true Genesis, some were based on arcade hardware, and some were entirely new beasts altogether. These are known as the "planet" series in Sega lore because each was supposedly code-named for the different planets of the Solar System. While this picture is not entirely accurate, it nevertheless serves as a good reference point for the average gamer or consumer. Many readers will already be familiar with Project Saturn, the CD-ROM console that started out as the Sega GigaDrive and then evolved into its own. Let's move across the solar system and have a look at the projects Sega was concurrently working on.

• Project Neptune was intended as an upgraded Genesis console, with enhancements consisting primarily of added 32-bit processing and enhanced audiovisual capabilities. As this project evolved directly from Project Mars, we'll return to the Neptune later.

• Project Saturn, too, is better left alone for now. It was to be a 32-bit console built from the ground up, utilizing the same CD-ROM technology that had first been tested with the Sega CD. The machine it eventually became is, of course, the Sega Saturn.

• Project Mars, our first focus, produced Sega's first 32-bit video game system to hit the market, now known as the 32X. How it evolved from drawing board to plastic mushroom is an intriguing tale, and provides an interesting peek into Sega's confused state of mind at the time with regards to its future video game console plans.

The system that would become Project Mars was given birth on January 8, 1994, the night before the opening of the Winter CES in Las Vegas, Nevada, in a hotel room hosting a conference among top-level Sega executives from both Japan and America. Those present at this meeting included Sega CEO Hayao Nakayama, Sega of America president Tom Kalinske, his special assistant Joe

Miller, and Paul Roux, as well as Hideki Sato and other personnel representing Sega of Japan. Surprisingly, Nakayama was the one who first broached the subject at this meeting; it is he and not Joe Miller who should be credited as "the father of the 32X." Miller remembers this meeting well, and related the details to me in an interview.

Joe Miller

Nakayama had directed the company to design and produce a cartridge-based 32-bit platform to be brought to market before Christmas of 1994. This was a lengthy, somewhat heated meeting, but in the end there was no question that Sega of Japan (in the form of a classic Nakayama mandate) had determined the course of action. Now it was up to the senior team to figure it out, and execute. The difference this time was that Sega of Japan was inviting Sega of America into the process, rather than creating new platforms in a vacuum and tossing them over the ocean when it was too late for any meaningful input. Sega of Japan was completely committed, and ready to mobilize whatever internal resources were required to finish the design and produce it in quantity for the holiday season. As first presented by Hideki Sato and his team of engineers, the original concept for Mars was little more than a Genesis with an extra 32-bit processor (a Hitachi SH-1, according to some

reports) and an expanded color palette (128 out of 512 possible colors on screen). Joe Miller, the chief technical wizard at Sega of America, was appalled, stating, "If all you're going to do is enhance the system, you should make an add-on. If it's a new system with legitimate software, great. But if the only thing it does is double the colors..." There was some grumbling, but in the end Sega of Japan conceded the point; they had several other hardware projects in the works; Mars would be Sega of America's baby, although senior management staff from Sega of Japan would be present to oversee it through to production. By the meeting's end, Nakayama was so excited at the prospect of Project Mars that he wanted its "core senior design team" to leave CES before it had even started and start working on the new system right away. Miller, Sato, and the others wound up attending the rest of the show, but began the process during a series of late night meetings in Miller's hotel room over the next four days. What Miller and his associates at Sega of America did not know at the time was that Sega of Japan already had another 32-bit next-gen console design under wraps back at home.

Project Mars was actually conceived in parallel to another scheme, one that enabled a stock Genesis to play games utilizing special features not found on the console by use of custom chipsets inside the cart itself. It seemed a natural enough approach, as Nintendo was already doing this with the SNES and its Super FX processor, and Capcom with their C4 chip. Thus the Super Virtual Play (SVP) concept was born, with all three of Sega's current 32-bit AM2 arcade wonders – *Daytona USA, Virtua Fighter,* and *Virtua Racing* – considered to test the idea. Although unconfirmed, both *Virtua Fighter 2* and *Star Wars Arcade* are also reported to have been considered. *Virtua Racing* was finally chosen to test the technology, and wound up as the only SVP cart ever released. Proving too expensive for Sega, the SVP concept died a premature death, leaving Project Mars as the superior approach to such sophisticated arcade conversions on Genesis hardware.

Sega SVP Card

It has been intimated over the years that Project Mars shared similarities in design with the system that would later be publicized as Project Jupiter. This was the abandoned next-gen 32-bit cart-only console supposedly conceived by Sega, and kept carefully under wraps from Sega of America until eventually abandoned. This would have meant that carts designed for use with Mars would also have worked in a Jupiter console, and there was a Jupiter-inspired cart adaptor for Sega's other 32-bit console (Saturn) even then already in development. Backwards-compatibility is important to home video game players, and several reports about Project Jupiter were somehow leaked to the public. While Sega hinted at times that a 16-bit path to its up-and-coming 32-bit technology was possible, they never actually committed themselves to this idea except for the 32X. As it turned out, what was reported by many gaming magazines at the time as Project Jupiter was nothing more than the original conception for Project Mars, a dedicated 32-bit cartridge console based on Genesis technology. Additionally, as we now know, Sega of Japan had by then already decided to make a total break from carts, as evidenced by Project Saturn – the direct result of its experimentation with Sega CD. The cart adapter for the Saturn that would have permitted the use of Genesis and 32X games never existed; such a device would have been an expensive and

unnecessary oddity for what was now a CD-ROM based console. In retrospect, it might not have been a bad idea, but Sega of Japan had other plans.

While Sega of Japan continued to keep its 32-bit ace up its sleeve, Hideki Sato and his senior engineering staff continued to assist Joe Miller and his team at Sega of America in shaping Project Mars into a workable product. Their goal was to come up with a means of enabling a standard Genesis console to play 32-bit games. The ideal system would be a low-cost, high-performance upgrade path that gave the Genesis superior performance and the much-lauded "missing" features found in the SNES. It would also have to both support and enhance the Sega CD, as the existence and availability of the Genesis CD-ROM accessory would permit larger and more sophisticated titles than could be achieved by cartridge alone. The end result would be a powerful, low-cost add-on that would plug into the cartridge port of a stock Genesis, turning it into a 32-bit machine.

At least three initial design concepts were proposed for the Mars production unit, according to Miller. The first would have resulted in a Genesis hybrid akin to some of Sega's custom arcade cabinets from the late 1980s, such as *Space Harrier* and *After Burner 2*, which would have sported twin Motorola MC68000 CPUs and an additional VDP. No one was really happy with this one, as it wasn't much of an improvement over the Genesis itself. The second was something of an interim design, adding another VDP and a single Hitachi SH-1 RISC CPU instead of the extra MC68000, but this – not all that different from an SVP-equipped Genesis – too was eventually scrapped due to cost and production issues. The third was a more powerful design suggested by Sega of Japan engineers that sported twin Hitachi SH-2 RISC CPUs and a more powerful VDP than its two earlier incarnations. It was a complex approach, but with good reason: Sega of Japan's next console, details of which they were slowly beginning to unveil to their American colleagues, would have similar processing architecture. If Sega's third parties became accustomed to working with the parallel RISC design now, they argued, they'd be well prepared for

Sega's next system. All three Mars concepts reached the alpha prototype stage, but it was Sega of Japan's twin SH-2 design that eventually gained final approval by Sato, Miller, and their associates. This was quite an achievement, considering the short amount of time in which they had to work (mere months) and the limitations of the console upon which it was based (the aging 16-bit Genesis). With a little bit of modification here, and some plastic trim there, a rather odd-looking and top-heavy device began to take shape.

Sega 32X

One final topic to be addressed by the team was modem play. As the Mars technology was essentially an extra layer on top of standard Genesis hardware, modem support proved a surprisingly small hurdle. Amongst Sega's goals for the 32X was to add Sega Channel support in November of 1995 for Japanese subscribers, and in September of 1996 (at the latest) for North America. Additionally, Catapult's X-Band Network indicated that they would also provide 32X support on their system. The end result was the now familiar "Sega mushroom," as Sega developers and licensees had dubbed it. Regardless of the name – Genesis 32X (United States), Mega 32X (Europe), or Super 32X (Japan) – the resultant device was a 32-bit upgrade accessory for a stock Genesis designed to enhance the base console in several significant ways.

Sega 32X advertisement

32X

Component	Description
Processor	• Twin 23 MHz Hitachi SH2 32-bit RISC CPUs
Graphics	• 32,768 color palette • 50K textured polygons per second
Sound	• 2 channel stereo sound
Memory	• 512KB RAM • 3 KB BIOS
Connection	• A/V overlay cable (Genesis 2 mini-DIN pinout) • Twin RF shields (for use with older Genesis 1 consoles) • Unit spacers (for use with Genesis 2 or CD-X consoles)
Storage	• 240MB cartridge • 500MB CD with Sega CD add-on
Other	• All specifications added to existing console capabilities

The features Project Mars added to a stock Genesis were impressive: Two additional digital sound channels, 32,768 simultaneous on-screen colors, full 3D graphics support pumping out 50,000 polygons a second, and true scaling and rotation of sprites. The fact that it overlaid its capabilities on top of a stock Genesis enabled standard Genesis carts to be used with the device; the older code was simply "passed through" the unit without tripping the 32X boot ROM. Stock Genesis cartridge housing could be used to deliver new 32-bit games, too, although 32X production cartridges were enlarged a bit in order to distinguish them physically from older 16-bit titles. The device was designed to work with all standard Genesis consoles past and present, including the new CD-X, and could be installed in minutes with minimal hassle. It seemed the perfect upgrade, and Sega of America wasted no time in seeking production approval from company executives. So what was the major obstacle standing in the way of the 32X? Sega itself.

Sega of America supported the machine, of course, but many insiders at Sega of Japan were still betting on the CD-ROM based Project Saturn. They had little use for a mere "Genesis upgrade," and would rather that Sega's customer base start over with a whole new generation of hardware and software. Not only could Sega deliver the Saturn to fulfill this anticipated need,

but it could also prove more profitable in the long run. All-new hardware plus all-new software equals all-new profits, and Sega of Japan was betting that most of Sega's customers would gladly (and quickly) ditch their older systems for the Saturn.

In the end Nakayama liked what Miller, Sato, and the rest of the 32X design team had wrought and gave it his blessing. He felt that the 32X was in a perfect position to bridge the gap between the aging Genesis and the up-and-coming Saturn. It would be Sega's first 32-bit video game console to hit the market, and would whet the appetites of Sega's less affluent customer base while they scrimped and saved for the pleasures that Saturn would offer once it arrived. Much to its chagrin, Sega of Japan was drafted to provide the production facilities for the 32X; Sega of America simply did not have the means to mass-produce the unit themselves. This they did with characteristic calm, but behind their resignation was the conviction that that their time and resources were better used elsewhere – on Project Saturn, for example. Sega of Japan never really accepted the 32X as a "real" system, staying supremely confident that the Saturn would eventually reveal itself as the true heir to the Genesis. Sega's internal rift over approach to the 32-bit video game market would prove to have major implications not only for the 32X and Saturn, but also for its financial future.

The video game community first learned of Sega's plans in 1994, at the Summer CES in Chicago, Illinois. A complete prototype 32X CD system (as Sega termed it at that time) was on display at Sega's booth, bearing only minor differences in color scheme and styling from the final production model. Also on hand were working betas or CinePak demos of several titles planned for the new system, including *Bullet Fighters* (a 3D polygonal space shooter), *Ecco the Dolphin* (a 32-bit enhanced version of the original), and *Ultimate Fighting* (a 2D zoom-and-pan fighter). Also announced at the show was another title, one that Sega fans had been clamoring for ever since rumors of a new Sega system had spread the previous year.

Sonic the Hedgehog CD had succeeded in setting a trend for Sega, and the

two brands were irrevocably interlinked. Sonic and friends were now a true franchise, and Sega fans had come to expect a new *Sonic* game with every new Sega platform – just as Mario fans expected a new *Mario* game with each new Nintendo platform. Word-of-mouth ran wild, fueled by a series of pictures leaked to the game magazines of the day. *Sonic the Hedgehog 4* was to be a true 3D game, featuring polygonal rendered characters moving about in a real 3D environment. The images looked fantastic; far better than anything the pokey SNES could deliver, even with the most powerful custom chip that Nintendo or its licensees could shoehorn inside a cart casing. Sega fans were beside themselves as they impatiently waited for the 32X to be released.

Sega Genesis 2 with Sega 32x installed

In late September of 1994, Sega of America staged a Gamer's Day to unveil Project Mars to the American market. The name given the new system was the Genesis 32X, as in "32 times the power." It was pitched as a low-cost 32-bit upgrade option for the 13 million Genesis owners nationwide. The projected price was expected to be no more than $170, depending on foreign currency exchange rates – after all, Sega of Japan were the ones actually producing the units. "American gamers want arcade gameplay, and they want it now," said Sega 32X project manager Haven Duburl, "but they don't want to

pay a lot for it, and they don't want to abandon their 16-bit library." 12 games were promised for the system's official launch in November, with more on the way.

Available at launch
- *DOOM*
- *Fahrenheit* (CD 32X)
- *Star Wars Arcade*
- *Super Afterburner*
- *Super Motocross*
- *Virtua Racing*

"Coming Soon"
- *Cyber Brawl*
- *Fred Couples' Golf*
- *Midnight Raiders* (CD 32X)
- *Stellar Assault*
- *Super Space Harrier*
- *Tempo*

Sega also spoke openly about other 32X titles it hoped to deliver by the end of 1995. Among these were *College Basketball's National Championship, Ecco the Dolphin, Metal Head, Tomcat Alley Deluxe* and *Wire Head* (CD 32X), resulting in a total of 18 titles ready, incoming, or in development. Some 25 companies were listed as being on the 32X development bandwagon: Acclaim, Accolade, Activision, American Softworks, Altus, Capcom, Capitol Multimedia, Core Design, Crystal Dynamics, Domark, Fox Interactive, GameTek, Hi-Tech Entertainment, Interplay, JVC, Konami, Playmates Interactive, Rocket Science Games, Software Toolworks, Sunsoft, Takara, Technos, Time Warner Interactive, Vic Tokai, and Virgin. On September 29, Sega of Japan officially commenced mass-producing the 32X. Sega of America's avowed goal was one million units manufactured and distributed to retailers by Christmas. Sega corporate openly admitted that they might fall

short of their goal, as actual production somehow started behind schedule. The inside word was that Sega would not be able to move its entire planned inventory of 32X consoles until January of 1995.

The nationwide ad campaign to promote the 32X was pure Sega. In the first ad, a boy watches in shock as a 32X adapter slides up and down in the cartridge slot of the new Genesis Mark 2 console, redesigned in the same streamlined style as its newest accessory. "Mommy, what are those two Sega machines doing?" he wails. "They're making an arcade system, dear," comes the hushed reply. A parade of system specs followed, worded in the same vein, followed by the tag line, "Bringing the 32-bit gaming experience home. 'X' is next." The second one was an even more risqué reply to the first. "Oh YES... more, MORE, faster, FASTER, Faster!" followed by the now-familiar picture of a 32X sliding up and down inside a Genesis Mark 2 console's cartridge port. "What did you think we were talking about, you little degenerate," the ad copy continues. "Get your mind out of the gutter and back where it belongs. Once you get the 32X-perience, you won't want anything else (except that, you animal!) 'X' is next... Oh baby, oh baby..."

Sega 32X advertisement

By now, Sega of America had over $10 million invested in the 32X rollout. Their public statements and intensive ad campaign (both in print and on TV) was consistently insistent that the 32X was a viable upgrade for Genesis

owners – not a mere throwaway product as some industry wags were already claiming. The 32X was getting a lot of good press in the trades and magazines, giving Sega confidence in its hope that 32X sales would result in excellent profit margins. At the least, it might prove to indicate whether the gaming public was truly ready for a pure 32-bit video game system…such as the CD-ROM based system Sega of Japan had quietly finished overseas. With Nintendo breathing down its neck, Sega did not want to wind up producing "yet another Sega CD."

Nintendo, meanwhile, appeared unfazed by the threat of 32X sales against the SNES, maintaining this attitude even as the impending holiday shopping season drew closer. They had a surprise up their sleeve, aimed directly at Sega, and if it just so happened to catch those other upstarts – Atari's Jaguar and Panasonic's 3DO – then that was just fine, too. "This will be the biggest title of the season for any platform," promised Nintendo of America vice-president George Harrison. "We want to give our customers every reason not to trade up to other systems." The new title was slated to appear in November, the same month that the 32X made its official debut, and Nintendo gave its customers a taste of what expect at the 1994 Shoshinkai (Space World) gaming expo in Japan. Customer response, fueled by word-of-mouth and glowing reports from the trades, resulted in over 2.2 million orders placed by October – more than the two million carts Nintendo had on hand. What was Nintendo's "32X killer," the game to prove that 32-bit consoles weren't yet needed? *Donkey Kong Country*.

Sega's reaction was understandable. During Sega's Gamer's Day, Tom Kalinske gave an extensive interview at Disney's Epcot Center to Game Players magazine. Concerning Nintendo's concurrent release of *Donkey Kong Country* vs. the 32X rollout, he said, "The 16-bit business and the subsequent upgrade to it is going to be very, very strong for at least another two to three years. We think our titles are much stronger than *Donkey Kong Country*; however, I congratulate Nintendo on having one good title this year." Kalinske would later eat his words.

Despite the looming threat of Nintendo, Sega of America released the 32X on time and schedule to North America in mid-November of 1994. It was released in a low-key manner to Japanese customers the following month, and by January of 1995 was also available in Europe and Australia. 32-bit power was in the hands of home video gamers everywhere, and Sega was the first to bring it to them.

A run for the roses

The 32X debuted priced at $150, about $20 less than first projected. Nothing had changed as far as financing went, except that the Japanese yen had dropped against the American dollar. Potential buyers welcomed the news; $170 seemed a bit hefty for a mere upgrade. Even so, it was widely understood that $150 was about half the cost of a full-blown, standalone 32-bit console. Six 32X games were available from the start, priced between $60 and $70 apiece. This was comparable to the price of Nintendo's newest titles at the time, including the gorilla just over the horizon, but it was hoped that the sophistication of 32X titles would overcome the doubts of the cash-conscious. The six titles announced to retail outlets along with the 32X were as follows: *Cosmic Carnage, DOOM, Metal Head, Star Wars Arcade, Virtua Fighter*, and *Virtua Racing Deluxe*. This represented a few shakeups in Sega's original plans; almost all of which resulted from production problems. The anticipated "real version" of *Afterburner* was not ready in time, forcing Sega to replace it with another arcade conversion (*Space Harrier*), and there were delays in converting the Sega CD titles to the new CD 32X format. In fact, only three of the six announced launch titles made it to store shelves on time. *DOOM* was rushed out the door – a victim to its own popularity – resulting in a playable, but buggy game that sold well regardless. *Star Wars Arcade* fared better, fortunately, and positive word-of-mouth combined with the immense popularity of the *Star Wars* franchise made it the most warmly received of the fledgling 32X lineup. Not far behind was *Virtua Racing Deluxe*, which many gamers (rightly) argued was the excellent conversion of the popular coin-op that Sega

should have released the previous year. *Game Players* magazine rated the 32X as the #4 most wanted "hardware hit" for the 1994 holiday system, and everyone seemed excited about what Sega had to offer with its 32-bit Genesis upgrade. Unfortunately, at least one of the announced launch titles continued to be plagued by production titles. *Metal Head* would not make it to store shelves until February of 1995, portending things to come.

Star Wars Arcade

If one game deserves to be singled out from this time, it's a certain well-known space shooter. As 32X's biggest hit during the holidays (and thereafter), *Star Wars Arcade* has been called "the game that saved Sega in 1995." As expected, *Donkey Kong Country* sales were nothing short of astronomical, making it the market crusher that Sega feared it would be, and dominating the video game market throughout the 1994-1995 holiday shopping season. Sega's move to make *Star Wars Arcade* a launch title proved to be a wise one; the ingrained acceptance of the *Star Wars* franchise coupled with the overall excellence of the game made it one of Sega's best-selling titles of the season. While it did not come near to matching the sales figures Nintendo's monster hit, it was strong enough to boost 32X system sales. As former Sega developer Eric Quakenbush noted, "*Star Wars Arcade* really saved their bacon that

Christmas."

Most of the focus at the 1995 Winter CES was on the planned U.S. launch of the Saturn later that year. Even so, Sega of America was eager to push the 32X. Attendees at the show were treated to Sega spokespersons pitching the system as an ideal, bargain solution for teens and other younger gamers. The Saturn, when it arrived, would be expensive, limiting it to adults and kids whose parents were affluent enough to afford one. It would also justify owning a Sega CD, as the long-announced CD 32X releases were finally set to start rolling off the production lines. Unfortunately, Sega's 32X presentation fell rather flat with industry wags. "It lacked oomph," claims Game Zero's Michael Lambert, and fellow writer Marty Chinn was even less impressed. "You had to have an appointment to get into their booth," he noted in his write-up. "Bad move." Game Zero may have put it best when they said, "Sega had a general plethora of new Genesis and 32X games, although there was no one single game that they were trying to push as [Sega's] own market crusher."

Sega's perceived arrogance did not sit well with its core audience, the older kids and teens whom Sega was targeting with the 32X. These were the ones actually playing Sega's games, and the ones actively petitioning their parents as to what to buy going forward. While everyone was wowed by what the 32X could do, and suitably impressed with the software at hand, many gamers opined that they'd rather wait for the Saturn or PlayStation instead. There was also a small but highly vocal crowd who claimed it was only as a stopgap measure – a taste of 32-bit power to tide gamers over until the Saturn and PlayStation came along, or perhaps something even better. "Everybody knows that 32X is a Band-Aid. It's not a next generation system," said Trip Hawkins, president of Electronic Arts. The gaming media of the day had its own opinions on the matter. "Some people claim that this is only a stopgap measure," commented Game Players magazine, "while we're waiting for the 64-bit machines, but it's really cool!" Stop-gap. Band-Aid. Waiting out the new systems. A common theme was being voiced by the video game industry, and it didn't bode well for Sega's mushroom. It's no wonder then, with the 32X's

slim software base and all that "stopgap" hype, gamers chose not to invest heavily in the system.

Sega 32X advertisement

As a result, sales of 32X consoles and games quickly tapered off after the holidays, growing slow, almost apathetic, throughout 1995, even though new titles were coming out on a regular basis. Some gamers, such as Michael Brimson of Orlando, Florida, chose to skip the 32X altogether. "What's going on?" he wailed in a letter to Game Players magazine. "Sega's making me mad. Why is it coming out with stuff like 32X, Saturn, and CD-X? Come on, I ain't rich. I have a Genesis and Sega CD, and already I don't have enough games. Now they expect me to buy a 32X?" Many cost-conscious Sega gamers were now asking themselves the same question. Was there a good reason to upgrade to 32X now, when the real 32-bit consoles would be on sale by year's end? The Saturn was looking promising...and PlayStation even better. Sega's questionable positioning of the 32X so close to the impending arrival of real 32-

bit consoles, coupled with a miscalculation of its potential fan base, made the 32X a market anomaly almost from the get-go. It was a system condemned to fail before it could turn a profit, and that's exactly what happened.

A faint glimmer of hope for the few, beleaguered 32X fans came along in late spring of 1995, when Sega announced its intention to release Project Neptune as a commercial product. It was Sega of America's answer to Sega of Japan's original Project Mars concept – an all-in one, 32-bit upgraded Genesis console. The Neptune console ($400) was designed as a direct replacement to the aging Sega Genesis, incorporating both Genesis and 32X hardware within the same housing. The working prototype unit pictured at the press briefing (and later reprinted in the trades) was almost identical to the Genesis Mark 2 console in both size and design – good news to buyers of the Sega CD Model 2, which had been designed to mate with the Genesis Mark 2. Even so, the steep price tag (twice the original price of the Genesis) caused many of those same users to gag in disbelief. Word from Japan about the Saturn and PlayStation was by now widespread, leaving many users to lean strongly towards waiting out the new 32-bit CD-ROM systems and their impressive array of launch titles. But for those with large Genesis and 32X cart libraries, the Neptune remained an attractive upgrade possibility – especially after the price was later reduced to a more reasonable $200. It was also an enticing prospect for those few licensees still committed to coding for the 32X, and Frontier Developments (creators of the legendary sci-fi strategy game *Elite*) began work on a 3D polygonal shooter for the new system. *DarXide* was to be the very first game for the Neptune, and promised to be every bit as slick-looking and smooth-playing as the best Saturn shooters currently available over in Japan. It would also be one of the last 32X titles ever released.

Knuckles Chaotix

So what about *Sonic the Hedgehog 4*? It's a good question, and a sad fact that nowhere in the 32X software library does Sonic make so much as even a cameo. The so-called "*Sonic* game" that was released didn't have Sonic in it. And while *Knuckles Chaotix* was an improvement over the tried and true *Sonic* run-and-jump formula, sporting some unique innovations of its own (sprite scaling and the infamous "bungee mode"), it neither looked nor played at all like the preview images that had wowed the Sega faithful at the end of 1994. It was not revealed until much later that the game was based on a 2D *Sonic* prototype for Genesis that Sega had been kicking around its software development division for just over two years. As for those tantalizing screenshots? They were taken from an in-house video Sega had produced for an amusement park attraction, a fact that would not be known until years later. Public reaction to *Knuckles Chaotix* was mixed. A few magazines praised it, while others gave it only grudging praise. Almost all complained about the much-publicized "bungee mode," which tended to hamper rather than enhance gameplay. *Sonic* fans were irate over the fact that it was still a 2D game – not the 3D game that had been widely anticipated. They felt cheated, and let it be known that Sega was now in the doghouse. It is interesting to note, in retrospect, that a "real" *Sonic* game (in the eyes of his many fans) would not

be released by Sega until *Sonic Adventure* for Dreamcast in December 1998 – almost four years after *Chaotix* first hit store shelves.

Sega Neptune prototype

The second quarter of 1995 marked a defining moment in the brief history of the 32X. It was then that the bulk of Sega's 32X licensees officially abandoned the system, focusing their efforts on the Saturn instead. Many had never bought into Sega's message about maintaining the 32X alongside the Saturn, and sentiment that the 32X was a mere stopgap remained strong. Sega's announcement that the Saturn was coming to North America in the fall of 1995 made it clear that time had run out for the old technology. With the Genesis about to go bye-bye (taking the 32X along with it) developers shifted gears, porting over existing and planned projects in order to be ready to support the Saturn. According to former Sega developer Eric Quakenbush, "Developers didn't want to invest time and resources in creating games for a platform that was going to be overshadowed by something as big as the Saturn." It was time to choose between the two systems; nearly everyone went with the Saturn.

The effect was immediate, with trade publications quickly picking up on the shift as word began to spread. One after another, unconfirmed reports,

"leaked from reliable sources," revealed that major developers were bailing on the 32X. Capcom appears to have been the first to jump ship (32X ports of *Dark Stalkers* and *Street Fighter 2* were widely anticipated but never released), seemingly triggering an avalanche of sorts. Acclaim, EA Sports, Interplay, Readysoft...one after another, major developers were bailing on their 32X commitments. Many of these had never actually been happy with Sega's plans for the 32X; Capcom's departure simply provided a convenient excuse to jump ship for either the Saturn or Sony's PlayStation. Even Sega itself seemed to ignore its public plans regarding the future of the 32X, hurriedly rushing the release of several titles and cancelling several others outright in order to make way for the Saturn. Sega was worried about Sony's PlayStation, and rightly so; it looked to be a worthy competitor. As a result, Hayao Nakayama decided to put all of Sega's eggs in a single basket, and push the Saturn for all it was worth.

In October of 1995, Nakayama ordered all Sega consoles save the Saturn cancelled, enabling the company to better focus its limited resources on the next console war, which in fact had already begun. Nakayama's decision came at the worst possible moment for Sega's product line – during a period of market transition – and the 32X suffered most as a result. If news of its impending death had been speculative up to this point, Sega's sudden move towards the Saturn made it reality. By the end of the third quarter of 1995 – the time that the Saturn and PlayStation were set to debut – tales of the 32X's impending demise were so persistent that coverage of the console had all but stopped. The only vendors still developing for the 32X were overseas, such as Core and Frontier, and they were more concerned with wrapping up existing projects than preparing new ones. By and large the industry ignored the system, and it received practically no coverage at the Electronic Entertainment Expo (E3) trade show later that month. The 32X was doomed.

The remainder of 1995 saw only a handful of titles released for the 32X, bringing the total count up to somewhat less than three dozen – a far cry from the one hundred games that had been promised. A few more were announced,

including ports of *Hosenose and Booger* and Sega's own *Garfield in TV Land*, but subsequently cancelled. Sega also cancelled plans for the Neptune, much to the irritation of potential customers and developers alike, and further hastening the decline of the 32X. "Overall, the lack of quality software is the 32X's crucial flaw," noted Game Players magazine in December of 1995. "Finding new 32X games in 1996 is going to be even harder than it was in 1995."

Shadow of Atlantis

Among the casualties left in the wake of Sega's move was a nearly legendary – albeit unreleased – title that had once again been shoved to the back of the line. Word of mouth was positive for *Shadow of Atlantis*, an interactive RPG first conceived for the Sega CD and then rescheduled for a CD 32X release. It was an ambitious project, inspired by Jules Verne's *20,000 Leagues Under the Sea*, in which Captain Nemo and the crew of the Nautilus would embark on a search for the legendary lost continent of Atlantis. The CD 32X system was the first Sega console that promised to deliver author Eric Quakenbush's grand plans, but the death of the 32X changed all that. Once again, *Shadow of Atlantis* was placed on the back burner, and tentatively rescheduled for a Saturn release – much to the growing exasperation of

Quakenbush and his team. *Shadow of Atlantis* would never make it out the door, driving a disgruntled Eric Quakenbush to leave Sega.

By November of 1995, just one year after its launch, the handwriting was on the wall for the 32X. It was now priced at a mere $100, and for $40 included a pack-in game (typically *DOOM*). Nearly all of the scant handful of developers who still had titles in development handed them off to Sega for finish-up work; opting not to expend the effort, as Saturn was now the Sega development platform of choice. This resulted in precious few new 32X titles for 1996 – the year in which the system was supposed to have been hitting its stride – and there would be no more after this small supply had been exhausted. Game Players magazine summed up the situation aptly, claiming "The launch of the Saturn and lack of third-party support have doomed the 32X to an even shorter life than Sega CD."

DOOM 32X

The name Sega had by now acquired a rather bad taste in the mouths of home console owners; not surprising, given the company's apparent aloofness towards its customers. In fact, many dedicated Sega gamers began to seriously consider jumping ship altogether. It was a sentiment shared with a steadily growing number of Nintendo fans, also upset at their preferred

vendor's strident insistence that the 16-bit SNES was still an economically viable platform despite the arrival of the 32-bit generation. So, which one to choose? Obviously not the 32X, dying as it was a death from a thousand cuts before everyone's eyes. What about the Saturn? It was widely understood that the system never had – and never would have – the 3D punch of the PlayStation, making Sony's new box rather attractive to disgruntled video game fans around the world. Saturn was a decent machine, but had been designed during the heyday of 2D systems. It was now a 3D videogaming world. Were hardcore gamers willing to risk Sega's "biting them in the butt" again on a new system – as they'd done with the 32X – especially with the rumors of Sega's new 64-bit Eclipse already beginning to surface? Many decided not to stick around to find out, and PlayStation sales began to soar.

By this time, the 32X was dead and gone, unmourned and all but forgotten. Frontier's *DarXide* was quietly released to European 32X owners in January of 1996, never reaching its intended American release. *Spiderman: Web of Fire* hit American retail shelves at about the same time; together, they share the distinction of being the last two 32X titles delivered to market, thus ending the sad tale of Project Mars. Of the 500,000 consoles shipped to retailers by Sega, only two-thirds wound up in users' homes. The rest sat on store shelves despite massive discounts, save when discovered by Genesis owners looking to augment their aging systems on the cheap. Within two years, 32X titles were cluttering the bargain bins, some marked down to as little as $2 each, with the 32X "mushroom" available – brand new, in the box – for as little as $20. Few missed the 32X, and even fewer bemoaned its passing. It was the first 32-bit gaming system to hit the market, but it was also the first 32-bit casualty.

Aftermath

It is said that hindsight is almost always an exact science: "If this, then that," and so on. It is also said that once history has been made, it cannot be remade, only repeated at a later time. Let us take a moment to analyze the

demise of the 32X. Perhaps in understanding why it failed, and how Sega brought about the bad reputation it endured afterward, we can appreciate how hard Sega worked not to repeat the same mistakes with the Dreamcast in 1999.

Spiderman: Web of Fire

First up is to address the one nagging issue that has plagued the 32X in nearly every single write-up to date, typically expressed in one of two forms: "It was a throwaway product meant to maintain sales until the Saturn came out," or "It was a cheap stopgap that Sega never really supported." This was, in fact, far from the truth; records show that the 32X was never intended as a throwaway product. Trades at the time were full of reports of Sega's avowed public support for the 32X, and even so Sega-cynical a magazine as Electronic Gaming Monthly (EGM) was quoted as saying, "As far as we know, Sega has no intention of dropping support for the 32X even after the Saturn hits US shores. It's a pretty safe bet that if sales of the 32X continue to be brisk, your investment is safe." While the case can be made that it was in fact designed to hold off Sega's competition until Saturn sales picked up, it can't be said that it was destined for the discard bin from day one. Sega of America sank $10 million into rolling out the 32X via an advertising campaign that included both

print and visual media, as well as some memorable TV commercials. If that seems small by today's standards, consider that $10 million also happens to be the approximate amount that Sega of America spent on the Genesis rollout back in late 1989. And it might have been higher had not Sega of Japan been drafted into actually producing the system and its games, kicking and screaming along the way. One must also weigh Tom Kalinske's comment that he foresaw the 16-bit market remaining viable for another two or three years. American console video gamers have traditionally desired to take as many of their existing games with them as possible when upgrading to a new system. Due to its unique design, the 32X was ideally suited for this, and thus poised to take full advantage of the existing 16-bit market. Essentially a 32-bit enhancer for a 16-bit console, it could have conceivably succeeded, had it been allowed to survive and thrive. This was what Sega of America had planned, but unfortunately, neither Sega of Japan nor the rest of the industry were listening.

The internal rivalry unfolding within Sega during 1991 to 1995 – when the company was prepping its 32-bit technology for release – is perhaps the key factor behind the demise of the 32X. "Joe Miller may have been the father of the 32X," recalls former Sega executive Michael Latham, "but he had to choose between bad choice number one and bad choice number two. I think he made the better choice and made a valiant effort to make the best of an impossible situation." Remember, Project Mars wound up the darling of Sega of America, whereas Project Saturn was Sega of Japan's virtual holy grail. Sega's two main branches were on two different paths to the 32-bit era, but while Sega of America foresaw a gradual upgrade to a fast, cheap 32-bit system that maintained cartridges as the preferred delivery system, Sega of Japan envisioned a clean break from the past utilizing CD-ROM storage. The Genesis had been a resounding success in America, but had proven to be a mediocre performer in Japan. In contrast, the Sega CD had done poorly in America, but had fared better than expected in Japan. Sega of Japan remained firm in its conviction that CD-ROM games were the wave of the future, and fought Sega of America almost every step of the way in developing,

releasing, supporting, and promoting the 32X. They all but refused to assist with the system, and only a scant handful of 32X titles ever came Japan. An old adage says, "If you shout long enough and loud enough, then people will eventually listen to you." That's just what Sega of Japan did, and while they eventually got their way, the public flip-flop Sega corporate had to perform over the 32X vs. Saturn affair left a bad taste in the mouths of many Sega customers and developers.

This internal rivalry no doubt fueled the confusion in the minds of the companies that had originally agreed to back the 32X. They knew that Sega had at least four 32-bit video game systems in the development pipeline, and more than one expressed a desire for Sega to make up its mind to just pick one and go with it. When Sega of America confirmed the impending release of the 32X (and subsequently its more sophisticated cousin, Neptune), many were willing to commit to the new system. That initial confidence was shaken, however, when Sega continued to commit itself to multiple 32-bit systems. "There are too many planets. It's a confused strategy," complained Edward Brogan of Jardine Fleming. There was the 32-bit Genesis upgrade (32X), press releases announcing a 32-bit upgraded Genesis (Neptune), rumors about a pure 32-bit cartridge-based console (Jupiter), and now, reports out of Japan about Sega's new 32-bit CD console (Saturn), all within a couple of years. Not a lot of time to develop anything substantial, according to developers; many opted to idle along on ports while Sega's plans settled into something more comprehensible.

FIFA Soccer 96

With the Saturn looming larger, it didn't take much for developers to see what was coming, ending 32X support as fast as they could in order to ramp up for the new system. Capcom and Konami's simultaneous departure was just the excuse that most of the ones already developing needed to bail; others had by that time already chosen not to follow through with their announced commitments. This meant that whatever games were being produced for the 32X during 1995 were for the most part ports of existing products handled by second-string or even third-string development teams, with original titles being few and far between. For example, the only EA Sports title for the 32X – *FIFA Soccer 96* – had been intended for simultaneous American and European release, and promoted as such. Once EA sensed the impending change of direction at Sega, *FIFA 96* was scrubbed from its American release schedule. The game itself, representing a late-beta, 32-bit enhanced port of the original Genesis game, was then quietly released to the European market, where a soccer game for a soon-to-be-discontinued system could be expected to sell more successfully. Another example is Koei's *Gekijoban Sangokushi IV*, known in the West by the title *Romance of the Three Kingdoms IV: Wall of Fire*. Koei produced both 32X and Saturn versions of the game, but only the Saturn version was released outside of Japan. The impending demise of the 32X

ensured that an English-language export version was never attempted, let alone released.

Finally, one has to consider the rapid development of the 32-bit video game market. Sega of America officially previewed the 32X and its games to the public in September of 1994, two months ahead of its scheduled release date in November. The trades and magazines for the next two months were full of glowing praise for the system and its planned 32X launch, not to mention reports regarding Sega and Sony's CD-based systems in Japan. Sega of Japan released the Sega Saturn in November 1994 – the same month that Sega of America released the 32X – in order to get the jump on the Sony. Once the system specs, screenshots, and early reviews of the Saturn and PlayStation started rolling in, it was pretty much curtains for the 32X. Even the Saturn, admittedly the lesser of the two systems, had at least three times the horsepower of the 32X on paper, and gamers always want the most sophisticated platform they can get for their money. Formerly favorable press for the 32X quickly turned to sly asides about the Saturn's underpowered little brother. The rapid market shift from 16-bit to 32-bit is, more than anything else, what likely generated the notion that the 32X was a throwaway product. Sega of America had never intended that to be the case, but advancing technology and market desire forced the issue – not to mention the exodus of nearly all of its developers starting at mid-year. Remember EGM's assertion that Sega would only continue to support the 32X so long as the market demanded it? By the end of 1995 the trades were steeped in Saturn and PlayStation hype, leaving Sega no choice but to pull the plug on the 32X.

The first source to turn to when discussing the demise of the 32X is the developers. Sega does not like to discuss the 32X for obvious reasons; company spokespersons tend to do no more than parrot press statements or what's been printed in the trades. We turned to three reputable developers – each of whom produced games for the 32X – to see what they had to say.

Virtua Fighter 32X

Eric Quakenbush spent many years in-house with Sega and was associate producer of the 32X port of *Virtua Fighter* (widely regarded as being superior to the original Saturn release), but he's best known to Sega fans for his two unreleased 32X titles, *Virtua Hamster* and *Shadow of Atlantis*. He describes the 32X as a filler product, intended by Nakayama to bridge the gap between the Genesis and whatever full-blown 32-bit system came down the line. It's a subtle, yet important distinction. "There was a dip in Genesis sales because customers were anticipating the next system," he recalls. "They wanted to get through Christmas mostly, but if Saturn had been late, then it would have probably saved the company... There weren't a lot of titles and Saturn was right on time, so I think that the 32X just went away – kind of a slap in the face to the hardcore gamers that bought it, I thought. I had hoped that Sega would give the 32X buyers a Saturn rebate or something, but I guess that wasn't feasible, since hardware is sold with almost no profit margin." One developer, at least, wasn't crazy about the way Sega treated its customers over the 32X.

Steve Palmer (aka Steve Snake), whose hit title *NBA Jam* still influences arcade-style trends in Midway sporting games, personally oversaw the porting of *NBA Jam TE* for the 32X. While he's quite fond of the system and the way in which it handled the near-perfect arcade port of his most famous game, he's

not afraid to point out its problems. "The 32X games that were released failed to give the impression of a next-generation machine. We were told to expect an arcade system at home, and instead we were treated to half-assed Genesis ports that maybe added some more colors and samples, i.e. *Mortal Kombat 2, NBA Jam TE*, etc. The release games failed to impress...and there lies the problem. Believe it or not, both *Mortal Kombat 2* and *NBA Jam TE* (I should know, I wrote the damn game) were seriously pushing the machine. But people were not impressed because they were expecting far too much from it. Over-hyping by magazines is a bad thing." Palmer's perspective was shared by Acclaim's floor reps at the 1995 Winter CES. "[It] doesn't really handle sprites all that well, and that's why they disappear (in *Mortal Kombat 2*)," one was quoted by Game Zero's Marty Chinn as saying. "It is not arcade perfect, nor is it close... In fact, (the 32X port) just draws it closer to the SNES version." In retrospect, almost all of the games released by third parties for the 32X were merely faster, slicker-looking (but not necessarily better) versions of their existing 2D games. Polygon-based titles such as *Virtua Fighter* and *Shadow Squadron* showed what the machine could do with the proper programming expertise but were few and far between. Developing for the unique hardware of the 32X required time, something which the doomed console had precious little of over its short but notable lifespan. Why? To Palmer, the answer is obvious. "Developers received 32X development kits at the same time as Saturn development kits, so everyone decided to go with the Saturn." It was a no-brainer, in his opinion, and many other developers agreed.

David Braben of Frontier Developments is on the record excoriating Sega for the abandonment of the never-released Neptune console, the all-in-one Genesis/32X combo unit supposedly slated to replace the aging Genesis and bring it into the new 32-bit world. He comments about this on the web site of his software company in his discussion over Frontier's lone 32X title, *DarXide*, which was originally slated as a Neptune launch title. "We did this game largely because we had faith in Sega's Neptune project. We had expected the Neptune to replace the Mega Drive for the same price, and stay as the

Saturn's little brother. We had thought the 32X add-on to simply be a transitional backward compatibility measure, but Sega cancelled the Neptune, which in turn doomed the 32X to failure." There was still considerable interest among developers of the day in continuing projects based on Genesis architecture; in their eyes, Neptune would have been a rather convenient path to 32-bit games. The same could be said for those gamers eagerly awaiting the Neptune, but alas, it wasn't meant to be. As for *DarXide*, its limited release (Europe only) stands as a testament to Frontier's aborted intentions.

It is a sad fact that few video game companies ever really embraced the 32X. Developers could sense the market shift to 32-bit better than anyone; they were the ones producing the software for both current and next-generation platforms, and didn't want to develop for a platform widely perceived as a mere stopgap measure. The more conservative ones either didn't mess with it at all, or gave it little more than lip service. Longtime Sega licensees grudgingly gave the 32X limited support, but rarely backed by their best programmers. It simply wasn't worth the effort. Game Players magazine sums it up well in its December 1995 issue. "The 32X has never gained full software support from any third parties. Even Sega's games mostly seem to come from the 'C team' of developers. The 'A team' is working on Saturn games. We'll never know what kind of potential the 32X possesses because of its short life. It falls so remarkably short of the Saturn and PlayStation as a 32-bit machine that, even at $200 cheaper, it's no bargain."

DarXide

The next source one should turn to when examining the 32X's demise is Sega of America. A lot of heat has been directed at Sega proper over the decision to release Project Mars as an add-on unit for the Genesis, rather than the standalone console that Sega of Japan originally intended. I discussed the topic with none other than Joe Miller himself, who was in charge of 32X development at Sega of America. Miller, the "midwife" of the 32X (as he puts it), cited four specific reasons why Sega chose to follow the add-on route with the 32X:

Existing software base: The Mars design team knew that most "early adopters" would probably already own a Genesis. Using the Genesis console as a base upon which to build would allow them "to squeeze additional functionality out of a 32-bit design." Additionally, taking the add-on route wouldn't "orphan" the existing Genesis software library – a point upon which many gamers harp whenever a console transition takes place.

Lower production costs: An add-on unit would be cheaper to produce than a dedicated console. By Miller's estimate, Sega saved as much as $80 per unit by adopting the add-on approach.

Development leverage: Existing Genesis development tools and

systems could be adapted and even leveraged into the 32-bit transition process, thus easing the strain on resources as third parties begin their transition toward Sega's 32-bit multiprocessor architecture. "We knew Saturn was going to be a very difficult machine for developers to 'grok'," Miller notes. "The tools and libraries for the 32X were going to ease our developers into a 32-bit architecture and share some of the SH2 code base."

Console lifetime extension: Provided it succeeded, the tremendous capabilities the 32X brought to the Genesis could have extended the life of the console by another three years. Miller also points out that none of the other Genesis upgrade alternatives that Sega was considering at the time were as cost-effective as the 32X. To cite an example from the personal computer industry, it has been said that the GUI-based GEOS operating system added at least a year – possibly two – to the lifetime of the venerable and popular Commodore 64. There was no reason not to expect that the same could be done for a popular video game system as well. In retrospect, Miller is rather surprised at the ire that the 32X has generated among diehard Sega fans.

Sega fans of the day have their own explanations as to why the 32X failed, of course. Daniel Mazurowski, in his 1997 article "The Hall of Shame," lists three reasons why he feels the 32X was such a "shameful" console: It didn't have a pack-in game, it required extra parts for use with older Genesis consoles, and was doomed by the arrival of "real" 32-bit consoles such as the Saturn. Let's look at each of these, and explore the reasoning behind them.

No pack-in game: By 1994, gamers had come to expect that each new system would include one or more games in the package. "Pack-ins" enabled buyers to immediately enjoy a game specifically coded to deliver an experience that only their newly acquired hardware could deliver. The 32X was Sega's first new system not to include a pack-in; this immediately hiked up the price for any Genesis gamer looking to upgrade to the 32X. With the console priced at $150, and *DOOM* or *Star Wars Arcade* priced at $65, gamers found themselves spending more than $220 for a mere upgrade – almost as much as could be spent on a different system, including pack-ins. What was the point in buying a 32X if you couldn't afford to buy a game for it, too? This issue effectively negated the system's oft-advertised lower price point in the minds of many budget-conscious Sega fans, who decided it might be better to wait until

the cost of both the system and its games came down.

32X underside

Extra hardware required: Owners of older model Genesis and Mega Drive model 1 consoles – comprising the vast bulk of the 20-odd million then on the market – soon discovered that many of the 32X retail units would not work with their aging systems right out of the box. The 32X had been designed with the Genesis model 2 in mind, and its smaller A/V port was incompatible with the older Commodore-style A/V port of the Genesis 1. A special adapter cable was required to connect the smaller A/V ports of the 32X to the larger port of the older Genesis 1. As it turned out, many of the 32X units shipped to retailers came with the Genesis 2 A/V adapters, leaving 32X units with the Genesis 1 A/V cable in short supply. Some merchants went so far as to only stock the ones with the Genesis 2 cables, hoping to force potential customers into buying a new Genesis 2, as well. If you owned an older Genesis 1 and your local merchant didn't carry 32X units with the Genesis 1 cable, you were out of luck. Naturally, Sega had extra adapter cables available for order, which tacked another $25 or so on to the total, which was now approaching $250. All of a sudden the SNES was beginning to look awfully good, with *Donkey Kong Country* obviously one hell of a game for something that was supposedly only 16-bit code.

Real 32-bit consoles: Saturn's impending release during the first half of 1995 also loomed large in the minds of Sega's American and European fans – especially those who'd opted to wait for the price of the 32X and its games to go down. The Saturn would supposedly cost around $400, but it would have pack-in games, and its on-board hardware was far superior to anything the 32X could deliver. Why pay $250 for a mere upgrade when the Saturn was

what Sega had apparently intended all along? If you were going to spend that much money on a 32-bit system, why not spend a little more and get the real thing? It was a difference of $150, but one wouldn't be wasting money on what gamers were by now calling "a throwaway product." The 32X may have enhanced the Genesis, but where were all the cool games? On the Saturn and Sony's PlayStation. 32X? Why bother?

Final verdict

"I think, in hindsight to me, the great lesson is don't ever expect an add-on device to be as important as a true, new platform. And I think that's what we had in mind. We thought were going to sell millions of those, and that was unrealistic."

- Tom Kalinske (2006)

So what's the final verdict on the 32X? Based on my research and collating the observations of those who actually worked on it and experienced it during its brief lifespan, the 32X was the wrong console at the wrong time. This isn't the same case as the Sega CD, where the market was not yet ready for a CD-ROM based console; indeed, it's quite the opposite. There was a market for a 32-bit platform, but it wanted more than just retreads of past titles. Factor in the timing of its debut – almost exactly at the same time as the Saturn and PlayStation launches in Japan – and the 32X was bound to fail. Who wanted to develop for or spend the money on a mere 32-bit upgrade when true 32-bit consoles were also available for those who wanted them? Developers ultimately rejected it as not being powerful enough, fans because it didn't offer enough – either in value or software. Unfortunately, there wasn't much that Sega corporate could do about the situation, due to production problems, lack of clarity over its future aims, and the growing feud between Sega of America and Sega of Japan over the path to 32-bit systems. Their mismanagement of these quandaries put them in an especially bad situation when it came time for them to deal with the rise of the PlayStation.

Considering all of these factors, one can blame neither changing markets

nor indifferent customers for the death of the 32X – the fault lies squarely at Sega's doorstep. Nakayama's behavior toward the one Sega system for which he can be credited as both creator and executioner evokes Bill Cosby's old line about parenting: "I brought you into this world. I'll take you out." Sega gave the world one of first 32-bit home video game consoles, but the confused manner of its birth and subsequent troubled childhood ensured a grim fate against a rapidly changing market. Sega was already making many of the same mistakes with the highly touted Saturn, and most video game fans agree that Sega soon got what it deserved. They would not begin to fully comprehend the error of their ways until they'd been all but knocked out of the market by the swiftly rising PlayStation. Sony, by contrast, did everything right: A solid 32-bit platform, excellent developer rapport, competitive pricing, and an expanding and varied library of quality 32-bit titles. One year later, Sega was sitting near the bottom of the home video game market, a victim of its own mistakes. By mid-1997, they'd begun coming to terms with the errors of their ways, vowing not to repeat them as the new 128-bit Katana project began initial design and development phases.

Did Sega learn its lessons from the 32X affair? You tell me.

32X components

32X Factoids

• Genesis 32X is the official name of the 32X in the U.S. market. In Japan, it is known as the Super 32X, and in Europe as the Mega 32X.

• At least 50 of the 32X development systems (i.e. "Mars prototypes") were sent over to the U.S. by Sega for use by its employees and licensed third parties. An unknown but lesser number remained behind in Japan; fewer still were shipped to Sega of Europe. The top of the unit remained open; the system ran notoriously hot when in use, and could not be operated for extended periods of time without provisions for additional cooling.

• The only 32X game unique to the Japanese market is *Gekijoban Sangokushi IV*, known in the West as *Romance of the Three Kingdoms IV: Wall of Fire*. The only 32X games unique to the European market are *DarXide* by Frontier and *FIFA Soccer 96* by Electronic Arts. *FIFA 96* was announced for the U.S. market, per EA's own 1995 marketing brochures, but never released.

• The single hardest replacement part to find for a 32X unit is the custom A/V patch cable that connects the 32X and the Genesis console.

• Only one Sega Neptune has been reported to be functional, although several prototypes were made. In 2001, Electronic Gaming Monthly ran an April Fool's Day prank announcing that Sega had uncovered a warehouse full of old Sega Neptunes and were selling them on a website for only $150.

Sega 32X CD

Kamikaze Console:

Saturn and the Fall of Sega

PART ONE OF TWO
(October 1993 - July 1996)

Introduction

Starting as early as 1994, Sega of Japan moved to reassert itself as the dominant force within Sega's corporate structure. Its executives had long resented the arrival and marketing tactics of Tom Kalinske, who had brought Sega to the pinnacle of its success but at great expense. Sega now had no cash reserves, and was operating under a mountain of debt that grew with each quarter. While this was not troubling news to Kalinske and his staff – deficit spending was and continues to be a staple of the American economy – it caused a great deal of concern with his more conservative-minded Japanese peers, who simply could not understand the American business axiom of "spending your way into a profit." Feeling that Kalinske was fumbling Sega's transition from 16-bit to 32-bit systems in the one market that mattered most, they began to work at convincing Sega CEO Hayao Nakayama – Kalinske's boss – that Kalinske's tactics would inevitably ruin the company. They knew that Sega had to get its act together fast in order to make the 32-bit console transition – already underway – successfully, and were thoroughly convinced that only they could provide the proper guidance in this new market. Sega of America would continue to be a useful tool, but that was all – no more American meddling. Sega of Japan was taking back the reins of power, and it would brook no discontent from the West. That was the plan, anyway. What happened next was rather predictable, and should have surprised no one.

There is an oft-quoted verse from the Holy Bible, in Proverbs 16:18: "Pride goeth before destruction, and a haughty spirit before a fall." Sega had by now

fallen into the same trap that ensnared its predecessors, Atari and Nintendo, fostering a culture of corporate arrogance. The blame for this rests largely on Sega of Japan, although in all fairness both Sega of America and Sega of Europe played their parts to the end. They blustered, swaggered and spent with the best of their Japanese peers, adding their own fingerprints to Sega's impending woes. It was only when Sega was approaching the brink that key company personnel in the West realized what was happening, but by then it was too late. Sega of Japan refused to hear what they had to say, and it was they who now held sway over Nakayama. This internal dissent ensured the company would not approach the 32-bit next-gen market in the same unified manner with which it had assaulted the 16-bit market, and would eventually culminate in a series of self-destructive mistakes from which the company would never recover. Having once led the rest of the industry into the next generation of video games, Sega was now poised for a fall as great and swift as its earlier meteoric rise to fame.

One unfortunate victim of this sad series of events is the oft-maligned Sega Saturn, arguably the best and most sophisticated 32-bit video game console to ever hit the market. The sad story of how it went from media darling to kamikaze console in just two years has never been told in full until now. It's a troubling tale of how an inferior system surpassed it to capture the hearts and minds of the masses, thanks as much to savvy marketing as it was to a series of blunders by the one company who by all accounts should have been the industry leader. Those familiar with Atari's fall from grace and the humbling of Nintendo will doubtless see many parallels in the story of Sega and the Saturn. Even in the video game industry, the words of George Santayana hold true: "Those who fail to learn from the past will repeat it." So sit back, and brace yourself for a brush with the dark side of Sega. It's not a pretty story. For the truth can be ugly, and oftentimes hurts.

The shape of things to come

The 32-bit revolution actually got underway in 1993 thanks to an old ally of

Sega's from the Genesis days. Trip Hawkins, president of Electronic Arts, anticipated the move from cartridges to CD-ROMs, and wanted a piece of the action. Backed by AT&T, Matsushita, Samsung, and Goldstar, and promoted with all the flair for which he was known, Hawkins was able to bring the industry's first dedicated 32-bit video game console to market just in time for the holiday season. Named after the Hawkins-founded start-up that developed the design spec, the 3DO was supposed to showcase the future of home video game consoles: Small footprint, CD-ROM storage, 32-bit architecture, programmer-friendly environment, and so on. Each partner in the 3DO consortium produced its own custom version of the console, all built around the common 3DO spec. Hawkins had high hopes, sincerely believing he'd beaten both Sega and Nintendo to the punch in the next round of the console wars. Hawkins and his backers, however, were in for a major reality check. The astronomically high price of the 3DO when first released (about $700) ensured that very few consoles ever sold. Add to that the major PR hype from other, more established players prepping their own 32-bit systems, and little-to-no control over the development of its software base, and it's a wonder the 3DO console lasted as long as it did. "Trying to be all things to all people doomed the 3DO system to a schizophrenic existence, and ultimately, to extinction," noted CNET Gamecenter's Jason D'Aprille. The 3DO was only on the U.S. market for about two years – overseas a little longer – despite having one of the most balanced yet diverse software lineups to ever grace any video game system.
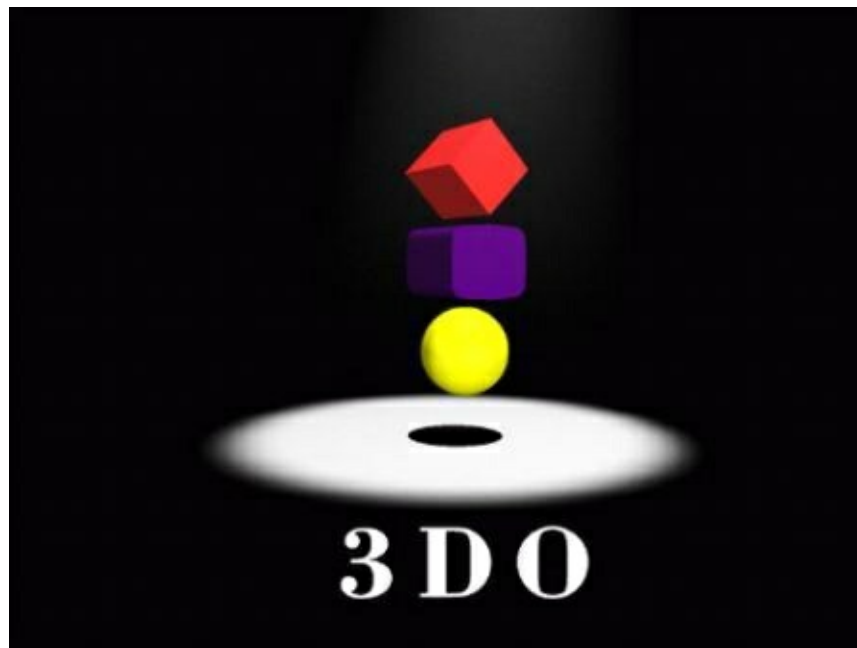
3DO logo

Nintendo, meanwhile, was engaged in a war with former technology partner Sony over a SNES-based CD-ROM console. In 1988, Nintendo had contracted Sony to develop a "Super Disc" drive for the 16-bit SNES, later revealed to the world as the SNES PlayStation, or PlayStation, for short. Nintendo intended to ship the system's CD-ROMs inside a custom caddy complete with a SNES-style lockout chip – a convoluted approach, but one that would have ensured control over the process. Sony understandably balked at this idea; it wanted to put the lockout chip in the CD-ROM drive controller, inside the console, and leave the games alone. This move would also open up the production process, and Sony quietly made plans to license production of PlayStation games to anybody they wanted. Sony president Olaf Olaffson first announced the PlayStation at the 1991 Summer Consumer Electronics Show (CES) in Chicago, proudly proclaiming that "...Sony intends to broadly license it to the whole software industry." This was anathema to Nintendo CEO Hiroshi Yamauchi, who had no intention of ceding control over any part of the process, and immediately conspired with Sony's rival Philips to publicly humiliate Sony the following day. In a press conference held at 9:00 am sharp, Nintendo's Howard Lincoln announced that it had instead signed a deal with Philips for its new CD-ROM system. The stated reason? As Philips had invented CD-ROM

technology, it could offer superior workmanship. The real reason? Nintendo refused to relinquish control of any part of its proprietary hardware. If Nintendo was going to release a CD-ROM based console, game makers would have to come to Nintendo to license it – not some overly ambitious third-party licensee. "Nintendo believes in a standard – our standard," Yamauchi later said of the affair. Sony saw it differently. "They stabbed us in the back," Olaffson told one of his confidants. The resultant legal and technical hopscotch Nintendo was forced to play pretty much assured that it would not be able to bring a decent CD-ROM system to market in time to ride the crest of the 32-bit wave. Instead, they would have to develop a completely new system from the ground up, launch it after others' had already hit the market, and pray that marketing prowess and public reputation would sell it for them. Un-rattled, and thinking they'd derailed Sony's ambitions for good, Nintendo got blithely back to business.

Sega Saturn boot screen

Realizing that revenge is a dish best served cold, Sony decided to channel the experience gained from developing for everybody else into its very own console. It knew what developers wanted (simple yet powerful, and easy to program), and what gamers wanted, too (good, and cheap). It had lots of

money and connections within the third party community, and while this would be its first ever console, Sony knew the lay of battlefield. About a year after the CES incident, Sony's Ken Kutaragi was put charge of a top-secret in-house project aimed at developing an all-new 32-bit console from scratch. It had to be inexpensive to make and sell, yet powerful enough to handle complex 3D graphics of the kind becoming increasingly common in video games. Sony scored a major coup in getting Namco into its fold early on; then again, Namco – still smarting from being burned by Nintendo over the Mega Drive affair back in 1990 – likely needed little prodding. At the same time, Sony quietly made arrangements with some of the most gifted video game programmers outside of Japan – Europe's third-party community – to develop launch titles for its new system. Psygnosis was arguably the most prominent of this lot, having already earned a worldwide reputation for its development hardware and software. Soon, like Namco halfway 'round the world, Psygnosis was developing showcase titles for Sony's still-secret wonder-box.

So where does Sega fit in all of this? Like everyone else, Sega began conceiving its own next-gen consoles in the early 1990s. The drive in color performance and speed achieved from sprite-based 2D graphics platforms at that time was something amazing, as evidenced by the amusement scene. Though it was not then known that the System 32 would prove the pinnacle of the craft, the 1990 release title *Rad Mobile* showed off the system to great effect. But it would be 1991's *Exhaust Note,* a networked racing experience utilizing dual System 32 deployment, which offered a true arcade tour de force. It is here that Sega decided yet again to bring the arcade home.

It is believed that Sega's first official spec for a 32-bit home video game console was drawn up in the back half of 1992. There is conflicting information regarding Sega's plans; however, at least one console concept exists that can fairly claim credit as a direct ancestor of the Saturn. Not surprisingly, it used plans that bore more than a slight resemblance to System 32. This was the GigaDrive, as it was known both in-house and by some industry trades of the day. The name was a wordplay on Sega's earlier success, the 16-bit Mega

Drive (Genesis), implying a system even more powerful than its venerable ancestor. Using its experience with Mega CD (Sega CD), Sega decided that now was the time to abandon the traditional ROM cartridge format for delivering console games. Mega CD (Sega CD) being for all intents and purposes an expensive add-on, GigaDrive would be Sega's first-ever dedicated CD-ROM based console. Like nearly all of Sega's arcade and console systems, GigaDrive was developed by Hideki Sato and his engineering teams. The date of GigaDrive's inception is significant; this was 1992-1993, so Sega specifically designed the GigaDrive to better the 3DO, (the only other 32-bit console available at the time). It is believed that a small number of working GigaDrive prototypes were built in 1993 to test the workability of the new design. It was also during this time that the console was given the name by which we know it today.

For most people, the word "Saturn," conjures up a mental image of the gas giant that lies beyond the asteroid belt. The sixth - and second-largest - planet in our Solar System, Saturn is bright enough to have been discovered by early astronomers thousands of years ago. It was named for the leader of the Titans in Greek mythology, the one supposed to have fathered the race of the gods. Its ring system – first observed by Galileo in 1616 – is the trademark by which the planet is best remembered. Because of this, it is often considered to be the most beautiful planet in the Solar system. Comprised of millions of gravity-trapped asteroids, chunks of interstellar ice, and other cosmic debris, these rings appear as a giant disc encircling the planet's equator when viewed from Earth. Perhaps this is why Sega of Japan took the name for their system; it was the planet of the giant disc, a mental image to help reinforce the fact that the console would utilize the new storage media of CD-ROM, instead of cartridges. Even the console's logos – both East and West – pay subtle tribute to the planet. Whatever the reason, the fact that they already had a console coming to market named after one planet (Project Mars, aka 32X) – and now were going to release another (Project Saturn) – led many industry pundits to conclude that Sega was basing its new systems' names on the Solar System.

Thus was born the myth of the "planet projects," although it must be said in all fairness that Sega went ahead and played along with it. They knew their reputation with both the industry and gaming public wasn't what it once had been, and so decided to accept any free publicity that came along, even if that meant perpetuating an unfounded myth. And with that, other consoles in the "planet series" (Venus, Jupiter, Neptune, Pluto) also made their public appearance in like fashion.

Saturn

What many today fail to realize is that the Saturn Sega of Japan conceived of in 1993 was not the console that made it to market in 1995. According to some accounts, the original Saturn spec owes much of its design to two of Sega's newest arcade boards at the time. Both Sega System32 and its immediate successor, the famous Sega Model 1 arcade board, were based around the 32-bit NEC V60 16 MHz CPU. Both designs had single CPUs, single VDPs, and fairly straightforward design architecture. System32 was Sega's ultimate 2D video game board, whereas Model 1 had been developed exclusively for games with 3D polygonal graphic engines. Only four games were made for Model 1 before Sega quickly moved on to its successor (the more powerful Sega Model 2), but all four just happened to be the best 3D arcade games available at the time. One of these was Yu Suzuki's *Virtua Fighter*, which had already gained a worldwide following. Basing its home systems on proven arcade hardware was a time-honored concept with Sega,

and it wasn't about to stop now.

There has been considerable debate as to which of these two boards actually served as the basis for the original Saturn; however, there is little debate that the Saturn as originally designed was far less powerful than the final result. Reports indicate that Sega of Japan originally intended the Saturn to be the ultimate 2D video game console, with 3D games more or less an afterthought. This was actually on par with the 3DO and Nintendo's aborted effort. As it turned out, this emphasis on 2D over 3D was also Sony's original plan with the PlayStation. The reason Sega and other early 32-bit system vendors favored 2D over 3D was simple: 3D hardware was expensive to produce and vend, as Sega knew all too well. Even so, assuming that the Saturn was intended to handle 3D games from the onset and matched the more powerful specs of the Model 1 board, with its then-revolutionary 3D graphics capabilities, you still wind up with a single-processor design far less capable than what Saturn eventually became. So how did the Saturn evolve from relatively simple architecture into "the mess" it eventually became? That's a good question, and quite a story in and of itself.

Back to the drawing board

The fourth quarter of 1993 would prove crucial for all of the major players in the video game industry's then-current "next-gen wave." Matsushita, the parent company of Panasonic, released the very first version of the 3DO in the U.S. in October, with Japan and Europe seeing the system the following March. The console itself would not prove all that successful compared to others of its generation, but a proliferation of Asian adult-themed software would help boost Far East 3DO sales toward respectable levels. While other titles in other genres would be produced, adult software, coupled with the non-restrictive development policies behind the system, was one of the primary reasons the 3DO performed as well it did, despite its many other problems. An interesting footnote for an otherwise uninteresting system.

Virtua Fighter cabinet

Nintendo, resurgent ruler of the video game roost, abruptly cancelled its SNES "Super Disc" drive system the following month, offering no official explanation as to the sudden change of mind. The news came in the wake of continued assurances that the company had definite plans for CD-ROM media and was continuing development of the system. Why the abrupt about-face? Nintendo had finally come to realize that it had missed the chance to join the 32-bit revolution at its most critical juncture. As the competition would be fighting it out on the front end of the next-gen wave, the best thing to do was to batten down the hatches until its own new system, Project Reality (aka the N64) was ready for market. It would be the last of the next-gen systems to arrive, no earlier than 1995 at best estimate, but the company would have time to refine its design and learn from its competitors' mistakes. It was a good thing that Nintendo had the deepest pockets of any player in the field save newcomer Sony; it would be a very long wait for a next-gen Nintendo console.

Sega Model 1

Now the number two player on the field, Sega still enjoyed a worldwide reputation for programming excellence. November of 1993 saw the arcade debut of Yu Suzuki's *Virtua Fighter*, arguably the most revolutionary fighting game to hit since Capcom's *Street Fighter 2*. While the setup and gameplay itself were really nothing new, the full-screen, full-color, fully rendered 3D polygonal graphics were, blowing just about everyone away. Nobody had really talked about arcade hardware until *Virtua Fighter* came along, but all of a sudden the term "Sega Model 1" was on many gamers' reverent lips. Little wonder, then, that Sega also got a lot of attention when it announced the Saturn home console that same month. In the months that followed, *Virtua Fighter* would become the new holy grail of fighting games, making it obvious to all that Sega must have a Saturn port in the works – it would make an ideal launch title.

Recall that – as intended – the original Saturn was to be the ultimate 2D gaming powerhouse, with "modest" 3D polygon capabilities. 3D hardware like the Model 1 was expensive, and Sega wanted to keep costs down. It had no intention of going through the same tribulations that Trip Hawkins and his 3DO backers were currently suffering…until the success of *Virtua Fighter.* With just one game, Sega had just raised the bar for everyone's next-gen consoles, its

own most of all. 3D gaming capability was no longer an option, or an expectation – it was now a virtual requirement. Gamers looking forward to Saturn's debut prayed that its trumpeted 32-bit horsepower would be sufficient to support a good port of their favorite arcade fighter.

Tom Kalinske, with his keen sense of business and market trends, was one of the first to pick up on this change in market expectations, moving to put Sega in the best position possible to act upon it. His connections within the industry naturally led him to Sony, who – recently spurned by Nintendo – was looking to enter the console business. Kalinske saw a grand opportunity for Sega.

"We got together with [Sony] and defined what we'd like to see in our next hardware. We had this great idea that it should be a joint SEGA-Sony hardware system. If we had to take a loss on the hardware (which was the norm then), we'd split the loss on the hardware, but we wouldn't split software, so any software they did, they'd get 100% of the profits, and any software we did, we'd get 100% of the profits. It seemed like a fair deal since we were eons ahead of them in terms of software development. …So we go to Japan, and Sony management liked the idea. Then we went to SEGA, and Nakayama hated the idea. [laughs] So that was the end of that, and the rest is history once again. Those were the specs that became the PlayStation."

- Tom Kalinske

While Kalinske's efforts to put Sega ahead of the leading edge of the 3D trend were foiled, the seeds he'd planted at Sony soon bore fruit. As it turned out, Sony executives were at odds with their own R&D department over what its new console should be. They were still enamored of the original (and inexpensive) SNES PlayStation concept. 2D graphics were still the mainstay at the time; however, more perceptive minds – such as Kalinske and Sony's Ken Kutaragi, chief engineer for the new console – knew better. Sony executives did not want to "needlessly" waste money on an expensive 3D platform, but the enthusiastic market reception of *Virtua Fighter* had changed the playing field.

2D was out, and 3D the new "in." It was no wonder that Kutaragi pushed hard for PlayStation to have 3D as one of its chief selling points. *Virtua Fighter*'s impressive 3D graphics were revolutionary at the time and set the standard, he argued, on where the market was heading. Hearing essentially the same thing from one of Sega's own chief executives – a former ally and potential competitor – only served to drive Kutaragi's point home with Sony's corporate staff. After negotiations with Kalinske and Sega fell through, they relented, letting Kutaragi and his R&D team have their way. PlayStation would be first and foremost a 3D video game system. Years later, former Sony Computer Entertainment chairman Shigero Maruyama would say this about the situation.

"Once Virtua Fighter was out, the direction of the PlayStation became instantly clear. With great timing, Sega saved our hides."

The irony here is that Sega's own *Virtua Fighter* – having initiated such a drastic shift in its perceived market – made its own new 32-bit console obsolete virtually overnight.

Sony PlayStation CPU

November of 1993 saw Sony make its formal entry into the 32-bit console sweepstakes, announcing the formation of a new division, Sony Computer

Entertainment (SCE), responsible for the corporation's computer-related ventures. The first project on the drawing boards was its new 32-bit video game console, revealed to be already under development. Referenced variously as "PSX" or "PS-X" in trade reports of the day, this was the system that would eventually be called PlayStation – a thumbing of the nose at Nintendo for all the trouble it had caused Sony. Sony had the money and marketing muscle; more importantly, they had both the machine and the software to go with it. The official system specs were released in December of 1993, causing jaws to drop upon realizing what Kutaragi and his team had wrought. PlayStation was a jack-of-all-trades, with top-of-the-line integrated RISC architecture that bettered anything currently or soon-to-be available on the market. Its 2D graphics outstripped those of the SNES, its 3D graphics were as good as or better than Sega's arcade offerings or high-end PCs had to offer, and its speed easily outpaced the aging Genesis. Its ability to handle complex 2D and 3D processing appeared without equal, and its double-speed CD-ROM drive ensured faster loading times than the aging, quirky competition from Sega and NEC. Best of all, the development libraries Sony already had on hand for potential third-party supporters made the new console dreadfully easy to program, giving the PlayStation greater appeal within the video game industry than Trip Hawkins and his 3DO team ever dreamed. Sony hoped to win away developer support from Sega and (especially) Nintendo, and succeeded. As 1994 began to unfold, one third-party vendor after another began to express public support for the new kid on the block, and all it had to offer.

It has been said that when Hayao Nakayama finally realized just what Kutaragi had created, he summoned his entire R&D department and proceeded to give them the chewing out of their lives. One Sega staff member at the time would later recall that Nakayama "was the maddest I have ever seen him." Nakayama had obtained a copy of the design specs for the PlayStation, and – having compared them to the Saturn – knew without a doubt that they'd blown Sega's chances of seizing the 32-bit market the way it had

the 16-bit market just five years before. Sega was now in trouble, and the root of its problem was raw 3D processing power.

The Saturn was not originally designed as a 3D powerhouse; the original spec had been for a powerful 2D machine with 'modest' 3D capability – in other words, a platform similar to its System32 arcade architecture. It appears to have been originally designed around the 16 MHz NEC V60, a traditional CISC-type CPU that had been the first 32-bit microprocessor widely available in Japan. In contrast, the PlayStation was intended as a high-end 3D machine from the start. It was built around the 33 MHz MIPS R3000A, a superior version of the R2000 RISC-type microprocessor Silicon Graphics had been using in its SGI workstations for years. The NEC V60 was rather obscure, whereas the MIPS R3000A was one of the mainstay processors in the CAD/CAM industry. It had replaced its venerable ancestor, the R2000, on the budget end of the scale, and was utilized in such notable graphics workstations as the Silicon Graphics Iris Indigo. Sony had been working with and manufacturing MIPS processors for years, so its engineers were fully aware of what the R3000A could do – and how to do it. And with this in mind Sony's PR department began to hype the console's theoretical limits for all they were worth.

Sony PlayStation

The PlayStation's Geometry Transfer Engine, specifically designed by Sony engineers for the console, supposedly gave PlayStation the ability to crunch 66 million instructions per second (mips), tossing out a theoretical maximum of 1.5 million flat-shaded triangular polygons and 500,000 texture-mapped and light-sourced polygons per second (pps). As given, those figures more than doubled

the maximum capability of Sega's vaunted Model 1 arcade board. While programmers who actually knew the hardware vociferously argued over Sony's numbers (some still do), they weren't the ones looking at the paperwork. Ill-informed industry reporters and corporate types were, and the numbers Sony shared seemed to lead to an inescapable conclusion: PlayStation seriously outclassed the Saturn. To many, as far as the 32-bit race was concerned, Sega wasn't even in the running. Nakayama promptly charged his engineers with the daunting task of fixing Saturn's problems in less than a year...or else. While he may not have entirely agreed with his superior's rationale, Hideki Sato and a handpicked team of 27 engineers (known as the "Away Team") nevertheless got immediately to work.

A widespread misbelief pervades the video game community today that all Sega did in its attempt to fix Saturn's problems was to slap in another CPU and an extra VDP. While this is true in a sense, it's only part of the story. The Saturn was more or less torn apart, redesigned from the ground up with a single goal: Compete with the PlayStation. There wasn't time to carefully craft an all-new, highly integrated 32-bit design using the best components available (like Sony had done). The announced launch of the Saturn was less than a year away – November 1994 – and Sony was slated to release the PlayStation at the same time. A redesigned Saturn that could go toe-to-toe with the PlayStation – on deadline – would have to be made from whatever off-the-shelf parts Sega had available, and this is where parallel processing enters the picture. Away Team felt the technique to be the most expedient shortcut towards getting a redesigned, reasonably priced 32-bit console out the door in the shortest amount of time. Instead of the single NEC V60 of the earlier arcade boards, they opted for beefed-up dual Hitachi SH-2s in parallel, each of which could be programmed for dedicated tasks. Parallel processing was a familiar concept to Sega's engineers, and many of its arcade hits from the 1980s – such as *AfterBurner II* and *OutRun* – utilized twin Motorola MC68000s in their board design. The Mega CD (Sega CD) can in fact be said to be Sega's first-ever dual processor console, since its internal MC68000 worked in

tandem with the MC68000 of its host Mega Drive (Genesis) console. The Saturn was to be Sega's first purpose-built dual-processor console, directly opposing a proposal already submitted by Tom Kalinske and Sega of America. They had contacted Silicon Graphics, one of the companies behind the PlayStation's 3D graphics capabilities, in order to come up with a simplistic, single-chip alternative that that they were convinced could compete with PlayStation. Interestingly enough, Kalinske's 1994 proposal for the Saturn resembles Sega's next and final console, the Dreamcast.

"We went down the road to Silicon Graphics and met with [SGI founder] Jim Clark. They had bought MIPS Technologies, and they were developing a chipset for use in a game machine. We liked it, so we called up the Japanese guys to come take a look at it. The hardware guys came over, and they really pooh-poohed the whole effort. The chip was too big; there would be too much waste; lots of objections from a technical standpoint. It was upsetting to us, because we thought it was better in terms of speed, graphics, and audio. … So, the SGI guys went away and worked on these issues and then called us back up and asked that the same team be sent back over, because they had it all resolved. This time, Nakayama went with them. They reviewed the work, and there was sort of the same reaction: still not good enough. …So after we had this meeting, I had to report back to Jim Clark, who was then Chairman of Silicon Graphics and tell him that SEGA wasn't going to be buying, and he asked, 'Well, what should I do now?' and I said, 'Well, there's this other game company up in the Seattle area. I think their name starts with an N.' And of course, he did. He went up there and sold it to them, and that, of course, became the foundation for the Nintendo 64."

- Tom Kalinske

"The Japanese are making the decisions for the U.S. market," Kalinske later grumbled, "and they do not know what they are doing."

Sega Saturn CPU

Unfortunately, Sega's decision to convert Saturn into a dual-processor system wound up a nightmare for early third-party developers. The parallel processing issue, with regard to both the dual CPUs and dual VDPs, was probably the first real problem to manifest. The theory was simple enough: Individual system tasks could be broken down and split among the various processors for greater processing efficiency. But it was no easy task getting all that hardware properly synched and singing in harmony; academics may have been playing with parallel processing for years, but not so the rest of the video game industry. Remember, this was during a time when lower-cost, single-chip CPU systems were dominant, and multi-processor designs a rather expensive prospect. Today's multi-core CPUs were still only a distant dream in 1994. Sega may have had experience with the concept; not so the new bloods at the software houses. Many of these developers would eventually content themselves with using just one of each of the CPUs and VDPs, deliberately limiting the system resources available to them, and the games as well. Even upon managing to deliver a good game, they would argue that the extra coding effort involved in "working around Saturn's architecture" resulted in a 25% drop in overall system efficiency due to shared resources, mitigating the benefits

parallel processing was supposed bring.

More capable Saturn coders maintained that this was complete nonsense – a poor excuse from "crap programmers" incapable of managing the Saturn's "beautiful design" – but those (few) voices tended to be drowned out by the rest. It was the opinion of most programming experts at the time, including the likes of Sega's Yu Suzuki and Bullfrog's Peter Molyneux, that the only effective way to produce a good, fast game on Saturn competitive with a comparable PlayStation title was by programming in pure assembler. The following quote by Sega's own Yu Suzuki first appeared in NextGen (Next Generation) magazine.

"Trying to program for two CPUs has its problems. Virtua Fighter *uses a different CPU for calculating each character. The two CPUs start at the same time but there's a delay when one has to wait for the other to catch up. One very fast central processor would be preferable. I don't think that all programmers have the ability to program two CPUs - most can only get about one-and-a-half times the speed you can get from one SH-2. I think that only one out of 100 programmers are good enough to get that kind of speed out of the Saturn."*

Sony, on the other hand, had made things easier for third parties by setting up its development libraries in the C programming language (instead of assembly language). Most of the "crap programmers" naturally gravitated toward the system that was easier to code. A lot of their employers did, too, much to the chagrin of more talented programmers, who continue to argue to this day that Saturn's dual processing design made it the better of the two machines. Saturn may have been equal – even superior – to the PlayStation at the assembly language level, but Sony had effectively changed the field in its own favor. Video game programmers were happily adjusting to coding in C, and didn't want to go back, leaving fewer studios willing to wrestle with the untapped potential of Saturn's dual-processor architecture.

Sega Saturn Motherboard

Saturn's twin VDPs resulted in its own unique issues insofar as the console's graphics capabilities were concerned. In theory, Saturn now had the exact same 3D processing capability as the PlayStation, significantly more 2D sprite capability, and far more graphics computational capability. This tends to get lost in the shuffle whenever the console specs are compared side-by-side. According to some trade publications, the VDPs used by Sega for its hardware did not perform 3D processing in the same manner as everyone else's. They calculated surfaces in "quads" (four-sided sections) instead of "polys" (three-sided sections); any straight comparison of polygon count was pretty much useless. In theory, using quads instead of polys gave the Saturn a 3D processing boost; in reality, apparently, developers used to standard polys found it difficult to readjust their mindsets. Publications such as GamePro and Game Informer took ran with the comparison for all it was worth, inflating public perception that Saturn's graphics hardware was inferior to that of PlayStation. It wasn't true, and the comparison was flawed, thanks to a basic misconception of how each machine performed graphics processing. Both systems worked with quads; however, the hardware of the PlayStation's GTE tended to "tear" and "warp" its quads – hence the tendency of its programmers to stick with polys. Saturn was fully capable of doing polys, but had been

designed to achieve its best performance with quads – naturally, its programmers were encouraged to work with quads. In reality, the difference between the two systems was not in how many megahertz their CPUs could crank or how many vertices their GPUs could count. It was in the effects that each added to the graphics they generated on-screen. There were many things that the Saturn's raw processing power could accomplish through pure software – texturing and shading, lighting effects, MPEG playback – but few programmers bothered to learn how to do them. Saturn's twin VDPs could even be independently programmed for dedicated tasks, but this feature ended up underexploited due to difficulties in properly tasking and synching them. Only rarely did third-party Saturn efforts compare favorably to their PlayStation cousins after full-blown development for both systems got underway, and it would be long after launch that Sega could release an SDK that truly permitted developers to start unlocking Saturn's deep resources.
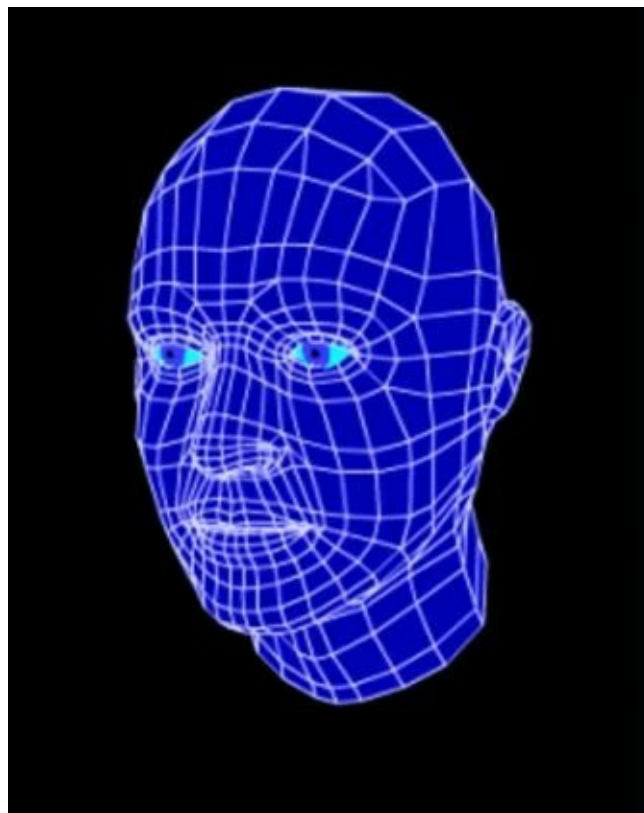
Face Rendered in Quads

"Sega has tremendous engineering and technology capability. It's an

interesting situation that really comes out of our coin op business. Basically, due to the coin op business we have this ability to translate and transpose the engineering know how into consumer product, consumer oriented product. Sometimes we become over-sophisticated and think anybody can understand the operating system and thereby program for it."

- David Rosen

That proved to be the heart of the matter: Proper parallel processing requires a suitably developed and exploited programming environment, something unavailable to the typical programmer prior to the Saturn's launch, and after. Sega didn't have the time to create a good parallel programming environment; its third party licensees lacked the resources to properly exploit the system in their first-generation efforts. Sony, on the other hand, made damn sure that the PlayStation's development environment was set up and ready to exploit as soon as physically possible; most software companies were able hit the ground running, even when staffed with sub-par programmers. The lack of a sophisticated programming environment was a fatal flaw for Saturn from the start, and if Sega had managed to find the time instead of putting this task off for about a year...well, things might have gone quite differently than they did. Veteran programmer Steve Palmer, author of the classic sports video game *NBA Jam*, who developed for both systems, sums up the Saturn development problem quite well.

"Sega gave us exactly what we wanted; however, the industry changed at exactly the same time, so we no longer had a choice in the matter. Things suddenly had to be finished yesterday. Sega could not have foreseen this change... Most of the third-party crowd couldn't get it to do what they wanted it to do quickly enough, so they didn't bother. It's amazing, because it didn't require much effort to get the machine to perform on a PlayStation level. Programmers being programmers, though, they probably were not happy unless they felt they were pushing the machine, and it seemed like too much effort to do that. To learn to program the Saturn was to learn the machine. To

learn to program the PlayStation was to learn C. Learning C is much easier than learning the hardware of a new machine, and with the Saturn, there was a lot of hardware to learn...”

There simply wasn't enough time for Saturn's potential programmers to learn the hardware. The same would have been true of the PlayStation, only they didn't need to learn it; the libraries took care of that for you. Sega's approach was to release hardware documentation for every aspect of the Saturn. An understandable move – it was the way everyone had done it before, and what programmers were used to – but the industry had changed. Video games were no longer a "niche" market, and the "big boys" had moved in. Time being money, no one was given the time to learn new hardware anymore. Jon Burton, programmer at Traveller's Tales, which developed for both Saturn and PlayStation, had this to say in a 1997 interview with Sega Saturn Magazine:

“The PlayStation is easy to get started on but you quickly reach the limits of the polygon performance and there are few tricks you can do to improve the graphical look of the game. The Saturn is more complicated to get to grips with but it has Playfield hardware, Slave and DSP processors and nice transparency effects which all improve the speed and look of a game when all used together correctly.”

By the time Hideki Sato's engineers at Sega got through with it, the redesigned Saturn had become a machine fit – on paper – to compete with PlayStation. However, the result was a system with a higher shelf price than Sega would have preferred, and had sacrificed its previously close-knit and programmer-friendly design architecture for the sake of market expediency. These two issues would lead to all sorts of problems once the Saturn finally cleared the prototype phase and headed for the production lines.

In May of 1994, the American video game industry was abuzz over the 32X, the end result of Project Mars and the current darling of the U.S. video game community. Rave reviews about the new system and its up-and-coming games

filled the trades; it looked like Sega of America just might be able to hold its own against the threat of *Donkey Kong Country*. At the same time, though, the Japanese press was excitedly talking up the two new 32-bit CD-based video game consoles coming out in the fall. The first, from upstart Sony, was an unknown commodity, but certainly looked promising. The other was from Sega, a tried and true veteran of the console wars, and the company's reputation for gaming excellence preceded it.

A console in arcade clothing

While the processor application and the general deployment of a slick, cost-effective and powerful console system captured many minds, there is another aspect of the PlayStation's success rarely commented upon. In 1995, Namco took a shot at the success of Sega's *Virtua Fighter* series with *Tekken* (Iron Fist), raising the bar for 3D games. The fighting genre drive the transition from single-color polygons to texture mapped models. Along with *Ridge Racer* on Namco's System 22 (the board that would directly influence the later System 11), Namco games became the benchmark for 3D graphics. System 11 represented a move by Sony to work hand in hand with Namco to create new graphical hardware that would eventually migrate console systems. Once again, a near-perfect arcade conversion would play a part in a new video game console's popularity, only this time, Sony – and not Sega – would be the beneficiary.

Namco System 11 motherboard

Namco's System 11 was actually a prototype PlayStation in disguise. Use of SGI hardware for Namco's new arcade board – the same hardware later used in PlayStation – would help drive the overall trend towards 3D graphics in the Japanese arcade amusement industry. This was the same hardware being used by Evans and Sutherland for its military-grade flight simulators, considered among the best of their day. Thus, the acceptance of 3D as a whole and SGI processors in particular allowed Japan's arcade video game industry to begin delivering high-quality, relatively realistic 3D arcade experiences for the first time. The early, colored polygons were soon replaced by ever more sophisticated texture mapping techniques. Polygon count would be increasingly reduced as faster, more capable processors became available. As a result, 3D objects became less blocky, smoother and more realistic. They could move in a realistic fashion, too; new 3D processors could handle realistic 3D animation and relativistic motion paths. It was a graphics revolution that would significantly reshape the video game industry. And both Namco and Sony would reap handsome profits from their efforts, at the expense of their rivals.

And what of Sega, the pioneer that started all of this with its Model 1

board? That development path eventually proved a dead end. Sega's rejection of SGI hardware in favor of its own, in-house architecture doomed most of their efforts to compete with the 3D graphics revolution, because – as Sony would do with its PlayStation licensees – Sega's arcade competitors were working with similar hardware and a set architecture standard (JAMMA). This Sega initially refused to do; the isolated corporate culture of Sega of Japan had not only rejected Kalinske's proposal for its new console, but also the promised profits that the new 3D architecture he was championing would eventually bring at home and in arcades alike. Namco System 11 architecture and the Sony PlayStation – its consumer counterpart – would go on to become a rousing success in the arcades. In the meantime, schizophrenic Sega spent the next few years trying to make up its mind whether to stick with the in-house architecture it favored – and the public was now beginning to reject – or abandon it entirely, and skip ahead to the new next generation. It was the same situation Nintendo had faced with the failure of its SNES PlayStation, only Sega was experiencing it with its arcade hardware, and would soon feel its effects on the Saturn. Sega's failure to grasp the changes underway in both the home console market and the arcades was its second major mistake with the Saturn, and there were more to come in the days ahead.

Locked and loaded

With Sega of Japan scrambling to rebuild Saturn from the ground up, the video game industry was abuzz over the impending console war. No less than nine new systems were either already out or in the release pipeline; prominent among these was the Saturn. Video game industry insiders correctly surmised that Sega would be the only real competitor to Sony's wonder-box over the next two or three years, despite the best efforts of the rest. Sega had the reputation, the programming expertise, and an established market niche to provide their 32-bit console an initial beachhead. All Sony had at this point was hype, but lots of it. Things were looking good for Sega in 1994. Had it played its cards right, got the Saturn ready in time and out the door with a decent

selection of software – and a killer app to boot – it could have stopped Sony's dark horse right from the start.

February of 1994 saw the Asian gaming press go wild with speculation about the Saturn's gaming capabilities. Gordon Craick of Frontier Console Magazine, an Internet video game fan effort, was busy monitoring these reports, and those now beginning to appear in Western trades. He went so far as to predict that the Sega Saturn would have the home console market sewn up by the end of 1996. March was a key month for Saturn. By this time, Sega's engineers had the console redesign finished, and had shipped a number of working prototypes along with the system's first SDKs to select third-party developers all across Japan. From an initial set of specs for these prototypes released by Sega of Japan to the public, one can see the drastic changes from the simpler GigaDrive concept mere months before.

Japanese Model 1 Sega Saturn

SEGASATURN

Component	Description
Processors	• Two Hitachi SH2 7604 32-bit RISC CPUs at 28.63 MHz • Two Custom VDP 32-bit GPUs at 28.63 MHz • Custom SCU at 14.3 MHz • Motorola 68EC000 sound controller at 11.3 MHz • Yamaha FH1 DSP sound processor at 22.6 MHz • SH-1 32-bit RISC security microcontroller • Hitachi 4-bit MCU peripheral controller
Graphics	• 16.7 million colors • 200K textured polygons • 500K flat shaded polygons • 320x224, 640x224, and 720x576 supported resolutions
Sound	• 32 channel stereo sound • PCM and FM sampling at 44.1kHz
Memory	• 1 MB SDRAM as work RAM for both SH-2 CPUs • 1 MB DRAM as work RAM for both SH-2 CPUs • 512K VDP1 SDRAM for 3D graphics • 2x 256K VDP1 SDRAM for 3D graphics • 512K VDP2 SDRAM for 2D graphics • 4 KB VDP2 SRAM for color palette data • 512 KB DRAM for sound • 512 KB DRAM for the CD-ROM • 32 KB SRAM with battery back-up for data retention
Connections	• Two 7-bit bidirectional parallel I/O ports • Cartridge connector • High-speed serial communications port • Internal expansion port for optional MPEG adapter card
Storage	• 650 MB CD-ROM
Other	• Up to 4MB RAM expansion via cartridge

A release date of September 1994 was set for a Japanese launch, and March of the following year for Western shores. The Sega PR machine entered full spin mode at about this time, relentlessly touting the capabilities of its new 32-bit console, and its superiority to the company's own Model 1 arcade board. While tacitly admitting that the console they had announced "would not be quite as powerful as Sony's machine," they made it clear that ports of *Virtua Fighter* and *Virtua Racing* would be as launch titles. Breathing a collective sigh of relief, Sega fans around the world began socking away even more money. The rumored price of Sega's newest console was steep – $400-500 – but if it could play the best, current arcade games, well then...cool!

Word also leaked that Sega was planning some kind of upgrade path for Genesis owners so they could catch the 32-bit wave; also good news. The Sega engine seemed to be hitting on all cylinders as it set its sights on the next-gen systems.

North American Model 1 Sega Saturn

In April, a number of mainstream video game magazines leaked what they believed to be an exclusive scoop concerning Sega's 32-bit console plans. The existence of Project Jupiter was revealed to the world; presumably a less sophisticated version of the revamped Saturn, and based on tried-and-true cartridge technology instead of the CD-ROM format. What the media did not know was that their "confidential sources" had apparently confused ongoing work on the 32X over at Sega of America with an entirely new system. This appears to have been due to the fact that both the 32X and the revised Saturn had somewhat similar system architecture. The 32X design had by now solidified into the twin Hitachi SH-2 spec Sega of Japan's engineers had pushed for; someone with inside contacts at Sega of America presumably pulled out some crafty guesswork and put two and two together. Unfortunately, they came up with three, not four, but it was to be expected. Sega may have trusted its American division to some extent insofar as the 32X was concerned, but it was playing the Saturn as close to the chest as possible. So goes the video game industry rumor mill: the nub of truth at the heart of the matter may be something else entirely. In an ironic twist, that 32-bit speculation would

eventually materialize the following year as the unreleased Neptune console, itself a derivative of the ill-fated 32X.

The end of spring brought with it the 1994 Summer Consumer Electronics Show (CES), held June 23-25 at the Chicago Hilton in Chicago, Illinois. Sega had been expected to use the show to formally announce its 32-bit plans, but instead sat out most of the weekend's events save for some low-key 32X hype. Instead, the console part of the show was stolen by a resurgent Nintendo and its latest video game, Rare's *Donkey Kong Country*. Nintendo also used the opportunity to let the rest of the industry know that it would be sitting out the 32-bit console war. Its newest system, Project Reality, would not launch until well after the Saturn and PlayStation; a smoke-and-mirrors demonstration alluded to what it would be. Nintendo's new console would be unlike those of Sega and Sony in two important aspects: It would be a 64-bit system, and Nintendo was sticking with cartridges instead of CD-ROMs. Ever the control freak, Nintendo had good reason for doing this: CD-ROMs were dreadfully easy to copy, and with cartridges, Nintendo could squeeze a little more blood out of the turnip by maintaining control over the game manufacturing process. The industry accepted Nintendo's decision to skip the leading edge of the new console war, but there was a lot of grumbling about their choice of format. Sega Saturn engineers, meanwhile, breathed a collective sigh of relief over having one less competitor to worry about. All of the Saturn's ammunition could be saved for the only one left – and the only one that really mattered. With CES behind them, Sega's Japanese executives went home and focused themselves on the next few months. Every day in the weeks leading up to Saturn launch day was critical. So much to do, so little time.

The Sega Saturn launched in Japan on November 22, 1994. The prospect of owning an arcade-perfect copy of *Virtua Fighter* had spurred marked interest among Japanese gamers, so much so that over 120,000 Saturns had been preordered, and lines had begun to form at stores prior to launch. At one store, over 500 people waited in line for two days, hoping to grab one of Sega's new consoles before they sold out. All of this in spite of an initial asking

price of ¥44800 ($490) – the steepest ever for a Sega console, and all without a pack-in title. Sega was ready for the rush, though – or at least thought it was. Over a quarter of a million Saturns had been readied for immediate sale, along with an equal number of copies of *Virtua Fighter;* all were sold out in just two days.

Japanese Model 2 Sega Saturn

The Japanese launch of the Saturn has been called the most successful Sega would ever enjoy in its home country. Saturn led the market in console sales for the next six months, thanks largely to *Virtua Fighter*, and despite the launch of the Sony PlayStation about one week later on December 2, 1994. According to official Sega of Japan figures, Saturn outsold the PlayStation by an almost 2-to-1 margin during those first six months. The Japanese video game press was ecstatic, and so were Sega's accountants. It seemed the 32-bit wave was about to break Sega's way. All was going to plan, and there was nothing to fear from Sony's little grey box. There was just one problem with this picture: Sega's figures weren't quite what they seemed.

Sega of Japan had adopted the industry standard practice of using the number of consoles sold to retailers as the basis for its launch success. It wasn't their fault – everybody did and still does it – but it gave a distorted picture of just how well the Saturn actually sold over those first six months. Had they figured out the number of consoles sold through to customers, the story would have been quite different. The PlayStation was actually the more popular

of the two new next-gen systems among Japanese gamers. Sony has claimed that as many as 97% of the PlayStations distributed to vendors wound up in the homes of Japanese consumers; more conservative independent analysts estimate 85-90%. In stark contrast, at least one-third of the Saturns Sega had shipped remained on retail store shelves, gathering dust. Why? Again, a lack of software. *Virtua Fighter* was pretty much the only game in the Saturn launch lineup worth buying. Other big titles such as *Daytona USA* and *Panzer Dragoon* were experiencing production delays, which only helped boost PlayStation Sales. A number of American industry watchers picked up on these small yet important facts, but their warnings were for the most part drowned out by Sega's own hype, and the media's dutiful repetition of it. A small oversight concerning sales figures didn't really matter to Sega's board of directors – after all, the consoles had been sold. In the mind of Nakayama and his fellow executives, Saturn had been a smashing success, one they could pull off again in the world's most profitable video game market - the United States. This would be yet another mistake in the Saturn debacle – a critical one – and would not be the last.

Trial by fire

1995 began with high hopes and expectations from those in the video game industry for the arriving 32-bit next-gen wave. This time, there would be an audience ready and waiting, one weaned for years on a steady diet of video games. It would mark the fourth generation of video game consoles in the United States in less than two decades, and promised the most sophisticated experience yet. For the first time, consoles would be sufficiently powerful to recreate – and possibly surpass – the 3D visuals commonly seen in high-end personal computers and arcade games of the day. To quote GamePro magazine, "The dreams of the '80s will come true in the '90s as the technological limits that have held back hardware are overcome during the next several years. Say hello to 32-bit, 64-bit, and higher-bit systems with standard features like 3D capability, full-motion video, 16 million colors, graphics

coprocessors, voice recognition, and more." The first 32-bit console to successfully channel all of that into captivating its audience would win the third great console war. All that was needed was an affordable price, a good software base, and one or more killer apps. To quote General Nathan Bedford Forrest, one of the true military geniuses of the American Civil War, who would be 'firstest with the mostest?' The early birds had landed, and were already undergoing widespread consumer rejection. Now it was time for the big boys, and their first showdown would take place at a brand-new electronics show to be held that spring. The very first Electronics Entertainment Expo (E3) would be held at the Los Angeles Convention Center on May 11-13, 1995. It promised to be one hell of a show, and an opportunity for computer and electronics vendors – many of whom felt they'd been slighted at CES events in the past – to strut their stuff for all it was worth. Video game industry watchers were predicting that the vendor whose system triumphed at E3 would go on to dominate the home console market for the rest of the year, and perhaps the rest of the cycle, too.

E3 logo

Sega entered the U.S. market hot off of the successful launch of Saturn in Japan, itching to do battle on turf it felt it practically owned. To that end, it released the Saturn White Paper in order to bring everybody up to speed on its latest and greatest achievement. Here are some of the more significant quotes from the opening of that rather remarkable document:

"Sega will leave no room for debate by providing the ultimate gaming experience with Sega Saturn. Once consumers compare the next-generation game systems, Sega Saturn will prove to be the hands-down choice."

"[Saturn] was introduced in Japan in November 1994 and is on a steep curve to sell more than 2 million units in its first year. Sega has designed the Sega Saturn from the silicon up to transport consumers into an entirely new realm of interactive entertainment. The Sega Saturn makes it possible for software to immerse players in stunningly realistic worlds of 3D modeled graphics, dynamic perspective with ever-changing points-of-view, true 3D audio, and gameplay speed that far surpasses the most powerful multimedia PC."

"More than any other video game maker, Sega has its finger on the pulse of the consumer and is able to transform raw technology into major fun for millions of people. No one else combines a 40-year arcade history with a wildly successful in-house publishing effort. Add to this Sega's solid relationships with third-party developers, who will add depth and dimension to Sega's own game library for Sega Saturn. All told, the Sega Saturn game development universe involves hundreds of creative and innovative programmers' intent on taking the Sega Saturn (and its players!) to the limits of immersive experiences."

"It's the only home system to use state-of-the-art "massive parallel processing," which provides immersive, first-person gameplay... Think of the limited musical range of a one-manned band (a la the competing single-processor systems) versus the symphonic possibilities of a fully scored orchestra. There's no comparison."

"Because the technology is similar to that of Sega's Titan arcade system,

Sega Saturn also paves the way for hot game titles to migrate from Sega's interactive theme parks to its commercial arcade systems down to the home-based Sega Saturn."

Sega Titan (ST-V) motherboard

Sega seemed bent on the creation of a two-tiered amusement development process, with its dedicated amusement releases using its powerful in-house CGI hardware, and on the other side of the coin lower-end applications. The ability to utilize the technology created to power the Saturn home game console helped bring about Sega's next amusement advancement; however the Japanese market would be the main recipient of the resulting Titan arcade board.

"What is Titan," you ask? It's one of the primary moons of Saturn, true to Sega's "planets scheme." The Titan arcade hardware had a rather unique connection to the Saturn. Sega of Japan had been so pleased with how the Saturn redesign had turned out, that they turned right around and converted the fruits of their labors back into yet another arcade board. It was the same thing they'd done with the Genesis years earlier, only this time they were producing a monstrously powerful, 32-bit parallel processing arcade board that could give

its own Model 2 a run for its money. The Sega Titan arcade board, aka ST-V, was essentially a retooled Sega Saturn that conformed to the industry-standard JAMMA board design, save for one important aspect: Titan had more RAM than a stock Saturn. This may not seem important now, but the issue of the Saturn's available RAM will arise later.

Titan would prove to be one of the most versatile arcade boards in Sega's arsenal. More video games would be produced for or converted to its architecture than any other arcade board in Sega's history at the time, an important factor, considering Sega's announcement of Titan migration plans in the Saturn White Paper. Meanwhile, over in Japan, arcade gamers were already going gaga over *Virtua Fighter 2*, the latest and best incarnation of Yu Suzuki's famed fighting game. If the graphics had been impressive before, the power of Sega's new Model 2 board made this second round shine. No one was surprised when a Saturn port was announced, and many Japanese gamers began saving their precious yen yet again, for yet another Saturn game...

On March 9, 1995, Sega of America issued a press release concerning the impending U.S. launch of the Sega Saturn, slated for September 2, 1995. It claimed internal figures showing that Saturn sales in Japan had exceeded 500,000 units in the first month alone, outselling the PlayStation by a 30% margin, predicting that Saturn would go on to sell one million units in Japan by April, and two million by year's end. Sega described itself as "...a nearly US$4 billion company known as a leader in interactive digital entertainment media with operations on five continents," and much ado was made about "the company's superior product line." Curiously, no price point was declared at even at this late date; most analysts predicted that it would be in the $400-500 range. Steep, to be sure, but Sega promised a lot for its new system.

Shortly thereafter, yet another delegation from Japan arrived at Sega of America HQ, there to deliver Nakayama's latest marching orders. The 32X debacle had caused the Japanese to begin reasserting control over what they considered to be errant American underlings. Sega of Japan was concerned

about the growing PlayStation hype, and Sony was rumored to be planning a massively expensive pre-launch marketing campaign to ensure the PlayStation plenty of media exposure for its upcoming launch that fall. Taking no chances, Nakayama was convinced that Sega needed to strike the first blow, hopefully knocking Sony out of the running before PlayStation could gain any ground. Why? Sony had deeper pockets than Sega, and could easily outspend them in a marketing war. Sega would have to beat them on product alone. With this in mind, Sega of America was ordered to accelerate the U.S. launch of the Saturn and bring it to market at the first available opportunity. The price would remain unchanged: $400 or so. Kalinske vehemently objected, as did practically everyone else at Sega of America. All of them, in one form or another, were trying to tell Nakayama the same thing: "It's too early to launch the Saturn in America. The price is too high, and we have practically no software for it." Nakayama and the rest of Sega's corporate board of directors refused to listen; Sega of Japan was now calling the shots. The future of Sega was at stake, and the odds were long. Since Sega could never conceivably outspend Sony, they had to find a way to outsell them. A daring stroke was required, one that would gain instant market attention. An early launch of the Saturn in the U.S. would do just that; furthermore, it would give the console valuable lead time in a new market that was still anyone's for the taking. Saturn had proven itself in Japan against PlayStation, it seemed, so there was no reason not to expect the same in America. Sega of Japan didn't want Saturn to suffer the same fate as the 32X, a fiasco for which some at Sega of Japan personally blamed Kalinske. Sega of America's pleas were overruled, and from that point on Kalinske and his staff would have practically no say in managing the affairs of Sega's U.S. market interests.

E3 opened on May 11, 1995 with representatives from every end of the computer and electronics spectrum. Consumers, retailers, developers and vendors were all there, as well as such celebrity notables as George Lucas, William Shatner, and Steven Spielberg. As it turned out, the pundits had been right all along: The first day of E3 would prove the most critical of the year in

the ensuing console war. Tom Kalinske gave the first keynote address at 8:30 that morning, remarking on the arrival of the next-gen wave, and noting that the combined advertising costs for all three of the major players (Nintendo, Sega, and Sony) could approach $250 million, with another $100 million spent by retailers selling their systems. He then sprang the surprise that Sega had been planning for two months: The Saturn's official launch would be on September 2 – as originally announced – but Sega would start shipping the console today. Kalinske assumed his best pitchman demeanor, assuring the stunned audience that the Saturn would be available, effective immediately, at a retail price of $399. Over 30,000 Saturns had already been distributed to a select list of major retailers: Babbage's, Electronics Boutique, Software Etc. and Toys 'R' Us. He went on to tout the merits of Sega's newest console and its software base: *Virtua Fighter* was indeed a U.S. launch title, with over twenty other games currently in development. He reminded his audience of Sega's reputation for excellence, leaving little doubt that Sega believed it had a winner in the Saturn. As Kalinske concluded his presentation, he was showered with applause, and breathed a sigh of relief. He'd done the best he could, given the circumstances, and so it was with crossed fingers that he now yielded the platform to his rival.

Olaf Olafsson

Next up was Sony president Olaf Olafsson, ostensibly to talk about the future of video games, but in fact there to tout the virtues of Ken Kutaragi's PlayStation and its place in the expanding 32-bit console market. Midway through his address, he called upon Steve Race, one of the PlayStation's designers and president of Sony Computer's newly formed U.S. subsidiary, to tell the audience more about Sony's new console. As Race walked up to the podium, a thick sheaf of papers in hand, the crowd braced itself for a long and boring technical dissertation. Instead, Race laid the papers down on the podium, leaned into the microphone, and said just one thing: "$299." The audience exploded with applause. Both Race and Olaffson smiled, taking quiet pleasure in noting the reactions of Kalinske and the Sega delegation, now looking rather uncomfortable and nervous. Later they would see a surprise appearance at the Sony booth by none other than pop music sensation Michael Jackson, former Genesis pitchman, but now helping Sony promote its new system. The Sega delegation left the festivities unsettled, and with good reason. E3 was supposed to have been Sega's for the taking, yet Sony had just stolen the show. As for the others? 3DO teased the industry with plans

and a mock-up for its M2 64-bit upgrade, but that was all that would come of it. The company was sinking fast, and its console would be effectively off the video game radar screen by the following year. Nintendo announced that Project Reality – now named the Ultra 64 – was practically ready, but conceded that it could not launch until April of 1996 at the earliest due to production issues. The only other player in the next-gen sweepstakes, Atari's Jaguar, was dying a rapid death due to a lack of good software; its meager E3 offerings only confirmed that sad fact. There would be only two players in the console game in 1995 – and both had just shown their hand.

E3 1995 was a disaster for Sega in other ways, too. Having effectively stolen the next-gen console limelight, Sony now had the video game industry's complete attention, putting it in a better position to market the PlayStation. Nakayama's mad rush to beat Sony to the U.S. market effectively left the Saturn high and dry. Sega may have had a (limited) number of consoles on the market, but where was the software? There was *Virtua Fighter*, of course, but little else. In fact, only one or two more games (depending on area) would be released for Saturn between May 11 and September 2, leaving Saturns sitting on store shelves unsold and squandering the five-month market lead Sega of Japan had so desperately desired. On top of that, Sega's swift action had caught both retailers and developers completely off-guard. Kay Bee Toys, one of the nation's largest retailers, was incensed at not making Sega's short list for the early Saturn launch, and promptly announced that it would neither sell nor support the system. It was a loss Sega could ill afford, given its poor financial position. The suddenness of the U.S. launch also meant that Sega and its third party supporters were left scrambling as they tried to rush their various Saturn projects to market. The immediate aftereffect of this was a lot of rushed, buggy Saturn games during that first critical year on the market – games that inevitably suffered in comparison to competing PlayStation titles. By contrast, Sony of America made sure it did not repeat Sega's mistake; PlayStation's launch lineup included over a dozen stellar titles.

Another reason the Saturn went largely unsold during this crucial period was

its price. Sega had just committed the same mistake as Trip Hawkins had with 3DO, pricing the Saturn too high for its intended market. There were good reasons for this, of course – shallow pockets, specifically – but it was of no help when Sony pulled the E3 rug out from under them. At $100 less than the Saturn, the PlayStation was simply more accessible to cash-strapped consumers. The impression given was one of getting "more bang for the buck" than with the more expensive Saturn, a machine that for all intents and purposes didn't look or play any better than Sony's new box. As one wag at the time put it, "Why pay more for less, when Sony is doing more with less?" Launching the Saturn in America far earlier than originally intended left Sega no time to properly advertise the console. Instead of the well-planned and coordinated multimedia efforts by which Sega had gained its reputation in the West, potential customers were hurriedly treated to the newly commissioned "Theatre of the Eye." The campaign would win a Silver Clio award for its production values, but was largely ignored by consumers. In contrast, Sony's subsequent ad campaign enjoyed the favor of both consumers and critics alike. The company basked in the praise it showered upon it by the gaming magazines. It used the next five months to promote its new console with all the media muscle at its disposal in one of the largest and most expensive advertising campaigns of its day. Sony would hold the spotlight from now on.
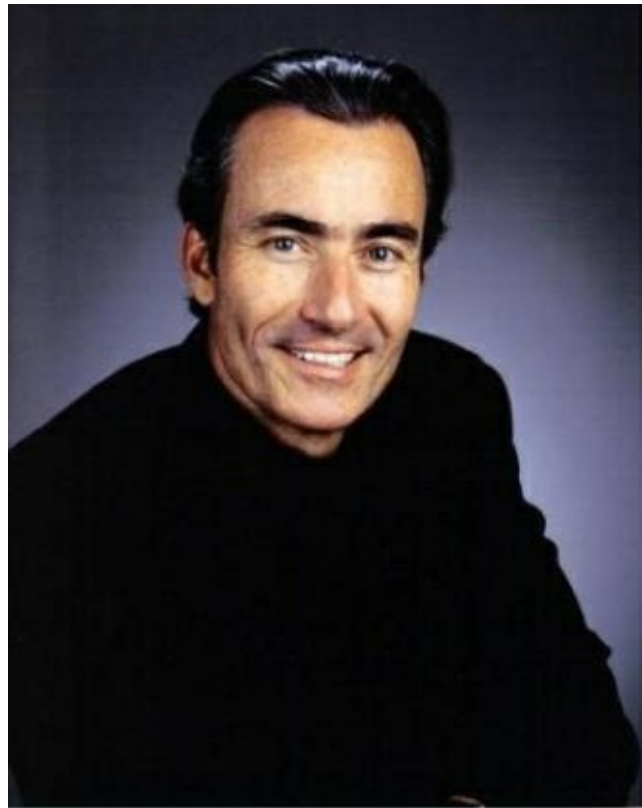
Trip Hawkins

The following month, Sony made a move that caused the Japanese market to turn in its favor. It announced that it would soon release a new version of the PlayStation for 25% less than the current model. The new PlayStation was actually the cheaper American version retrofitted for the Japanese market, but Japanese gamers didn't care. The news was welcomed by almost everyone – Japan's economy was in recession, and the downturn had hit the video game market particularly hard – except for Sega, whose higher-priced Saturn still maintained a comfortable lead over its rival. Left with no alternative, Nakayama authorized the reduction of the Saturn's price by 20%, watching as the red ink flowed across Sega's ledgers. Saturn was still in the lead in Japan, with 1.3 million units sold to retailers as of June 1995, but PlayStation, with 1.2 million units sold, wasn't far behind.

Virtua Fighter 2

Sega still had an ace up its sleeve, and hoped its worldwide console sales would improve dramatically as a result. In July of 1995, Sega of Japan unveiled the Saturn port of Yu Suzuki's *Virtua Fighter 2* at the Omacha Toy Show in Tokyo. Show attendees were stunned by what they saw; while the first *Virtua Fighter* port had gained a bit of a reputation for being buggy and dropping the odd polygon or surface here and there, the Saturn port of its sequel was dead-on accurate. It truly showed off the processing power of the Saturn in a way no previous title had, and word got out that this was the "real" *Virtua Fighter* gamers had wanted all along. *Virtua Fighter 2* was soon after released in Japan, and made its Western debut as quickly as market conditions permitted, going on to become the best-selling Saturn title of all time. Some 1.7 million copies were sold worldwide – nearly double the numbers of its ground-breaking predecessor. In the meantime, Saturn made a forgettable debut in Europe, where it quickly died on the vine. The machine cost too much, there was no software for it, and most of Europe's Sega faithful preferred their Mega Drives (or in some cases their Master Systems). Sega's older systems would continue to outsell Saturn in Europe until they were officially discontinued; even then, Saturn was never able to come out from under the shadow of its predecessors.

The fall of 1995 would prove to be one of the most eventful in the history of video games. It would see a one-time giant commit the greatest blunder in its entire history to date, and another introduce a new piece of software that would forever change the personal computer industry. The new kid on the block would assert itself as the new ruler of the video game realm. And finally, a former great would commence the long, painful slide into market oblivion.

Nintendo, whose N64 would not be ready for market until 1996, went ahead and introduced a new video game system anyway. This was the Virtual Boy, created by Game Boy inventor Gunpei Yokoi. Officially launched on August 21, 1995, Virtual Boy was ostensibly the successor to Nintendo's wildly popular 8-bit handheld, but wound up the greatest failure to ever bear the Nintendo label. Inspired by the experimentation that was happening with virtual reality headsets at the time, Virtual Boy was a system with a built-in red-on-black 3D stereoscopic LCD viewer. It was a truly original idea, but proved quite difficult to market, and many gamers complained of headaches after using the system. The system soon gained the nickname of "Virtual Dog" among derisive Western critics and would eventually prove to be a near-total failure in all markets. The fiasco cost Gunpei Yokoi his job; he was forced to tender his resignation the following year once 1995's dismal sales figures became clear.

Gunpei Yokoi

Of greater importance was the launch of Microsoft Windows 95 (aka Win95) on August 24, 1995, an event marked by all of the hoopla, promotion, hype, and media buzz usually reserved for video game products. It was well deserved; users of IBM-compatible personal computers were finally getting the kind of full-blown, multitasking, multithreading graphical operating system to which users of the old Amiga and newer Apple Macintosh had been accustomed for years. What was largely overlooked by the general public – if not missed by the development community – was the inclusion of the DirectX graphical programming environment. For the first time, PC game codes now had a solid, unified standard supported by any Win95-configured hardware or software upon which to base their efforts. This was something that the Mac community still lacked, and many would cast an envious eye at the DirectX-based PC games that came in later years. Sega immediately announced its support for Win95, due in part to its growing relationship with Microsoft, and set up its SegaSoft subsidiary in America to undertake the task of porting hit Saturn titles over to the Win95 environment. Over three dozen SegaSoft efforts would appear over the next five years, infusing some much-needed income into a company hard hit back on the console front.

The Sony PlayStation made its official U.S. debut on September 9, 1995, and what a debut it was. First was the price of the console – $299, as promised. Second was the number of outlets vending it – over 12,000 by most estimates. Third was a monstrous $40 million advertising campaign across all major media outlets with the catchphrase "U R NOT E" (i.e. "You Are Not Ready"). Fourth was the launch lineup itself – 17 games, including three that would soon become legend among console gamers. While Sony, like Sega, declined to include any pack-in titles, the PlayStation launch lineup was by far more rounded and impressive than the Saturn's.

Did anyone still consider Sega's *Virtua Fighter* a threat when there was Takara's *Battle Arena Toshinden*, which almost every major media outlet within the video game industry proclaimed to be the superior fighting game? So what if Sega had *Daytona USA* and *Virtua Racing*? PlayStation had Namco's *Ridge*

Racer, which lived up to the hype of being the best-looking, best-playing 3D racer available. To top it off, only on the PlayStation could you play *WipeOut*, a futuristic racer by Psygnosis, the likes of which had never before been seen on a console. Saturn would eventually get its own, somewhat gimped version of *WipeOut*, but only long after it had enjoyed a tremendously successful run on the PlayStation. All of a sudden, Saturn was looking rather obtuse and rough in comparison, with its supposedly inferior graphics and obviously limited software base – at least in the eyes of all but the Sega faithful. The deadly combination of low price and killer apps – right off the bat at launch – ensured Sony's success, moving just over 100,000 PlayStations in two days, earning revenues in excess of $45 million. Sega of America countered with what would turn out to be the forerunner of its Saturn Three-In-One software deals, bundling *Clockwork Knight, Sega Worldwide Soccer* and a *Virtua Fighter* voucher with every Saturn sold. It didn't help. PlayStation sales continued to skyrocket, while the poor Saturn stumbled along in second place.

Sega managed to rally itself just in time for Christmas, however, with the near-simultaneous release of three of its hottest arcade conversions: the road racer *Sega Rally*, the gun shooter *Virtua Cop*, and *Virtua Fighter 2*. It also gave away free copies of *Virtua Fighter Remix* (a rehash of the original with *VF2* quality graphics) to every Saturn owner in order to address the many complaints about the original. This inspired slew of software releases managed to boost Sega's market presence enough that it was able to finish 1995 a comfortable second in the 32-bit wars. But Sega's last-minute successes were sour grapes in comparison to the humbling it had just endured. Many had predicted that Sega was going to come out on top at the end of 1995, but things did not turn out quite the way they had foreseen, and Sega had planned.

Virtua Cop

By the time 1995 came to its close, it was obvious that Sony was in the console business to stay. Sega, the company that had launched the opening salvos in the third great console war, ended up with an installed U.S. Saturn user base of some 120,000 systems and a small but growing software library of some 30 titles. Sony, on the other hand, crossed the finish line in grand style with an installed U.S. user base of some 300,000 consoles and a growing software library of over 50 titles. While Sega loyalists were still scratching their heads, wondering where all the Saturn games were, new PlayStation owners were buying four games for every console sold. Sega had taken seven months to sell less than half as many systems as Sony had sold in only three. Nintendo may have outsold them both with its SNES lineup, but that was based on a shrinking market share dedicated to gaming technology that couldn't compete, now that the 32-bit systems were getting up to speed. Sega, having blown its one and only chance to seize the 32-bit market, saw its profits for the latter half of 1995 drop to a mere $110 million, down from the $165 million it had earned the same time the year before. It would have only one more chance to try and regain its lost market share in the coming year, but was facing long odds in a rapidly changing market. This was the same situation Nintendo had faced in 1991, when the Genesis come along and knocked the then-reigning

king of the industry from its throne. Now the roles had changed, and Sega was the one playing catch-up to what had been deemed the underdog.

Nakayama's choice

Near the end of 1995, when it was apparent that the Sony PlayStation was poised to seize the lead, Hayao Nakayama made a decision that would shape the course of Sega's finances for years to come. As the man in the big chair, it was his call, and his alone. The aging Genesis could no longer hold its own against the superior software offerings of Nintendo's SNES. Both Sega CD and the 32X had effectively bombed, costing Sega millions of dollars in lost resources and revenue, and its handheld efforts (Game Gear, Nomad) and educational venture (Pico) were going nowhere fast. Only the Saturn seemed to offer some hope of turning Sega's failing fortunes. It had done surprisingly well in Japan, where Sega had never before taken the lead. It had floundered in the U.S. against the PlayStation, but there was still time for a comeback. Many within the video game industry agreed that 1996 would be the critical year in the third great console war. Sega's only chance of winning was to combine its resources instead of spreading them across multiple systems. With Sega's current financial standing and flagging fortunes in mind, in October of 1995, Nakayama made the call to put all of his eggs into one basket. Sega announced that it was cancelling all of its consumer systems but one. The Saturn would be the company's only focus from now on.

One question continues to dog Sega loyalists concerning the Saturn and Sega's subsequent misfortunes: Did Nakayama make the right choice in backing the Saturn as Sega's sole console? The answer is unclear, even more so when putting aside the wisdom that inevitably comes with hindsight. Sega's arcade divisions were still going strong, thanks to *Virtua Fighter* and the rest of its new 3D arcade game lineup; but its home console sales were flagging. Nakayama couldn't simply sit back and let the company get clobbered one piece at a time, picking multiple fights with better financed rivals with slimmer product lines. He had to make a choice, and that choice was Saturn. The 32-bit

market had not quite yet gained full momentum, but it was coming fast. Sega simply didn't have the ready cash and company resources of a multi-million dollar international conglomerate like Sony to continue on its course. Sega would have to focus its efforts on a minimal product base, and push it for all it was worth. It was a desperate gamble, but these were desperate times, and Nakayama a desperate man.

As it turns out, it was the single best thing to happen to Sega in its homeland, where Sega had historically never been strong. All of a sudden, Saturn was the number one console on the market, with a healthy lead over the competition. The PlayStation was catching up fast; however, Sega of Japan could now commit itself entirely in an attempt to stem the Sony tide. Objective industry observers in and out of Japan credit Nakayama's choice with saving the Saturn in Japan. Thanks to his decision, Saturn enjoyed an extra year of life in its home market, retaining its lead long enough to release some enduring games, and regain a measure of respect in its homeland.

As for America, most market experts agree that Nakayama's decision was the wrong one for the American market. Sega had quite a public reputation to uphold, and enjoyed a unique relationship with older gamers that Sega of America had been diligently building for years. These were the ones who had grown up playing video games, and now had the resources to buy their own systems and software. These were the gamers who formed the backbone of the 32-bit audience in the U. S., the ones Sega of America had courted so long in an effort to win their confidence. They were ready for Sega's next-gen system, provided it was a 'real' console and not another 'stopgap' like the 32X. Even so, many of them had invested considerably in their Genesis, and were prepared to keep spending on it until the Saturn software situation firmed up… until Nakayama's choice effectively pulled the rug out from under them. They had just gone through two years of new and expensive Sega add-ons and peripherals for Genesis, and now there was no way for them to continue supporting their favorite Sega console. Those unable – or unwilling – to buy the high-priced Saturn and what few games it had to offer were willing to spend

their money on new Genesis titles for another year; now they would never get the chance. They wanted the best bang for their buck, but Sega seemed no longer willing to provide it. Instead, it was breaking promises and commitments to its customer base seemingly as fast as it made them. It had claimed it would continue to support Genesis, but then changed its mind seemingly on a whim, with no thought as to how the Sega faithful felt. Vendor-consumer relations were souring, creating a crisis that would soon come to a head.

Virtua Fighter Remix

Nakayama's decision proved an unmitigated disaster for Sega's fortunes in Europe, as well. Ever since commencing its Western export operations, Europe had been Sega's for the taking. The 8-bit Master System and then the 16-bit Mega Drive ruled the European roost, and Sega's legacy was as venerated among gamers as the Amiga was among computer hackers. Nakayama's abrupt about face came at the worst possible time for Sega of Europe; Saturn had just launched, and hadn't yet established its own following in Sega's traditional Western stronghold. Feeling as if they'd been stabbed in the back, old-school Sega loyalists from across the continent refused en masse to replace their older consoles with the Saturn, which soon fell off the European radar. It has been estimated that only a million or so Saturns were sold across all of Europe from 1995 to 1998, the official lifespan of the system there. Gamers simply refused to buy it, and began looking to jump ship for

vendors deemed less arrogant and pricey. The PlayStation, with its bevy of fairly affordable games, was all the excuse they needed.

It must be said in all fairness that Sega's Western branches could see what was coming, and did everything they could to divert Nakayama from his chosen course of action. Tom Kalinske was highly vocal in his objections during the increasingly frequent visits that Nakayama was now beginning to make. Nakayama simply overruled him time and again.

"I felt that we were rushing Saturn. We didn't have the software right, and we didn't have the pricing right, so I felt we should have stayed with Genesis for another year. I recognize that our volumes would have gone down, but I think we would have been a much healthier company. We would have been more profitable, and I think the folks who appreciated video games would have appreciated that we were still doing a lot of great product on the 16-bit hardware."

-Tom Kalinske (2006)

Other American executives also spoke out in opposition, as did their European counterparts. Nakayama ignored them. Even Shinobu Toyoda, Nakayama's hand-picked American market liaison (and knew that market better than any of Sega's Japanese executives), managed to work up enough nerve to question his superior's decision. His opinion was cast aside like those of his Western colleagues; Sega of America was no longer in control of its own destiny. Sega of Japan was now running things, and calling the shots on anything and everything Saturn. The company was losing money in the West. Only Sega of Japan, in its own eyes, had the product and vision to save the corporation from financial ruin. Michael Latham would later recount his memory of those days for Steven Kent, who recorded Latham's recollection in the book *The First Quarter: A 25-Year History of Video Games.*

"Tom knew that the 16-bit business was going to be there. Paul Rioux knew it and so did Shinobu Toyoda, but Japan refused to believe. They were convinced it was not, and they would not listen to Tom. They would not listen

to Paul. They would listen to no one and they absolutely bullied the U.S. into launching the system. It very much compromised their ability to keep the 16-bit business."

Video game historians have noted that Tom Kalinske and his colleagues were absolutely right in their assumptions all along. The 16-bit market was still there, and remained viable for another full year while the 32-bit market came up to steam. By throwing out the baby with the bathwater, Nakayama ensured the ruin he was so desperately trying to avoid.

Sir Michael Latham

It didn't have to be like that. Nakayama could have given Sega's 16-bit software ventures another year, farming out the hardware side to the many third parties already expressing interest. The money made from another year's worth of 16-bit game sales and support would have gone a long way in alleviating the huge operating deficits Saturn was already incurring. Instead, Nintendo got that slice of market all to itself for another year, ultimately outselling both Sega and Sony by the end of 1996. The friendly relationship

Sega had long enjoyed with its Western customer base could also have been easily saved, or at least salvaged. Reining in the culture of corporate arrogance prevalent at Sega of Japan could have saved the company some subsequent heartache, but it was too late.

1996 began ominously for Sega; the numbers were in from the U.S. holiday shopping season, with the Sony PlayStation outselling the Sega Saturn roughly one-and-a-half to one. Even more disturbing were software sales, where Sega had hoped to recoup its high Saturn development costs. Sega software simply wasn't selling, certainly not in the brisk manner that Sony's was. To make matters even worse, second and third quarter earnings results for fiscal year 1995 were also in; they too, were low. Instead of the $163 million originally projected, Sega earned only $110 million during that period. It was a profit, true, but a downward trend in Sega's finances was beginning to manifest itself. A lot of Saturns and even more software needed to be sold; nevertheless, Sega of Japan was smug in its belief that it could meet the challenge. It had the machine, the tools, and the brains. Most of all, it had its own arrogant self-confidence.

NiGHTS: Into Dream

The months leading up to the next E3 saw a steady stream of Saturn announcements issued out of Sega. Chief among these was the release of an improved Saturn SDK to video game developers, featuring the brand-new

Sega Graphics Library v2.0. For the first time, Saturn developers would be able to begin tapping the hidden powers of the console in earnest. Sega also announced a swarm of Saturn titles for impending release, including *Daytona USA, Enemy Zero, Gun Griffon, Marvel Super Heroes, Three Dirty Dwarves*, and *Tomb Raider*. At the top of the list was *NiGHTS: Into Dreams*, a promising 3D platformer, and Yuji Naka's first video game since his *Sonic* days. "We are completely convinced that this title will do for Sega Saturn what *Sonic the Hedgehog* did for Genesis," claimed Tom Kalinske at a press briefing on behalf of his Japanese masters, but even he was genuinely excited about Naka's latest creation. Sega also made history in announcing that Saturn would be the first Internet-capable console on the market. Long the domain of government and academic types, the opening of the Internet to the general public the previous year sparked a sudden surge of interest in long-distance, multiuser networking among the Internet savvy. Multiplayer online gaming was this crowd's Holy Grail, and Saturn would be the first console to tap into this potentially enormous, previously nonexistent market. One final announcement that went largely overlooked at the time was that Sega was forming a new internal subsidiary in order to port popular Saturn titles to personal computers. Sega of Japan was taking no chances, and needed all the market share it could get.

One of the most glaring hardware deficiencies of the Saturn at this time – one quickly seized upon by its detractors – was the lack of dedicated MPEG decoding hardware. Most programmers at the time knew that Saturn had enough horsepower to perform MPEG decoding through software alone, but PlayStation had a rudimentary form of it built in, permitting playback of MPEG-quality streaming video direct from CDs. Critics constantly harped on the lack of such support in the Saturn until Sega of Japan, having heard enough, revealed plans for an add-on hardware MPEG decoder for Saturn. It had been planned ever since the design of the system was finalized in 1994, but pundits ceased their cynicism...if only for a while.

By the end of March, Sega of Japan had succeeded in coming up with a

cheaper version of the Saturn, integrating most of system firmware onto a single ASIC chip and easing excessive production costs. Rumors began to run rampant that Sega would eventually lower the cost of the system to $200. The actual new price was $300, and – while it wasn't as low as gamers would have liked – sluggish sales began to pick up, with some retailers noting that their Saturn sales had increased by as much as 50% as a direct result. A pleased Sega of Japan confidently predicted that it would sell five million of the new Saturns by the end of the year. Sega's claims were met with skepticism by industry observers, who pointed to the Saturn's still-sparse game library, and the large quantity of Saturn consoles sitting unsold on store shelves. As might be expected, Sega of Japan ignored them and went right on with its plans. Things seemed to be going so well that by May, Nakayama was confidently predicting that Sega would reassert its market presence and end the year with a ¥34 billion ($330 million) net profit.

Arguably the biggest fly in the ointment was the dearth of big-name third-party developers in the Saturn fold. There were plenty to be sure – Altus, Capcom, Eidos, GameArts, Working Designs, and others – but two whose names were synonymous with excellence had declined to back Sega's latest venture. Namco had been one of the original Mega Drive third-party developers, but this time CEO Masaya Nakamura had instructed his subordinates not to support the Saturn, signing on instead as one of Sony's first third party developers. Their presence was sorely missed on Saturn, where Namco's best arcade conversions (now appearing on PlayStation) would have been right at home next to Sega's own. The other prominent holdout was SquareSoft, who'd almost singlehandedly brought the RPG genre out of the shadows with its *Final Fantasy* franchise. Square was still under contract to Nintendo, but franchise creator Hironobu Sakaguchi was already fretting over the lack of storage space in SNES video game cartridges. Even as Square was readying its final SNES RPG – *Super Mario RPG* – for market, Sakaguchi convinced his superiors at SquareSoft that only the CD-ROM format could give him the kind of artistic freedom he needed, and that the PlayStation

was best suited of the new 32-bit consoles to realize his gaming visions. Square's defection would earn them Nintendo's ire, but for Sony, it was a heaven-sent opportunity. Sega was never really in the running to get a Square-produced RPG on the Saturn, spurring its own efforts and that of its licensees in developing Saturn RPGs. It was an effort that would result some two years later in the greatest single Saturn RPG ever created and one of the all-time RPG gaming classics...but let's not get too far ahead of ourselves. Despite all of the activity on Sega's part, though, the PlayStation continued to eclipse the Saturn. By the end of April, Sony rightfully claimed to have sold over seven million consoles through to customers worldwide. The Saturn's numbers were nowhere close, save in Japan, where its five million units (sold to retailers) just barely gave it the lead in the 32-bit race. Its recent market successes firmly in hand, Sony decided to give Sega another serving of humble pie. It was also time to deal with Nintendo, for the sleeping giant was finally dipping its toes into the turbulent next-gen waters.

The Second Annual Electronic Entertainment Expo (E3) was held May 16-18, 1996 in Los Angeles, California. Once again, the setting was the Biltmore, but this time there would be a major difference. Instead of keynote addresses, participating vendors would hold their own conferences, alongside a series of general conferences in which everybody could participate. There would be no repeat of Sony's upstaging Sega the first day of the show the previous year. The major players in the video game industry were prepared to do battle again, each holding what it believed to be an ace up its sleeve, and all of them determined not to be the odd man out.

First off the bat was Nintendo, who's long-delayed N64 – formerly known as Project Reality – was finally ready to enter the fray. The console had made an impressive debut in Japan one month before, and Nintendo was taking no chances with the now-volatile U.S. market. True to form, they held their own, exclusive press conference the day before E3 officially commenced, at which Nintendo of America chairman Howard Lincoln officially unveiled his company's newest console. Also available were working copies of Shigeru Miyamoto's

Super Mario 64, LucasArts' *Star Wars: Shadows of the Empire*, Iguana's *Turok: Dinosaur Hunter*, and Nintendo's own *Wave Race 64*, among others. All had graphics that trounced the best that either Sega or Sony could offer, and Nintendo's newest *Mario* game was everything its fans had demanded and more – only this time in full-blown 3D.

Super Mario 64

Nintendo of America vice president Peter Main went on to explain the future of the U.S. video game market, as viewed through his company's eyes: Sony currently controlled 80% of the next-gen market, leaving 20% to Sega. All that would change once the N64 entered the fray on September 30, priced at $250. By the end of 1997, Main claimed, Nintendo and its N64 would once again dominate the U.S. market with a hefty 53% share, leaving Sony in second place with only 39%, and Sega just 8%. "Sega is not much of a threat," Main is said to have laughed in response to a reporter's question. And as for what was left of Virtual Boy? Quietly tucked away in a corner, soon to be relegated to the scrap heap of video game history.

Having long known of Nintendo's plans for its new console, Sega was not about to take the news sitting down. It had the second largest booth of the show (next to Nintendo's, of course), and a half-dozen or so new software titles prominently featured. At the top of the heap, of course, was Yuji Naka's

NiGHTS: Into Dreams, on display and playable at Sega's booth. Visitors were impressed by Naka's largely successful attempt at pulling off a pseudo-3D platformer on the (notoriously difficult-to-program) Saturn, and word soon spread that this would be a must-have title for Saturn owners.

Next up was *Virtua Fighter*, soon to debut in its third incarnation in the arcades. *VF3* promised to shatter all records for polygon counts, and the early alpha running on the new Sega Model 3 arcade board at E3 was a show-stopper, as far as the 3D gaming crowd was concerned. Rumors of a Saturn port spread once the show started, and would continue to do so for many months; in the meantime, Sega had *Virtua Fighter Kids* for Saturn owners who liked their fighting games with a little bit of humor. Another 3D arcade game to win praise at the Sega booth was the mech fighter *Virtual On*, which according to reports featured some of the smoothest animation seen to date in a 3D game. Sega's third party developers were also present with working copies of over a dozen new Saturn games in almost every software category. But it was yet another Sega title that wound up on the lips of all those who visited Sega's booth. Featured prominently on a large sign inside the Sega booth and shown running on several pre-rendered video sequences was the game that Sega fans had been praying for. *Sonic X-Treme* – the very first 3D *Sonic* game by Sonic Team on the Saturn – featured impressive, all-new 3D characters and environments that stayed true to Sonic's colorful roots. The news nearly made folks forget about the other two *Sonic* games on display: *Sonic 3D Blast* (Genesis) and *Sonic: The Fighters* (arcade).

Sony, meanwhile, had two aces up its sleeve, one each for Nintendo and Sega. Sony executive vice president Jim Whims kicked off Sony's presence at E3 by announcing that the price of the PlayStation would be reduced again to a mere $200. While chiefly aimed at Nintendo (who was caught completely off-guard, just as Sega had been the year before), the announcement also sent Sega reeling and feeling for its bank book. And that wasn't all. Sony had only half the booth space of Sega, but roughly three times as many playable games on display, including one aimed straight at Sega's heart. Naughty Dog's *Crash*

Bandicoot was a direct rip-off of Sega's beloved Sonic, right down to the impatient, cocky attitude of its marsupial hero. It had abstract, stylized graphics akin to *Sonic*'s, and easily matched the best that Nintendo could currently offer with the N64. Critics charged the game with being derivative – in no way on par with *Super Mario 64*'s obvious technical excellence or *Sonic*'s tradition of outstanding gameplay – yet Sony's new 3D platformer proved to be one of the hits of the show. With an even lower price point and expanded software base, Sony was even better positioned to strut its wares than the year before. This time, Sony was a proven commodity; the industry was showing Sony the respect they saw as long overdue, and they let their rivals know it. On the third day of E3, Sega spokeswoman Angela Edwards was carrying signs trumpeting the $300 price adjustment for the Saturn when she was approached by a Sony employee who sneered, "You're pathetic!" Once again, Sony had won the battle of E3.

Sega had no choice but to drop the price of the Saturn to $200 before the end of E3 – a reduction they simply could not afford. Sega was now seriously hemorrhaging cash as it fought just to keep pace with its better-financed rival. As for Nakayama, he really didn't care what Nintendo was doing – nor could he have afforded to do anything about it, anyway. Perhaps he gained some small solace in the realization that Sony's "calculated game of chicken," as industry reporter Steven Kent so aptly put it, would stop even Nintendo in its tracks before it ever became a threat. We may never know. But what is clear is that that Nakayama felt a radical change in Sega marketing tactics was needed.

On May 30, 1996, Sega of America officially cut ties with the marketing firm Goodby, Berlin, and Silverstein – creators of the famous "Sega scream" ad campaign – on Nakayama's direct orders. And with it went the Sega scream itself, despite Sega's calm assertions to the contrary. In its place would come a new campaign promoting a kinder, gentler Sega – more family-friendly, and less prone to its historically antagonistic stance. To say longtime Sega fans were horrified by the change is an understatement. In their eyes, Sega had deliberately turned its back on the rebellious image it had proudly sported for

the past four years. They had no way of knowing that it wasn't Sega of America's fault, and that it was receiving its marching orders from Japan. All they knew was that the old Sega was gone, and in its place was a more arrogant Sega with a track record of broken promises and overpriced, under-supported hardware. Is it any wonder that even more of the formerly Sega faithful began breaking ranks? It was yet another nail that Sega of Japan was driving remorselessly into Sega's own coffin; and worst of all, it either didn't know or didn't care.

Crash Bandicoot

By now, Tom Kalinske had finally reached the limits of his patience. Constantly overruled, and reduced to a figurehead – a mere shadow of the proud corporate spokesman that had made Sega of America into the success it was – he no longer cared what was going to happen. He knew what needed to be done in order to give Saturn a fighting chance in the U.S., but Sega of Japan wouldn't allow it. Instead, they heaped upon him all of the blame for Sega's past and present problems, many of which he actually had very little to do with. If Sega of Japan thought it knew what was best for North America, they would have to learn their lessons the hard way, just as he had done with Mattel years before. He wasn't waiting around to become a victim of the inevitable train wreck he knew was coming.

On July 15, 1996, Sega of America president Tom Kalinske officially tendered his resignation; most of his staff would soon follow him out the door. The news sent shock waves across the industry, and also throughout Sega itself. Company founder David Rosen followed suit the next day, resigning his long-time chairmanship of Sega of America as his way of expressing his dismay at the way Kalinske and his staff had been treated. As for Hayao Nakayama, he acknowledged his longtime colleague and friend's move by resigning his own position as co-chairman of Sega of America, returning to directly managing Sega of Japan's affairs. Replacing Kalinske as president was Bernie Stolar – one of the oldest and most controversial executives in the video game industry – fresh from a royal row with former employer Sony. Assuming the chairmanship of Sega of Japan was the irrepressible Shoichiro Irimajiri, a former Honda CEO and longtime automobile industry executive who had signed on with Sega just three years before. "We are sorry to see Tom leave Sega, but he has left us in a strong position in the marketplace," Irimajiri would say to reporters. "I am excited to be taking a more active role at Sega of America now. We're looking forward to an extremely favorable holiday season." Kalinske's outlook was far less rosy. "Nobody could have succeeded in marketing that thing," Kalinske later confided to the Wall Street Journal about the Saturn. By September, Kalinske had also resigned his largely ceremonial seat on the board of directors, severing all ties with Sega for good. It was the first major shakeup in Sega's corporate structure in years, but it wouldn't be the last.
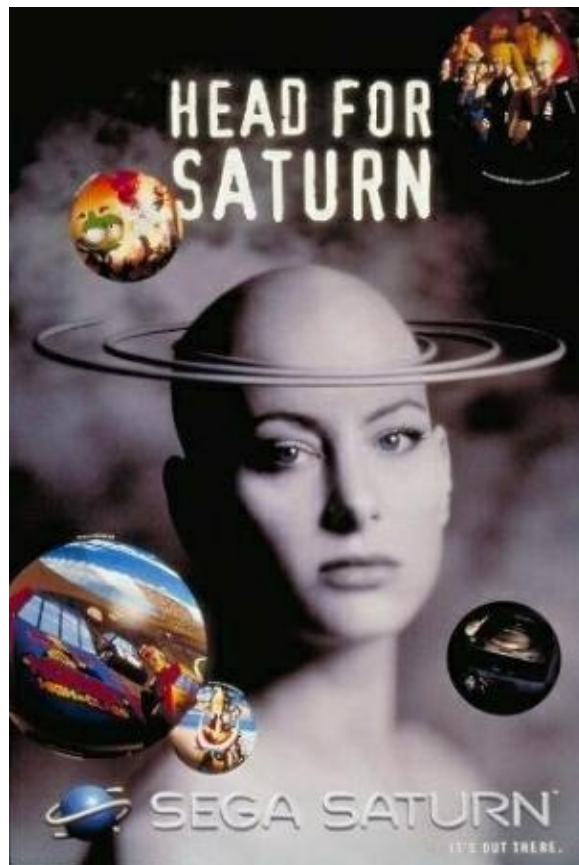
Sega Saturn advertisement

Kamikaze Console:

Saturn and the Fall of Sega

PART TWO OF TWO
(August 1996 - March 1998)

The beginning of the end

As the memory of E3 1996 faded, Sega found itself unfit to do battle with either Sony or Nintendo. Several new Saturn titles were suffering production delays. Sega was losing money hand over fist due to Sony's bold move in forcing down next-gen console prices, so much that now Sega could never hope to break even on Saturn production costs. Rumors surfaced that Sega was going to drop the Saturn in 1997. Industry insiders pointed to Sega's steadily shrinking profits, shallow pockets, cranky console, and the lack of software. Sony was widely predicted to win the third great console war hands down. Sega's Japanese masters saw things differently, of course; N64 sales in Japan had all but ceased due to a dearth of software, and Saturn was still outselling PlayStation. What was happening in Europe didn't really matter; the market was too small to worry about. The situation in the United States was a mere aberration, and would be quickly corrected now that Kalinske was gone. The Americans *would* come around...in time.

The confidence Sega of Japan demonstrated did not jibe, however, with the company's performance in the one market that mattered most. Sega had somehow managed to sell over 500,000 Saturns in the U.S., but that was less than half the number of PlayStations sold. In gamers' eyes, the PlayStation was cheaper and had more cool games, and this was reflected in the market performance. Sony was giving them more of what they wanted, while Sega had seemingly shunned its glorious past and was now alienating as many gamers as it could through high prices, lack of good software, and broken

promises. Sony's share of the video game industry was growing by leaps and bounds as the 1996 holiday shopping season approached; Sega's continued to plummet. The Saturn's chances of surviving the third great console war were now slim to none. There was no longer a question of whether or not Sega could pull off an upset. Instead, everybody – except Sega – was wondering just how far the former champ would fall. They would find out soon enough.

Sega Saturn with type-2 controller

A bevy of quality Saturn releases – long-overdue in the US – arrived in the latter half of 1996: All-new NetLink versions of *Daytona USA* and *Sega Rally*, an Olympic sporting sim called *Decathlete*, Kenji Eno's *Enemy Zero*, fighting games *Dark Savior* and *Fighting Vipers*, and plenty of RPGs, including *Legend of Oasis, Albert Odyssey, Shining the Holy Ark* , and *Shining Wisdom*. Finally, Saturn had a decent chance of competing. From the start, the biggest issue with the Saturn had been a dearth of good software. Finally, it had arrived – and more was on the way. Now if only Sega hadn't been so selective about what titles it brought over from Japan! The more the merrier, reasoned Sega fans and supporters – especially when it came to RPGs. GameArts was already porting its phenomenal *Lunar* series from Sega CD to the Saturn, with another epic in the works called *Grandia*. Early previews of the game looked as awesome as the name implied; with Working Designs working on bringing both of the Saturn *Lunar* ports to America (and another reported to be planned), the chances of seeing *Grandia* stateside seemed high. RPG-inclined American Saturn fans started saving their money, hoping for the best.

For those gamers not inclined towards RPGs, though, there was one big gap in Sega's expanding software base: There was no quality American football game on the Saturn. Saturn lacked the likes of *Sega Sports NFL 96* or EA's *Madden NFL 97*, and Acclaim's *NFL Quarterback Club* franchise was widely known to be long on looks and short on gameplay – the Saturn incarnation included. As to how this could have been allowed to happen, it's easy to blame Sega yet again – but the actual answer is a little more complex. At the time that Sega of America would have needed its in-house programming teams to commence work on a football game for 1996, they were tied up – and would be for some time. Nearly everyone with any programming skill was hard at work on *Sonic X-Treme*, which was running into all kinds of development roadblocks. Sega would happily have contracted an outside programming house to do the game, but none of the good ones were available – they were all busy developing games for PlayStation. There was one – a little start-up by the name of Visual Concepts – but they had just blown their first big shot by badly flubbing *Madden NFL 96* the year before, causing EA to miss out on the PlayStation launch. *Madden NFL 96*, which was to have been the first all-3D incarnation of the game, was cancelled, and Sony's own *NFL GameDay* took its place. Now, in 1996, EA's teams were working overtime to bring a 3D *Madden NFL* football game to the more profitable of the two 32-bit console licenses, leaving no time for a Saturn port. All in all, a rather unwieldy set of circumstances that came together to ensure that there would be no good football game on the Saturn in the fall of 1996. Sega's dreadful oversight became clear once the American football season kicked off, and software sales figures started rolling in. *NFL GameDay 97* was be the #1 football game of the year almost by default, with EA's *Madden NFL 97* a close second. As for the Saturn port of *NFL Quarterback Club '97*, it was nowhere to be seen on the charts.

Grandia

On a more positive note, Yuji Naka's *NiGHTS: Into Dreams* hit U.S. store shelves on August 21, 1996, bundled with a special "3D controller" and backed by an $8.5 million promotional and merchandising campaign – nearly as much as Sega had spent promoting the entire Genesis launch back in 1989. Sega was taking no chances, and even briefly resurrected the signature "Sega Scream" in order to promote the game. Those who recall that campaign will also remember the "Full Freakin' Frame Footage" TV spots by Ingalls Moranville Advertising, designed to highlight as many of the game's features within 30 seconds as possible. "*NiGHTS* is the most significant game launched for the Sega Saturn to date," said Sega of America president Shoichiro Irimajiri, "It proves the power of our multiprocessor architecture and demonstrates the fresh new direction in game development Sega is taking, like those in *NiGHTS* and the rest of our fall lineup." *NiGHTS*-mania ran high, with Next-Gen magazine speculating – correctly – that the game would be one of the best-selling titles of the season.

Saturn 3D controller

According to industry reporter Steven Kent, *NiGHTS* - more than any other game - typifies both the good and the bad of the Saturn. Its atmosphere and design were exceptional; but while the game had a free-flowing 3D feel, most of it actually took place within two dimensions. While Nintendo and Sony were true 3D game machines, Sega's was a 2D console that could handle 3D objects – but wasn't optimized for 3D environments. Kent's comment calls to mind the Saturn's origins as a 2D console – a heritage it was never really able to shake. Even Yuji Naka, arguably the best of Sega's in-house programmers, could not create a Saturn platformer boasting the same kind of open-environment feel his peers were crafting for competitors' consoles, and admitted as much.

"In my opinion we still haven't used 100% of the console's hardware. We believe it is possible to make something much better. NiGHTS is our first Saturn game and, thus, we couldn't take full advantage of the system. We have studied a lot of possibilities that we could have used and we haven't even tried them. Just the basic manual has three volumes [laughs]. This time we have limited our own abilities."

That it was a great game ultimately didn't matter. As good as it was – and as well as it sold – *NiGHTS* alone could not save the Saturn. It was a situation that would eerily repeat itself roughly four years later, during the twilight years of Sega's last video game console.

By the end of August, Sega of America's financial situation was so dire that president Bernie Stolar discontinued all television advertising, effective the following month. It was a move Sega could ill afford – after all, television ads had been the backbone of Sega's earlier promotional efforts – but the company simply couldn't fund the sort of multi-million dollar, multimedia blowout for which it had been known. Stolar was berated by industry pundits and hardcore gamers alike, but he neither regretted nor apologized for his decision, and – in all fairness – Stolar's move probably didn't hurt Sega as much as suggested. By this time, it was clear who was dominating the American console markets – and it wasn't Sega. Stolar deemed it unnecessary to waste precious company resources on a battle he knew he couldn't win – instead, he was already looking beyond the Saturn.

It was around this time that the few American gamers who hadn't yet committed to 32-bit consoles played their hand, and the choice was clear: The PlayStation was cheaper, had more games, and besides, got all of the really cool titles first – if not exclusively. Sega was no longer cool – old school, in fact – but the PlayStation was, and even Nintendo's N64 was looking pretty promising. Sony's marketing machine had done its job, and done it well. PlayStation was the "in" system, with an installed user base of some two million consoles and growing. Saturn, on the other hand, was definitely "out," with just under 900,000 consoles sold and nearly no good games to be had.

Nintendo launched its N64 in the U.S. on September 29, 1996. All of the 350,000 allocated consoles sold out within four days, thanks largely to massive interest in just one game. Nintendo's mascot was making the comeback of a lifetime in his new 3D adventure, Shigeru Miyamoto's *Super Mario 64*. Also of interest was a *Star Wars* exclusive, *Shadows of the Empire*, running in full-

blown, light-sourced, texture-mapped 3D. That, in a nutshell, sums up the N64 software situation at launch. Just as in Japan, there was a dreadful lack of games – especially quality ones – and Nintendo's decision to stick with cartridges left new N64 owners shelling out as much as $80 per game. It didn't matter; American gamers had deep wallets, and there was still lingering loyalty to both the Nintendo brand and the idea of unbreakable cartridges over easily damaged CD-ROMs. The release of *Star Fox 64* and the impressive first-person shooter *GoldenEye* (based on the James Bond movie) in the following months helped drive sales even higher. And while N64 sales didn't come close to the PlayStation's, Nintendo's arrival on the next-gen scene effectively eliminated any chance Sega had of making a Saturn comeback. Sega's already dwindling market share was cut in half by Nintendo's resurgence, and it was only a matter of weeks before N64 sales surpassed the beleaguered Saturn's.

Why couldn't the N64 catch up with PlayStation? Those gamers watching MTV that fall know the answer, recalling a wildly popular TV commercial featuring a guy dressed up in a big orange animal suit standing outside of Nintendo's American headquarters. Shouting at the building through a bullhorn, he challenges "Plumber Boy" to come out for a showdown. Nintendo's response? Security guards haul off the heckler at the end of the ad. This was the very first commercial for Sony's new 3D platformer, *Crash Bandicoot*. Sony's Kaz Hirai, now running the American end of the PlayStation business, had wasted no time in tearing a page from Sega's own book, mating a quirky corporate mascot with bad-ass advertising. And it worked – "a rebellious image sells," after all. Gamers were seeing in Sony and Crash what they saw in Sega and Sonic only a few years before. Sales of *Crash Bandicoot* were phenomenal, and Sony's console sales figures rose alongside them.

Nintendo 64

PlayStation and its software's sales skyrocketed, and N64 console sales continued to soar, while the Saturn was sinking, sparking speculation that Sega was seriously considering leaving the console business altogether. The rumors grew so persistent that Sega of America's Ted Hoff was instructed by his masters to address them. When questioned as to whether or not Saturn would be Sega's last console, Hoff replied that it would not – Sega was committed to the console business. This came as welcome news to fans and industry analysts alike, who agreed that the sooner Sega jettisoned the weight around its neck, the better off it would be. Somewhere, surely, Sega was designing a successor to the Saturn. Hoff's statement was as tacit an admission as any that Sega understood that the Saturn had failed – bombed, in fact. Big-time. There was only one way for Sega to even begin recouping its investment in Saturn, and that was to absorb those losses with the successful launch of a brand new console. Unfortunately, hardware development takes time and money – commodities of which Sega was fast running out. The situation is aptly described in Steven Kent's *The First Quarter*:

"Things were now closing in on Sega. The company that had once proved that the market was big enough for two competitors was now demonstrating that it wasn't big enough for three."

By September, Sony had shipped over 2.3 million PlayStations in the U.S., and over eight million worldwide. By the end of the year, they were making

roughly $12 million a day in console sales alone, having sold about one million PlayStations during the 1996 holiday shopping season. Sony now controlled 50% of the console market, making it the majority player on the field. PlayStation outsold Saturn by a more than two-to-one ratio; the difference in software sales was even more dramatic. Nintendo sold considerably more N64s – some 1.5 million during the same season – but the sales spike wouldn't last. In comparison, Sega had only sold just over three million Saturns total worldwide since the system's debut in 1994. It was "Déjà vu all over again" for Sega executives; they simply couldn't counter that much market muscle.

While mainstream market analysts in the U.S. confidently predicted the Saturn would miss its sales targets, Sega of America did its best to buck up the Saturn faithful, praying it might pick up some stragglers along the way. On November 18, 1996, it officially announced the first of its "Three-In-One" special software deals: Sega would include free copies of *Daytona USA, Virtua Cop,* and *Virtua Fighter 2* with every Saturn console sold. This calculated gamble worked so well that Sega of America renewed it through the end of the year and well into 1997. Saturn console sales saw a big holiday boost as a direct result of the "Three-In-One" promotion, with retailers reporting anywhere between a four and tenfold increase in Saturn hardware and software sales. Sega of America reported an approximate 175% increase in combined console and game sales. Sega of America sold another 500,000 consoles alone during the 1996 holiday shopping season – an impressive figure, to be sure – but still just half of its original holiday sales target of one million consoles. By the end of the year, Sega would report total worldwide Saturn sales of just 3.6 million units. Sony's PlayStation was still way out in front with 11 million units worldwide. In comparison, Nintendo and its N64 had caught and passed Sega in the U.S. market within mere months, and would do so in the worldwide market by the following year. Sega was far behind and falling fast, and it looked as if there was no conceivable way that it could catch up with its competition.

Sega Saturn flyer circa 1996

So how did 1996 turn out, once all was said and done? To put it plainly: The third great console war was now effectively over. Sony had triumphed, handily sweeping aside the opposition. In spite of this, Nintendo had successfully joined the next-gen wave with the N64, supplanting Sega as the weak number two on the console market, and leaving little room in which a third competitor could remain profitable for long. On March 31, 1997, Sega submitted its annual consolidated financial reports to its stockholders. Against all odds, it had managed to pull off a profit, but it was a paltry ¥5.57 billion ($46.4 million) – less than half of what the company had made the year before. Sega had not performed so poorly since the days before the Genesis came on the scene. As it turned out, 1996 would be the last year that once-mighty Sega would post a net profit as a console manufacturer. It almost appeared as if Nakayama and company were deliberately allowing Sega to devolve back into the industry whipping boy it had once been. And the worst was yet to come.

Paying the piper

For Sega, 1997 was the year of reckoning. The once-proud giant, the third

company to dominate the American video game market since its inception, now suffered its greatest humiliation since the "great crash" in 1983. The culture of corporate arrogance that had been leading it by the nose was now poised to bite it in the ass. All of Sega's mistakes from the past few years would come home to roost in dramatic fashion, ensuring that the Saturn would forever be considered a failure in the public eye. While its rivals were better financed and had stronger market positions, what happened to Sega in 1997 was nonetheless largely a disaster of its own making. It was during this year that Sega went from making clear profits per annum to posting massive losses, casting a shadow over the doomed Saturn's future, and causing the rest of the industry to wonder if the company could ever rebuild itself again. All that led up to this point had set the stage; the time had come for Sega to pay the piper.

The first thing Sega did out of the gate was – true to form – to trumpet its console sales. 7.16 million Saturns had been sold worldwide as of January 14, 1997: 4.4 million in Japan, 1.7 million in the U.S., just under 900,000 in Europe, and 160,000 in "other markets." Even considering the beating that Sony had given them the previous holiday season, they were impressive numbers. At the same time, Sega of America renewed its Three-In-One promotion, but with a twist: from February 15 through April 15, Saturn gamers would enjoy a "buy two, get one free" deal on a dozen top Saturn releases. The free games initially offered were nothing to sneeze at: *NiGHTS*, *Sega Rally Championship* with Arcade Racer controller, *Sega Worldwide Soccer*, and *Virtual On*. The new promotion proved as popular as its predecessor, and Sega of America ended up extending it through the end of May. Meanwhile, behind the scenes, Sega of America laid off about 100 personnel and rearranged its operations, battening down the hatches for what was anticipated to be another troubling year.

Sega kicked off 1997 barely maintaining the next-gen console lead in Japan, falling way behind in America, and practically irrelevant in Europe. Sega's lead at home was not to last, however, and it lacked the resources to stage any sort of serious comeback in the West. Anyone familiar with the market trends

knew what was about to happen. Sony had started 1996 with an installed user base of 3.3 million PlayStations in the U.S., one-third of which had sold during the 1996 holiday shopping season alone. Sega, by contrast, had placed only 1.6 million Saturns in the U.S. homes. It too had moved about one-third of the total during the holidays, but the PlayStation had outsold the Saturn by more than two to one. Clearly, 1997 would be the year of the PlayStation. With Nintendo clinging on to a stronger-than-expected second place, all that remained was to see just how far Sega would fall.

The rest of the video game industry was so sure of the PlayStation's impending dominance that they didn't mind Sony's buying up exclusive rights to many of the best up-and-coming games for 1997 – a practice it had commenced the previous year once its success seemed assured. While Nintendo couldn't match this strategy, it had something Sony didn't: in-house programming teams fully capable of cranking many excellent games. Sega was fully capable of matching Nintendo's programming efforts; however, it lacked Nintendo's financial reserves, superior management practices, and canny marketing techniques. Despite being the best year the Saturn would ever have, 1997 was when Sega's reputation for failure as a next-gen console manufacture would begin to manifest. Wrongly or rightly, many industry pundits blamed the machine itself, its limited software base, and the clearly dreadful way that Sega was mismanaging the marketing of its flagship console. At times, it seemed as if Sega of America followed one brilliant marketing move with several bad ones. Few realized at the time who was pulling the strings, but already there were voices of dissent to be heard from within Sega itself.

In Mid-March of 1997, Bernie Stolar was promoted to the position of COO at Sega of America. Prior to this he had led Sega's third-party licensing; now, he was in charge of its entire American operations. Before joining Sega, he had worked with Steve Race over at Sony on the successful PlayStation launch. Stolar knew perhaps better than any other of Sega's American executives that the Saturn's days were numbered, and made no bones about it. "I felt Saturn was hurting the company more than helping it," he later recalled

in an interview with MSNBC. "That was a battle that we weren't going to win." After fully assessing the situation, he went to his superiors in Japan and told them the truth: Sega of Japan needed to reevaluate the direction it was taking with its flagship console and, to use his own words, "...see how we can best manage the winding down of Saturn." To Stolar's surprise, his audience was receptive – more so than he'd anticipated. It was as if Sega's Japanese executives had been milling about in their three-piece suits, knowing something needed to be done about Saturn but unsure of which way to go. "I don't believe there was direction before," Stolar later recalled. "It was a matter of, 'Let's see the plan. Show me how it looks financially to our business plans. Show me how it looks towards where the company is heading and how it transcends into that.' And once I did that, they felt comfortable letting me do what I did." Stolar's success was due largely to the fact that he had a previously unavailable ally on Sega's board of directors – one who knew the business world well, and just how accurate Stolar's analysis actually was.
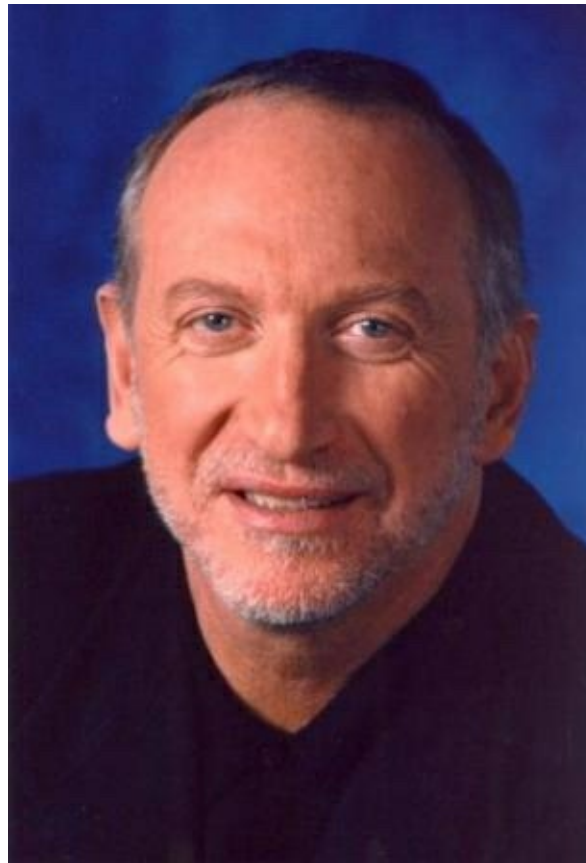
Bernie Stolar

That new dissenting voice within Sega corporate was Isao Okawa, a well-known and wealthy Japanese venture capitalist who joined Sega's board of directors in 1997. Before this, he was better known as the founder and head of CRI (CSK Research Institute), as well as for his work with the Japanese government in building up Japan's high-tech business economy. CRI had been associated with Sega for many years, and Okawa had long been appalled at how poorly Nakayama and his fellow executives were running things. Although his new position within Sega was a largely ceremonial role, he was in effect the head of the corporation – making him both a voice and a force to be reckoned with. "The bottom line is that Sega was too loose with its money," Okawa recalled shortly before his death in 2001. "No matter what I told Nakayama, he just brushed me off, saying, 'Okawa-san, you do not know the gaming business.' What I do know is business. Nakayama may have known games, but he did not know business. As a result, Sega kept going after profit/loss and did not consider its balance sheets. They did not think about cash flow at all." Okawa further commented on Sega's mismanagement during this time:

“The business management of Sega left me totally dumbfounded. One of the basics of business is that you hand over the product to buyers and receive money in return. Unfortunately, our management personnel did not even seem to know this basic fact. That is why their attitude has been so nonchalant, even if Sega is accumulating debt. They have no concept of production schedules or product management on their minds. They think neither of balance sheets nor cash flow. They know a lot about games, but they do not know how to run the company.”

Okawa's comments didn't sound all that different from what Tom Kalinske, Paul Rioux, and Shinobu Toyoda had tried to tell Nakayama back in 1995, and chimed perfectly with what Stolar was now advocating from the West. It was the one point on which Okawa and Stolar agreed – their relationship was rather strained due to personality clashes – but it was enough. Sega had run the company into the ground with the Saturn. It was time to jettison the console

and move on to something with a chance of turning a profit while there was still a Sega left to hawk it.

While the wheels of common sense were at last beginning to turn within Sega, the rest of the industry moved on. As the year rolled on – and the impending death of the Saturn became more and more evident – the rumor mill kicked into high gear. On March 12, 1997, a number of video game-oriented Internet sites reported that Sega had a successor to the Saturn in the works, known then by various names including Black Belt, Dural, Project Pluto, and Saturn 2. Soon after, rumors began to circulate of a 64-bit upgrade module for the Saturn – similar to 3DO's aborted M2 plug-in – that would also double as a RAM expansion cart. Ominously enough, the reported name for this rumored upgrade was Eclipse. To industry watchers and eager gamers, it seemed Sega was exploring two distinct possibilities for the immediate future: Either extending the life of the Saturn by a few years via hardware upgrade, or ditching it altogether for a completely new and more powerful system. Either way, Saturn's dim future and Sega's apparent indecisiveness on the matter left many a Sega gamer feeling confused and disheartened. But again, we're getting ahead of ourselves. Before Okawa and Stolar's policies concerning the Saturn's future began to bear on Sega's ailing fortunes, the remainder of 1997 had to play out.

On February 27, 1997, Sony dropped the price of the PlayStation to £200 in Great Britain and AU$200 in Australia; in North America the price was reduced to $100 just four days later. Three days later, Nintendo CEO Hiroshi Yamauchi announced that his company would meet Sony's price, which it did – dropping the price of the N64 to $150 approximately two weeks later. Ten days later, Sega announced that it was cutting the price of its top five Saturn titles by as much as 50%. On March 17, to accompany its price drop, Nintendo noted that it now had an installed U.S. user base of some two million consoles. Ten days after that, rumors began circulating among video game retailers that Sega was planning to drop the price of the Saturn to a mere $100. At about the same time, several leading video game magazines ran articles concerning a "special

loss" that had appeared on Sega's consolidated earnings statement for fiscal year 1996. Sega was postponing its official annual statement until May (due to certain high-level corporate activity which we'll get to shortly), but already word about the figures was leaking out, based on earlier Internet reports and confidential sources within Sega's own corporate structure. Sega would be taking a hit of $216 million "due to problems with accumulated supplies of outdated game players (i.e. 16-bit consoles and software) and losses at its U.S. subsidiary."

The news shocked Sega stockholders and supporters as much as it did the rest of the video game industry. It was now obvious that Sega's PR department was going to blow a lot of smoke to cover the damage – if they could at all. Interestingly enough, that figure – $216 million – was the same as the net total of operating losses incurred by Sega of America over the Saturn to date, as reported at the end of 1996 by Sega managing director Shunichi Nakamaura. By April, Sony had sold 11.2 million PlayStations worldwide – five million in Japan, four million in the U.S., and 2.2 million in Europe. Sega's announcement that it would meet Sony's price drop was another cut in revenue it simply couldn't afford. It would now be selling Saturns at a dramatic loss, one which profits from software sales and additional revenues from other company divisions could no longer cover. Not that it mattered what Sega chose to do; Sony was already far in front, and increasing its lead by leaps and bounds.

Dragon Force

On April 25, 1997, Sega kept its promise concerning Saturn software and began cutting the price of some of its most popular Saturn titles, including such notables as *Dragon Force* and *Virtua Fighter 2*. On April 29, Funcoland became the first U.S. vendor to drop the price of the Saturn to $150 – over objections from Sega of America. Unsurprisingly, several other retailers promptly followed suit – they could see what was happening, and where it all was heading. On May 28, Sega revised its forecasts for worldwide Saturn sales, noting that it expected demand for the following year to drop to 1.9 million units – down significantly from the 4.16 million units it had already shipped. Also projected was a loss of some 46% in revenue from Saturn software sales. On June 3, Sega kept its second promise, officially dropping the price of the Saturn to $150. Not to be outdone, Sony had already arranged with many U.S. retailers to sell their stocks of older, less reliable versions of the PlayStation for a mere $130. By August, Sony's market share had effectively doubled, and it had unquestionably taken the lead from Sega in Japan.

Bandai logo

Sony now dominated the video game market in a fashion not seen since the late 1980s, when Nintendo had unleashed the NES on skeptical American audiences. On June 23, *NextGen* reported that Sega had officially cancelled Eclipse, its planned 64-bit upgrade for Saturn, and with it went any hope among Saturn owners that their beloved console could be saved. Forced to face the unpleasant realization that their favorite gaming system would exit the stage within a matter of months, many simply refused to accept the facts for what they were. And as for the rest? It was now painfully obvious that the sand in Sega's hourglass had run down: it was out of time, out of cash, and out of luck.

There was only one option left to Sega if it wanted to return to profitability and avert disaster: partner up or merge with another party – one with deep pockets. Not a competitor like Sony – that would have been a complete loss-of-face – but a friendly ally, or even an interested third party. No one knew Sega's withering financial situation better than Hayao Nakayama; after all, he bore more responsibility for causing it than anyone. This mess was his fault, making it a matter of corporate honor for him to resolve it. Nakayama took it upon himself to save face by finding a workable solution to Sega's cash problems, ultimately settling upon merging with Japanese merchandising giant Bandai. He had broached the idea over dinner in 1996 with Bandai president

Makoto Yamashina, who shared with his fellow executive the dream of a giant multimedia conglomerate to rival the likes of the Walt Disney Company over in the United States. It was a beautiful dream… But could they pull it off?

Founded in 1950, and having since grown to become Japan's largest toy manufacturer, Bandai is best known in the West for its merchandising of anime properties. This was an idea that Yamashina brought with him once he assumed the presidency from his aging father (and company founder) Naoharu, despite the elder Yamashina's objections. Makoto Yamashina's first such success was with the granddaddy of anime sci-fi mecha shows, *Mobile Suit Gundam*. Toys based on the *Gundam* franchise sold like gangbusters in Japan, so Yamashina continued with other so-called joint properties, expanding the concept to include such live-action television shows as *Kamen Rider* and other youth-oriented fare. Like Sega, though, Bandai was now experiencing cash flow troubles due to the economic recession in Japan that had taken root in 1991. Its most recent joint properties – the anime television series *Sailor Moon* and the most recent incarnation of its live-action *Kyoryu Sentai Jyuranger* (aka *Mighty Morphin' Power Rangers*) brand – were both past their prime and no longer raking in the profits. Additionally, Bandai's initial venture into the video game market – the Bandai Pippin – was an utter failure, and had to be ditched altogether. Nakayama and Yamashina, along with their respective staffs, had been in quiet negotiations throughout the latter half of 1996, working out the deal's big picture, and leaving the finer details until after the planned merger's date became definite.

On January 23, 1997, Sega and Bandai called a joint press conference and announced that Sega would acquire Bandai in a stock swap deal worth roughly ¥129 billion ($1.09 billion). "The idea," said Sega spokesperson Lee McEnany, "is to become the largest entertainment company from toys to theme parks to video games and music. We want to run the whole gamut. This merger will give us more leverage and power." Investors' initial reaction was rather cool on the stock markets the following day, but they eventually gave grudging support to the idea. More news about the merger came four months later on May 24,

after both companies released their long-delayed annual financial statements. Sega and Bandai planned to merge their company-wide operations by October 1, according to an agreement that was to be signed the following week. Sega's Isao Okawa would act as chairman of the combined corporation, Sega Bandai Ltd, with Nakayama serving as its CEO, and Yamashina third in line as company president. All that remained was the allocation of divisional tasks and the elimination of redundant personnel. "It's an extremely complex merger, because you're talking about two global companies coming together," commented financial analyst Robert Burghart of IGN Barings Securities (Japan) Ltd. for a story by New Media News.

The merger agreement was to be signed on May 22. It never happened. It was the middle management of Bandai – many of whose jobs were about to be eliminated – who first raised a ruckus about the whole affair. They'd gotten wind of it in April, and the news apparently caused such contention among Bandai management's ranks that the company board of directors postponed its initial decision to vote on the deal on May 1 by three weeks. It was hoped that the additional time would permit tempers to cool while more information about the merger was revealed, but the exact opposite occurred. Bandai employees were determined not to let Sega "absorb" their company (eliminating their jobs in the process), and vociferous objections continued to flare. Coupled with growing concern from rank-and-file employees, the incessant resistance of Bandai's middle management gathered strength, growing to such proportions that it spiked the planned merger within days of its being executed. On May 26, Yamashina is reported to have contacted Nakayama, apologizing and saying, "I'm sorry, I couldn't persuade them." The next day, Bandai senior managing director Mikio Ishigami informed the press that his company was calling a special meeting of its managing directors in order to review the merger, resulting in its being delayed until mid-July. Over 80% of Bandai's middle management "had expressed concerns about changes in the company's culture and working conditions that would occur as a result of the merger," according to New Media News. Local Japanese newspapers were even

blunter, reporting on growing numbers of Bandai employees dissatisfied with the encroaching merger. By the next day, it was all over.

On May 28, at separate press conferences, Nakayama and Yamashina acknowledged that the merger had fallen through, although the two would continue to work together along other lines. Both blamed "cultural differences" for the failure of the merger, albeit for different reasons. "It appears that among Bandai's younger-generation management class, the true purpose of the merger had not hit home and only the negative aspects were their focus," Nakayama said. He also commented that Bandai itself "would feel rather guilty" about calling off the deal. On the other hand, Yamashina "admitted that Bandai had run into trouble identifying exactly which synergies would have resulted from the tie-up, making it more difficult to persuade critics of the merger's value." On May 29, Yamashina announced his impending resignation; on June 26, at a special stockholder's meeting, he formally stepped down as Bandai president, retaining his largely ceremonial role as company chairman while denying that his actions had anything to do with the failed merger.

Mock Sega-Bandai logo

So what was the big deal? How were lower-level personnel at Bandai able to spike the merger? There were several smaller reasons that – when combined as a whole – predicated impending disaster to critics of Nakayama and Yamashina's plans. First was Sega itself: A company already on shaky financial ground and that stood to gain more from the merger with Bandai, with whom it had little in common. Second was their respective corporate cultures:

Sega had a rather loose-knit, free-wheeling management style largely credited to its origins as an American entrepreneurial enterprise, while Bandai was a traditional Japanese company which operated along strict Japanese cultural lines. Third was Nakayama himself: He was not perceived as an ideal choice to run such a large company due the manner in which he was running Sega into the ground right before everybody's eyes. Fourth was a sudden turn of good fortune for Bandai: One of their new toy products – a virtual pet device called *tamogatchi* – was proving to be a big success, and looked to generate sufficient revenue in the near future to make up what losses the company was currently incurring. Boiling it all down left many with a clear conclusion: Bandai didn't need Sega. Sega needed Bandai, who may have been the one posting a loss for fiscal year 1996, but had the merchandising strength to rebound. Sega didn't and never would. Bandai was always the deciding partner in the merger, and both Sega's and Nakayama's future success hinged on whether or not it went through. On May 28, 1997, as news about the failure of the merger was breaking, the following observation – shared by a number of financial market analysts – was posted on Dave's Sega Saturn Page.

"In the long-term, Sega may have more to lose from the failed merger as it had become much harder to restructure its unprofitable game-machine operation without new blood and a boost in its earnings. They said Sega's video-game machine is losing money and is unlikely to turn profitable in the future."

Nakayama was never able to bring Sega back into a position of market strength. The planned merger with Bandai had been his last throw of the dice. As 1997 rolled on, he quietly began making preparations to leave. On January 12, 1998, Nakayama tendered his resignation as chief operating officer of Sega of Japan. "Many speculate that the move by Nakayama is to take responsibility for the failed merger between Sega and Bandai, and the less than spectacular business achievements of Sega this past year," reported GameSpot News. The resignation became official the following month; Nakayama was booted upstairs to the newly created ceremonial office of

corporate vice-chairman, and fellow executive Shoichiro Irimajiri was appointed by the stockholders as the new Sega CEO. By June, Nakayama had left Sega altogether. He was the last of Sega's founding management team to leave, and his departure ended a long and often dictatorial era in the company's storied history.

In the West, Bernie Stolar is the man most often blamed by Sega diehards for the death of the Saturn. Many reasons are cited, but they tend to boil down to three key issues: His feud with Victor Ireland of Working Designs over Sega booth space at E3 1997, his public statement at the very same show about the future of the Saturn, and his implementation of the Five Star Games Policy. Let's take a moment to see just what bearing these items had on Sega's worsening fortunes in 1997. In truth, the Saturn was dying long before Stolar came onto the scene, but as he's widely perceived as driving the final nails in its coffin, the argument bears closer inspection.

E3 1997 was held from June 19-21 at the World Congress Center in Atlanta, Georgia; the show had outgrown its previous stomping grounds in Los Angeles. The first keynote address was by IDSA president Douglas Lowenstein, who discussed the growth of multimedia and the rise of the Internet. Lowenstein noted in his speech that official NPD research data indicated that there had been a 58% increase in console game sales, some six million next-gen consoles were already in the homes of U.S. gamers, and that number was expected to grow to 16-18 million by the end of the year. The second keynote address was by NBC News anchor Tom Brokaw, on hand to discuss the founding of his employer's MSNBC online news service. What does all of this have to do with Bernie Stolar and the demise of the Saturn? Plenty, as it turns out.

Lunar Silver Star Story Complete

The first of Saturn's problems at E3 1997 attributed to Stolar was the apparently spontaneous feud between Sega of America and software licensee Working Designs, its number one importer of RPGs. Due to a series of misunderstandings concerning scheduling and booth space (that still raise the ire of the principals involved), Working Designs did not receive the large area they were expecting within Sega's E3 booth. Instead, they were relegated to a small space in the back corner where hardly anybody could find them. Victor Ireland, president of Working Designs, had already developed a personal dislike for Stolar from the latter's days at Sony, where he exhibited brusque manners and dismissed "non-mainstream games" (i.e. RPGs) as being largely unprofitable. Ireland took the treatment his company received at E3 personally, perceiving it to be a direct insult levied by Stolar himself, and promptly announced that Working Designs would no longer support any Sega platform so long as Stolar remained in Sega's employ. Stolar may have been unperturbed, but Saturn RPG fans went berserk. While Working Designs was still committed to release the long-delayed RPG *Magic Knight Rayearth* for Saturn, it had cancelled its work on the Saturn port of *Lunar Silver Star Story Complete*, even though the game was reportedly nearing completion. Instead, it was bolting for Sony's camp as fast as it could, and would release the game for PlayStation instead. An upgraded and overhauled version of the highly-

acclaimed RPG for Sega CD – including those parts of the game that had been dropped due to original development deadlines – *Lunar SSSC* had been long and eagerly awaited by Saturn RPG players. Upon learning that the Saturn port had been cancelled, they took Ireland at his word, venting all of their fury on Stolar over his reported behavior – even if a large part of it was undeserved. While it's true that Stolar and Ireland weren't exactly buddies (and never would be), it should be noted that Ireland had already decided that Saturn was a dead system, and was looking for a convenient excuse to take his company out of the Sega fold. The infamous incident of E3 '97 gave him exactly the "cause" he needed to take his show elsewhere – away from a man he personally detested, and on to greener, presumably more profitable pastures. As for Stolar, he was reported to have privately expressed delight that Sega no longer had to deal with such a prima donna.

The second and more damning problem for Saturn was a single quote lifted from a speech Stolar gave on June 23, just two days after E3. "The Saturn is not our future," he said without hesitation during that speech, six words that would forever earn him the ire of hardcore Saturn fanatics. Stolar's quote was reprinted in a number of mainstream video game magazines, and plastered all over pro- and anti-Sega Internet sites in the months that followed. Rant after rant, rave after rave, flame after flame, the Sega faithful raged against Stolar and what he had said, and would do so for years. "For all practical purposes, Stolar buried the system alive while it still had a pulse left in it," noted one Sega site. Gamer Henry Knapp was even blunter, fuming "It seems as if Sega didn't want the Saturn to succeed." These are actually some of the milder comments one can find spurred on by Stolar's words, but he never apologized for his remark. Now focused on Sega's next console, he didn't really give a damn what happened to Saturn. It hadn't and wouldn't make Sega any money…but its successor might, given the proper time and effort for a successful launch. A new console represented Sega's last chance at climbing out of the financial hole it had dug for itself. Above all else, Stolar had faith that the average Sega gamer would eventually understand… They just needed

time.

Radiant Silvergun

The third of Stolar's perceived problems was his Five Star Games Policy, which went into effect on June 20, 1997. Often blamed for the dearth of quality Saturn titles in the West, it was, ironically, assembled in an effort to assure top-quality, top-selling Saturn games for the U.S. market. All submissions from both Sega's own programming divisions and its third party licensees were subject to the Five Star grading criteria, which emphasized "quality over quantity." If submissions did not receive a composite score of 90 or more, they had to be reworked or else they would be dropped from the release list. It sounded good enough when first announced at E3 in 1997, but soon came to be blamed by irate gamers as the reason why so many notable Japanese Saturn titles never made it out of Japan. Take *Sakura Taisen*, for instance: This odd-yet-excellent combination of mech combat and romance simulation was wildly popular in Japan, and had a devoted following in the U.S., yet Sega never saw fit to release the game in the West. Saturn fans pointed to the Five Star Policy, which seemed to ensure that such a market-specific title would never see the light of day in the West – and as the one who'd put that policy into place, Stolar was to blame. Other excellent titles were left behind in Japan, such as *Radiant Silvergun*, considered the best shooter ever created for the platform and arguably the greatest arcade-style shooter ever made. A

great many gamers from that day still blame Stolar's Five Star Games Policy for the dearth of good Saturn titles in 1997 and 1998, while in truth the responsibility lies elsewhere. It was Sega's own executives over in Japan, not Stolar, calling the shots as to which Saturn titles would cross the pond. Stolar had more pressing concerns to worry about, such as ensuring that Sega's Saturn left this world with some grace intact, while he readied its next system for its eventual market debut.

One of the Saturn's often overlooked features in direct comparison with its competitors was its dedicated expansion port. Such a port could be used for various purposes: Sega's NetLink module, a dedicated MPEG playback card, or a RAM expansion cart. It was the RAM cart option that loomed large in the minds of Western Saturn owners in 1997; they knew full well that Eastern owners already had them and were enjoying games specifically coded to take advantage of them. Furthermore, Sega was letting third parties such as Capcom manufacture and sell their own Saturn RAM carts. Fighting games from Capcom and SNK boasted faster loading times, smoother animation, more colors and more intense action. It was even rumored that Capcom's in-development Saturn port of *Resident Evil 2* represented such an overhaul of the PlayStation original that the RAM cart would be required. Rumor was all it ever was (and would be), yet the very notion of an enhanced *RE2* port for Saturn was enough to excite Sega fans at the time. RAM expansion capability was something sorely missed by Western gamers. PlayStation was a sealed box that offered no expansion options save those which could be somehow grafted onto the system's ports, and that did not include system RAM expansion. Only the N64 had a similar expansion port, but Nintendo's mindset on such devices was characteristically Nintendo: If it didn't have their name on it, or was not manufactured at their facilities, it simply wouldn't exist. In spite of all this (and the constant clamoring of North American Saturn owners), no official Saturn RAM cart was ever released in the West. Sega knew the Saturn was dying, and had been in negotiations for several months about licensing Capcom's own RAM cart and selling it in the West under the Sega label, along

with Capcom's *X-Men vs. Street Fighter*. Those negotiations fell through due to increasing concern over Saturn's plummeting market fortunes, however, causing Sega executives from both East and West to rethink their strategy. In their opinion, there was no point in releasing a costly piece of hardware to a market that was fast shrinking for one simple reason: there was no profit to be made. Hardware is expensive, and yields the lowest profit margin in a product line. Sega was already losing money on Saturn hardware, and, by every estimate they ran, would lose more by releasing the RAM cart in the West. No profit, no point. It was a simple business decision Sega executives were forced to make time and again during this period due to the Saturn's diminishing market position – but it did little to assuage the growing ire of many a Saturn owner in the West.

Final Fantasy VII

On June 1, 1997, Square unleashed the mother of all RPGs on the U.S. market. Hironobu Sakaguchi's love affair with the multimedia capabilities of the Sony PlayStation had finally borne fruit earlier that year in Japan, where his game had been an instant sellout. *Final Fantasy VII* told a cyber-punk-infused story of a young warrior named Cloud and his rebel allies as they strove against the evil machinations of the Shinra Corporation. It had everything a next-generation RPG fan could want and more: Beautiful graphics and stunning

cinematic sequences, a simple-yet-balanced game engine, and hours upon hours of gameplay. The staff of *NextGen* magazine, no strangers to the genre, estimated that it took nearly 50 hours to play thorough the game from start to finish. It was a monster of an RPG, but more importantly, it was the genre's first next-gen effort. The 2D, super-deformed characters of the past had been replaced by 3D polygonal models. Static, overhead screen views gave way to dynamic camera angles. And full-motion video (FMV) was used to an extent that had not been seen *since Lunar 2: Eternal Blue* on the Sega CD two years before. *Final Fantasy VII* sold 2.5 million copies during its first three days on the Japanese market, making it the main reason why the Sony PlayStation finally surpassed the Sega Saturn in Japan. Japanese gamers were buying PlayStations for the sole purpose of playing Square's magnum opus, driving console sales at a rate with which Saturn sales simply could not keep pace. Eventually, 90% of all PlayStation owners in Japan also owned a copy of *Final Fantasy VII*. Recognizing a good thing when they saw it, Sony arranged with Square to have *Final Fantasy VII* translated into English and released in the West.

Sega Saturn with Sega NetLink

Final Fantasy VII's North American market debut was even more phenomenal than in Japan, making it not only the console RPG of the year, but the biggest game of the year on any platform. To this day, it is considered a

milestone in RPGs, and one of the hallmarks of the genre. The closest thing Sega had in its Saturn arsenal to combat the *Final Fantasy VII* phenomena was GameArts' *Grandia*, another excellent RPG from the company that had introduced the *Lunar* franchise to the genre. *Grandia*, having done surprisingly well in Japan, had Western gamers loudly clamoring for its release, but the Ireland-Stolar feud ensured that the original plan for Working Designs to do the English port died a quick death. The only other way to bring *Grandia* to Western shores would have been a joint in-house effort by both Sega and Game Arts, but both parties agreed that it would have cost more than it was worth. Western RPG fans' opinions aside, it most likely would not have sold enough copies on the Saturn to turn a profit for either company. Ironically, it would not be until it was ported to Sony's PlayStation and then brought to Western shores that English-speaking RPG fans would finally get the chance to enjoy another excellent RPG from Game Arts. Why? Sony had the enormous, ready-to-spend base to make an English language port worthwhile. Sega and the Saturn did not, and never would.

On June 19, 1997, Sega of America had five Saturn games on the market for its much-lauded 28.8 kbps NetLink modem, which enabled Saturn owners to surf the Internet with the included NetLink browser, and play NetLink-compatible games online. These games were *Daytona USA CCE, Duke Nukem 3D, Saturn Bomberman, Sega Rally Championship*, and *Virtual On*. But by July 3, 1997, plans had already scrapped been scrapped to release NetLink in Europe, with disappointing sales in the U.S. cited as the motivating factor. Given that there were some 15,000 NetLink users in the U.S. market – a dismal figure by any estimation – it's no wonder Sega of Europe altered the deal. The NetLink fiasco marks one of a few instances where a poor decision by Sega decision wasn't due to autocratic management, but rather the decision to tap a market that wasn't quite yet there. NetLink was way too early and far too expensive to be anything other than a novelty. Having the first Internet-capable console may have given Sega points for innovation, but it added nothing to its ever-eroding bottom line. Furthermore, many online-savvy gamers

claimed that NetLink lacked the fun, challenge, and spontaneity of either the Sega Channel or Catapult's X-Band network, both of which were for the 16-bit console generation. NetLink had no sports games (such as *Madden NFL*) and no fighting games (Capcom's, for example); it was just plain "boring unless you were a *Duke Nukem 3D* fan," but that was about it as far as the action offerings went. Gamers looked at NetLink, thought, "That's neat, but it needs better games," and went right back to their Sony and Nintendo consoles. Like so many Sega products past, NetLink came too soon to do the company any good in the present.

With the U.S. video game market primed for the final four months of the year – and the massive amounts of revenue to be generated therein – the writing was on the wall for the Saturn. Sony dominated the market with a 47% share for its PlayStation, boasting the most impressive software lineup of the year, with hit titles like *Final Fantasy VII* raking in millions in profits. Not far behind was Nintendo at 40% – the largest share of the U.S. market it would achieve in the third round of the great console wars. As Nintendo of America vice president Peter Main had correctly predicted, the N64 was feeding off Saturn's corpse – even if it wasn't quite dead, yet. His numbers may have proven wrong, but his take on the initial trends had been right on the money. Having fallen to a 12% market share, Sega was still trending downward. Unable to match its competitors' pace of rapid-fire price changes, Saturn's year-end software library paled in comparison. The few American Sega gamers that remained were, for the most part, bemoaning the lack of good software and bitterly complaining about Bernie Stolar's recently instituted Five-Star Software policy. It wasn't really his fault – he was merely making the best of a bad situation – but Saturn gamers couldn't see the big picture, and had no other outlet for venting their rage. As for the rest of the video game industry, they'd written Saturn off months before. Most of the mainstream industry magazines had already taken to calling it "a dying system," and several declared their eagerness to see the PlayStation ports of hot Saturn titles – like *Grandia* – that never made it out of Japan. It was a reasonable request; Sony

had a worldwide user base of 20.4 million PlayStations by September, and their numbers just kept growing.

Saturn wasn't the only console headed down the proverbial drain; another of the 32-bit CD-ROM-based consoles was about to bow out altogether. On September 3, 1997, Panasonic formally withdrew from the U.S. video game market, taking with it 3DO – the console that started it all – along with the planned 64-bit M2 upgrade announced by parent company Matsushita less than a year before. Trip Hawkins's dream of a single console standard among hardware manufacturers would have to wait. It was a vision that proved largely unworkable amid the proprietary-minded Japanese companies that dominated the scene, and another entire market cycle would pass before some of the seeds he'd sown with 3DO began to take root.

On September 30, 1997, Sega of America launched its last major advertising campaign in hopes of salvaging at least some of the holiday season for the beleaguered Saturn. Bernie Stolar managed to scrape together about $25 million for the effort, which touted the Saturn's prowess and the strength of its fall software lineup. There were the spot-on-accurate ports, of course: *Last Bronx, Manx TT*, and *Sega Touring Car Championship*. There were the Saturn-specific efforts: *Enemy Zero, Fighters Megamix* and the highly touted *Sonic R,* which Saturn gamers got in lieu of *Sonic X-Treme*, but that sordid story will be told soon enough. There was the sports lineup: *Madden 97* and Sega's own *NFL 97*. And then there were the third party efforts: Capcom's *MegaMan X4, Resident Evil*, and *Street Fighter Collection*, as well as id Software's *DOOM* and *Quake*, and 3D Realms' *Duke Nukem 3D*, among others. Sega rightly boasted that Saturn was the only console on the market to have uncut, uncensored versions of the world's three best-known first-person shooters of the day. Stolar brought in a new advertising firm to manage the effort, knowing full well that Sega simply didn't have the funds to match its competitors' efforts. Not surprisingly, this last stab was a failure.

In retrospect, the Saturn's last ad campaign is largely remembered for what didn't make it into the ad copy (but should have): Details about the games

themselves. Most Saturn owners were offended by what they perceived as a big waste of time and money. The campaign failed to make any impression at all on the average gamer, at that time under a constant barrage of TV commercials and print ads touting Sony and Nintendo's wares. Not one Saturn title – old, new or otherwise – entered the NPD TRST Top 25 Console Games list in either October or November, nor were any Saturn games to be seen on *NextGen*'s list of the top 20 console games of the year. To quote one industry observer, "A disturbing trend easily becomes apparent. The average Saturn owner has become a bargain hunter and an NFL junkie in need of a fix – any fix." When all was said and done, the Sega Saturn accounted for a mere 5% – at most – of combined holiday console sales, numbers that no right-minded corporate executive could ignore for long.

Resident Evil

On December 17, just as the 1997 holiday season entered its final mad week of shopping frenzy, *NextGen* reported that Sega of America was planning "a substantial downsizing" after Christmas. An official spokesman for Sega denied the story, but nobody believed him. Rumors of all kinds were seeping through the cracks, and unofficial estimates of Sega's yearly profit-loss statement had the once-proud industry giant losing hundreds of millions of dollars. The official figures, announced at the end of the fiscal year on March 31, 1998, were damning: Sega had sustained a net loss of ¥43.3 billion ($360.8 million) in fiscal year 1997, and its own annual statement laid the

blame squarely on the poor market performance of the Saturn. No one knew how such massive losses would affect the fate of Sega's next console, Katana, which had already been officially announced back on September 8. One thing was certain: Saturn was finished. It was now only a matter of when the axe would fall. As the saying goes, "If you can't run with the big dogs, then stay on the porch." Sega was barely capable of running at all, much less with its better-financed, better-resourced competition. Years of bad management and poor judgment found a major video game company – one which had enjoyed a reputation for innovation and creativity like few others – hoist by its own petard. Sega had violated one of its own major business axioms, failing to properly anticipate and adjust to a changing market. The company would never be the same after 1997, the events of which would pretty much dictate the fate its next – and last – video game console, and Sega itself.

The case of the missing software

With all the negative things being said about Saturn, including by Sega itself, it's no wonder that a lot of top-notch titles never made it out of Japan, or were never released at all. Although the Saturn's last days would see the release of some of its finest games – *Burning Rangers, Magic Knight Rayearth* and *Panzer Dragoon Saga*, to name a few – there were just as many that Western fans felt should have hit store shelves, but didn't. Some of these omissions are blamed on Bernie Stolar, but the real reasons have nothing to do with his Five Star Games Policy. Here is a brief overview of some of the more notable Saturn titles that deserved greater recognition than they received, and some that never got out of the gates. It is the opinion of many Saturn fans and game historians that their presence was sorely missed in the West, where Saturn needed all the help it could get. Why weren't they released? Let's have a look.

Eternal Champions: The Final Chapter: This is arguably the most acclaimed 2D fighting game created by somebody other than Capcom or SNK, conceived of by Deep Water, one of Sega of America's own in-house programming teams. The Genesis version was pretty good, and the

Sega CD version was spectacular, but both suffered from their respective consoles' limitations. *Eternal Champions: The Final Chapter* planned to pick up on one of the loose ends from the Sega CD game – the appearance of the Infernals – and would introduce new characters and an all-new tournament. Sega of America was already souping up the game engine, and making plans to release the third and final installment on Saturn when their superiors in Japan nixed the project. Needless to say, they much preferred *Virtua Fighter* – a game that had come from their own programming stable – to be the definitive fighting game for the platform. Sega of Japan killed *Eternal Champions* for Saturn before one line of alpha code ever ended up on a dev kit, which is a shame; the Sega CD version received many good reviews, and American gamers were looking forward to a spiffed-up Saturn version. Word leaked in October of 1996 that the game was to be axed, with Sega of America reluctantly confirming the news before the year was out. In retrospect, *Eternal Champions: The Final Chapter* could have been one of those regional titles to help push console sales – had it been given the chance.

Grandia

Grandia: In 1997, it was clear that *Final Fantasy VII* was on its way to being a monster hit, and that there was one Saturn RPG Sega had in its Japanese arsenal best positioned to counter it. This was *Grandia* by GameArts, released in Japan December of 1997, and already being hailed as both masterpiece and milestone in RPGs using 3D environments. To the surprise and anger of Western gamers, Sega passed on *Grandia*, opting instead to translate and release the first installment of its own *Shining Force III*

series. For eager Saturn gamers and RPG fans following the video game market, this simply flew in the face of reason; but it was quite a different story in the corporate boardrooms of the companies involved. What many Western gamers do not understand is that *Grandia* for Saturn did not do all that well in Japan. It was a hell of a game – the best RPG created for the console, and an all-time genre classic – but it didn't exactly take the Japanese market by storm. On Saturn, the game only sold some 350,000 copies during its original market lifetime – good numbers for a Saturn game, to be sure, but nowhere near what Square's *Final Fantasy VII* was doing. In the aftermath of the Ireland-Stolar feud, and facing the sad reality that Saturn had failed in the West, it's understandable why Sega and GameArts agreed not to port the game. Their sales projections showed they wouldn't make enough money off of an English language port in the West, where the Saturn market – already small – was shrinking daily, to justify the expense. On January 10, 1998, Sega angered RPG fans worldwide by announcing that *Grandia* for Saturn would never be translated into English. It's a grudge held by Sega diehards and RPG fans to this day, and made all the more painful by the English-language port Sony released for PlayStation two years later.

Blood Omen: Legacy of Kain

Blood Omen: Legacy of Kain: This groundbreaking action RPG
cast players in the role of Kain, a formidable warrior of old who returns from the dead as a powerful vampire in order to wreak havoc upon those who murdered him. One of the very first games specifically designed to take advantage of the CD-ROM format, it represented not only a milestone in video

game construction, but a novel experience in its own right. It was released for the PlayStation in August of 1996 to rave reviews, and shortly thereafter rumors began to arise of a Saturn version. This port, said to have been started shortly after the PlayStation version released, was to have addressed all of the earlier incarnation's deficiencies, and more. The Saturn's 2D legacy would have made its version the faster loading and playing of the two, and Saturn owners eagerly awaited its release. In fact, a Saturn port was known to have been in development as of January of 1997 – with rumors running rampant that it would be released that fall – but Eidos quietly scrapped it long before it got near playable form. The reason? The Saturn was dying before everybody's eyes, and Eidos' corporate heads felt they couldn't recoup the investment. Sad, yes, but that's business.

Resident Evil 2

Resident Evil 2: The follow-up to Capcom's 1996 groundbreaking blockbuster "survival horror" hit, Shinji Mikami's *Resident Evil 2* moved its monstrous escapades from the country hills to the middle of downtown. This time around, RPD rookie police officer Leon Kennedy and female biker Ezla Walker were forced to team up in order to survive a city overrun with zombies and other horrific creatures, with the resourceful personnel of RPD STARS nowhere to be found. Work on the PlayStation original was about 80% complete – with an official Capcom announcement already promising an eventual Saturn port – when Mikami personally ordered it cancelled, and the game completely overhauled. He was unhappy with how *Resident Evil 2* was developing, and felt that it looked and played too much like the first game. In

addition, the character of Ezla Walker wasn't slotting well into the story, and some of the game's new features (including armor and clothing that would degrade throughout the game, and a new 'zapping system' in which actions taken and events experienced by one player character affected another) were proving difficult to implement. The team rebuilt the game's plot and engine from the ground up, although a fair amount of the work they'd done earlier eventually wound up in the new version. As for the Saturn port – announced by Bernie Stolar on January 10, 1997, and by Capcom via one of its Capcom Friendly Club releases – it was scrapped for two simple reasons: There weren't enough resources to work on it, due to the PlayStation original's undergoing a major overhaul, and the impending death of the Saturn made the port appear unprofitable. *RE2*'s overhaul was going to take a significant amount of time, delaying its release by at least a year. As the PlayStation version was to be released first, and work on it was already at the playable beta stage, there simply wasn't time (given previously announced release dates) to even consider working on a Saturn port, regardless of profitability. Capcom felt that by the time a Saturn port would have been complete – 1998, at the earliest – the Saturn would most likely be dead; it simply couldn't justify the additional work. There apparently never was a playable Saturn port of *RE2* in any form, even in its earlier *RE1.5* incarnation. Rumors persist of an unplayable, 10% *RE1.5* alpha build for Saturn, but I've been unable to confirm them and tend nowadays to disregard them. What information I have managed to dig up on the aborted Saturn port – and this comes directly from the developers themselves – indicates that it was to have been a straightforward port of the PlayStation original, with no enhancements or extra features requiring a RAM expansion cart. Had it been carried out, it would have required no more of the Saturn hardware than did the PlayStation original. Even as a straightforward port, it would have made a great addition to the Saturn's library. But alas, it wasn't meant to be.

Sakura Taisen (Sakura Wars): The one Saturn game anime addicts dearly wanted Sega to bring to the West was one of the Saturn games least likely to ever make it out of Japan. *Sakura Taisen,* (aka *Sakura Wars*) combined action-packed mech combat with a delightfully entertaining dating simulation...and therein lay the problem. Dating simulations are quite popular in Japan, but have almost always bombed in the West. It didn't matter that the game had achieved the prestigious title of Overall Game of the Year in Japan, there was simply no way Sega would release such a game in a market without a sufficiently sizeable audience. To be frightfully honest – and I know this will

irritate a lot of *Sakura Taisen* fans – few gamers lamented the loss, or that of its later Dreamcast incarnations.

Sonic X-Treme:

"The reason why there wasn't a Sonic game on Saturn was really because we were concentrating on NiGHTS. We were also working on Sonic Adventure – that was originally intended to be out on Saturn, but because Sega as a company was bringing out a new piece of hardware – the Dreamcast – we resorted to switching it over to the Dreamcast, which was the newest hardware at the time. So that's why there wasn't a Sonic game on Saturn. With regards to X-Treme, I'm not really sure on the exact details of why it was cut short, but from looking at how it was going, it wasn't looking very good from my perspective. So I felt relief when I heard it was cancelled."

- Yuji Naka (2011)

Sonic X-Treme

Without a doubt, *Sonic X-Treme* is the saddest "lost software" story in the Saturn's saga. The game changed platforms five times, starting on the Genesis, but eventually moving onto (and through) the 32X, Sega CD, and Saturn before ending up as a PC game. You see, despite stories to the contrary, Sega planned all along to have a brand-new *Sonic* game made for Saturn that would showcase the console's power, just as the original *Sonic* had

done for the Genesis years before. Although originally planned for the 32X, *Sonic X-Treme* was to have been that game. Its loss is due to both its development team and to none other than Sega of Japan. As with subsequent *Sonic* efforts, Sega Technical Institute (STI) in America was tasked with crafting the latest incarnation of Sega's beloved mascot. This time, they had a formidable task – creating the first-ever, fully 3D, next-generation *Sonic* game – but they had plenty of ideas, and wasted no time in throwing together executable code in order to demonstrate them. *Sonic X-Treme*, as was revealed to video game industry reporters at the time, looked nothing short of fantastic. It had the look of every *Sonic* lover's dream – full 3D environments enabling Sonic to maneuver in all directions, rich gameplay environments true to the series' legacy, and more – leaving gamers worldwide salivating as 1997 loomed on the horizon. Early screenshots of the game, with its fisheye lens camera, looked promising… And this is where Sega of Japan enters the picture. The STI development team, headed by Chris Coffin, had been using the engine code from Sonic Team's *NiGHTS*, something Yuji Naka wasn't too pleased about.

When STI was told that it would need to stop using the engine, development was set back by weeks – a delay the team could ill afford. STI also encountered major problems coding different parts of the game, leading to the development of two separate engines. When the engines – each in different levels of completion – were demoed to the brass from Japan, Hayao Nakayama chose to close out the one made for boss battles, effectively cutting the game in half. The situation was so bad that Sega of America was pulling programming resources from other departments (such as Sega Sports) in a last-ditch effort to overcome these obstacles, all under the code name of 'Project Condor.' Even this, unfortunately, was not enough to save the game, and stress began to bring down several teams with illnesses. Never recovering from this debacle, STI was disbanded shortly thereafter.

Elements of *Sonic X-Treme* would wind up in *Sonic R, Sonic Jam, Sonic 3D Blast*, and *Sonic Adventure* for Dreamcast a few years later. On

December 8, 1997, Sega of America released *Sonic R* for Saturn as a sort of consolation prize to a disappointed American gaming public. Although it received wide acclaim for its stunning graphics, it was not the 3D Sonic game originally promised. Overall, opinions about *Sonic R* remain mixed even today, with many Sega diehards declaring it to be no "true *Sonic* game," and deriding it at every opportunity. The *Sonic X-Treme* project was later revived as a PC-only "remix" version under Coffin's lead, but was never brought to completion, and some of the design ideas were later seen in *Sonic: The Lost World* for Wii U, fueling rumors that the game concept had been reborn, but no official announcement was ever made. It was only years later, when old in-house promo videos and some early alpha builds were rediscovered and made public, that *Sonic* fans finally got a good look at this legendary long-lost game.

Virtua Fighter 3: The third incarnation of Yu Suzuki's groundbreaking 3D fighting game hit Japanese arcades on September 10, 1996, immediately becoming the standard by which all comers were measured. Gameplay was incredibly deep, and the graphics (generated by the new Sega Model 3 board) shattered previous records for polygon counts in a video game. Sega displayed some cabinets at that year's Electronics Consumer Trade Show in the U.S., leaving vendors and gamers alike wowed by what they saw. Naturally, *VF3* soon became the topic of much speculation among Saturn owners. A port was inevitable – it just had to be – and rumors were already flying that one was well underway. Sega kept mum as the hype continued to build through the rest of the year and into 1997. Interviewed on November 28, Yu Suzuki said "AM2 and myself will take full responsibility for the translation." It was now official: *VF3* was coming soon to a Saturn near you. Or was it? The port was delayed...and delayed...and delayed...until it dropped off the radar altogether. Sega of Japan had already begun hinting that the port might be canned in early 1997; its absence from the Saturn software section at E3 1997 seemed only to confirm this. Sega of America did plenty of back-pedaling on these and other reports, but then again, at this point they weren't running the show.

Virtua Fighter 3 (Saturn)

Although widely unknown until the following year, Yu Suzuki and his staff at AM2 had finished a considerably scaled-down Saturn port of *VF3* by July 3, 1998, but by then Sega of Japan was dead set against releasing it. Why? As was later revealed, Sega of Japan executives felt that a port of *VF3* for the dying Saturn might hinder the superior port already in development for Sega's newest console – the Dreamcast. Instead, they just continued to tweak the game, while refusing to release it. *VF3* for Saturn was officially cancelled on September 17, 1998 – even though Sega of Japan had the completed game ready to send to press. Gamers – tired of Sega putting them on hold yet again – opted for the PlayStation and *Tekken 3* instead.

Shenmue (Saturn)

Shenmue: Originally listed as *Virtua Fighter RPG*, *Shenmue* was one of the most expensive games of all time; the series' production costs exceeded $70 million. Developed for the Saturn starting in 1996, *Shenmue* was in development for the better part of two years before being canned, with development moved over to the Dreamcast. While little about the game was revealed during the Saturn's lifetime, *Shenmue* was apparently originally intended to serve alongside *Virtua Fighter 3* as one of the console's swan songs. Use of the Saturn SDK 2.0 in its development made the game a showcase for both gameplay and graphics, proof positive that Saturn was still more than capable of standing toe-to-toe with the PlayStation and N64. While the game was eventually completed and released for Dreamcast, the Saturn version lives on as a "look at what could have been." And although the original Saturn version still remains under wraps, snippets of what could have been can be spied amongst the extras included with *Shenmue II* for the Dreamcast.

Last rites

With 1998 approaching, Sega Chairman Isao Okawa stepped out of his largely ceremonial role as leader of the company in order to salvage what could be salvaged, and keep Sega from sinking altogether. "I changed the management, cleared the inventory, closed down unprofitable retailers, and restructured the distribution system," Okawa later recalled, and he did it all in

just a few short months in order to clear the decks for Sega's final shot at the video game console business. The console that would become the Dreamcast was already in the development pipeline, and both money and resources had already been allocated in order to bring it to market. It was designed to be everything its predecessor was not; the last thing Sega needed was the anvil of the dying Saturn still hanging around its neck.

In the opening days of 1998, knowledgeable newshounds already knew that Sega had ceased production of the Saturn at the end of 1997. On January 8, rumor became stark reality as Sega of America – acting under direct orders from Okawa – issued pink slips to 30% of its employees. Both Sega of Japan and Sega of Europe underwent a similar downsizing. Over the course of January and February, Okawa engineered a major reorganization of Sega itself. Several of the corporation's less profitable ventures and divisions were eliminated outright, while others found their staffs and allocated resources considerably diminished. Okawa's reorganization of Sega's internal structure made division managers more independent of senior management, but also more accountable for their actions. "When you separate those divisions into their own companies," Okawa noted, "you turn them into administrators, where they have to frantically deal with delivery and collect on accounts receivable. The branching process was done to root management senses to the divisions." The culmination of Okawa's maneuvering was to shake up the board of directors itself, with 15 of its 25 members either encouraged to leave, or "voluntarily" resigning on their own. Among their number was none other than CEO Hayao Nakayama, who tendered his resignation on January 12 and was later replaced by Shoichiro Irimajiri on February 10. Okawa once again spun off the role of Sega of Japan's chief operating officer – which Nakayama had also held – handing it over to longtime Sega technical wizard Hideki Sato.

Okawa was reportedly unhappy at seeing Irimajiri as the new Sega CEO, but there was no one else qualified to fill the vacancy. He did not conceal his hesitations, later commenting, "He is really good at technology, but not very good at running a business." Still, it seemed a fair enough choice at the time.

Sega was getting ready to launch a new console based on new technology into a highly skeptical market; who better to lead the charge than a Sega executive who knew that technology inside and out? Besides, Irimajiri got along better with Stolar than did Okawa, between whom personality clashes and differing market sense were finally beginning to manifest.

While Sega was busy arranging its internal affairs, its third parties weren't waiting around for marching orders. On January 6, 1998, Capcom officially dropped plans to release its 4 MB Saturn RAM cart in the West, and along with it the previously announced Saturn port of *Resident Evil 2*. Four days later, Sega announced that the planned English-language port of GameArts' *Grandia* had likewise been axed. Saturn RPG fans were beside themselves, but there was another other shoe set to fall. On January 16, Working Designs announced that it had canceled development of the English language Saturn port of *Lunar: Silver Star Story*, adding that it would not be bringing any more RPGs to the platform (aside from wrapping up *Magic Knight Rayearth,* which was already well behind schedule). One week later, Sega of America dropped the price of the Saturn console to just $100 – and most of its software to $10 – in a concerted effort to clear out all Saturn stock. It was Isao Okawa who had told Stolar to rid Sega of America of its "useless stockpiles" as fast as possible, and Stolar readily consented, with Japan and Europe soon following suit. "I told our people that if you're going to stockpile it, then you might as well give it away," Okawa later recalled. Sega had sat on its unsold Saturn inventory for so long that that's pretty much what wound up happening. Many nationwide retailers, such as Wal-Mart and Electronics Boutique, lowered the price of the console by another $25, and software prices to just $5 per title. Virtually all of the "good" Saturn games – including *Duke Nukem 3D, Enemy Zero, NiGHTS: Into Dreams*, the *Panzer Dragoon* trilogy, *Resident Evil, Tomb Raider, Virtua Fighter 2, Daytona USA CCE* and several Capcom fighting games – disappeared from U.S. store shelves practically overnight, while several sports games lingered on in discount bins for years afterward. Not a single dime from the great Saturn selloff ever found its way into Sega's coffers;

in fact, a lot of money was lost over the affair. It couldn't be helped; the steep discounts ordered by Okawa had been too severe, and any potential profits were negated by the products' not selling in the first place. Still, Sega of America needed all the room it could spare for new inventory – the ramp-up for its next console had already begun.

Shoichiro Irimajiri

On March 11, 1998, Sega began distributing first-generation versions of its two Katana software development kits to third-party developers. Six days later, Sega of Japan began a new round of hiring, beefing up its staff in preparation for the initial production run. Three days later at the Spring Tokyo Game Show, Sega held a joint press conference with noted video game designer Kenji Eno, whose latest effort had seemingly died along with Panasonic's 3DO M2 upgrade the previous year. Eno revealed that his game, *D2* (a sequel to *D*, released for both Saturn and PlayStation), would be completed and released – on Sega's new console. On March 24, Sega CEO Shoichiro Irimajiri formally promoted Sega of America COO Bernie Stolar to the position of president, alongside a number of other management changes designed to bolster Stolar's efforts at launching Katana in the west. On May 21, at a special press briefing hosted by Irimajiri himself, Sega formally unveiled the successor to the Saturn. No longer shrouded in secrecy, the 128-bit Sega Dreamcast was revealed for the first time to a receptive audience. It was a rather remarkable console of which Sega could be proud, and the company was staking its hopes and dreams on a last-chance comeback bid.

On March 31, the Sega Saturn was officially discontinued in North America. And on April 15, noted video game retailer Electronics Boutique announced that it would no longer be importing Saturn titles from Japan. Just over a month later, on May 31, all Sega-funded development projects for Saturn were canned. While Capcom and a handful of other third-party developers decided to go ahead and finish Saturn projects already nearing completion, the majority bowed out along with Sega's own in-house programming teams.

For Sega fans worldwide, May 31, 1998 will be forever remembered as the day that the Saturn died; only four more games made it out the door in North America after that. The first three were from Sega, marking a grand sendoff for the Saturn: The arcade shooter *House of the Dead*, the fantasy RPG *Shining Force 3*, and *Burning Rangers*, an action game. And then there was Working Designs' long-delayed RPG, *Magic Knight Rayearth*. Originally scheduled for a late 1997 release, the English-language edition of *Rayearth* didn't see the light of day until September 2, 1998, thus making it the last official Saturn release for North America. The last three Saturn titles released for any market came much later, all from Japan: *Street Fighter Zero 3 on 3* (August 1999), *Final Fight Revenge* (April 5, 2000), and *Yuyu Gensyokuoku Deluxe Edition* (December 7, 2000 – Pearl Harbor Day).

Magic Knight Rayearth

The final official figures regarding the market performance of the Sega Saturn were released on September 10, 1998. Sega had sold approximately ten million consoles worldwide, roughly one million in Europe, two million in North America, and the rest across Japan and Asia. It was a pittance compared to the 30+ million PlayStations that Sony had sold by then. By the end of the year, Sega of America's share of the video game market had shrunk to about 1%, its employee count had shrunk from over 1,000 to around 300, and practically all of the management team that had led the company to fame and fortune during the glory days of the Genesis was gone. Things weren't much better over in Japan, with its management turnover earlier in the year, and continuing legal and production problems hindering the effort to get the Dreamcast to market. Europe got off easy; but then again, Saturn had never made it big there to begin with. Its gamers, perhaps more perceptive about Saturn than their American and Japanese counterparts, had for the most part shrugged their shoulders and walked away early on. Shades of Sega's bad market days from the 1980s, perhaps? Possibly, or perhaps it was a warning that Sega's days as a hardware vendor were numbered.

From 1993 (year of greatest profit) to 1997 (the previous fiscal year), Sega had gone from a net yearly profit of $230 million to a net loss of $389 million. Sega had lost about $620 million in five years – roughly 1/5th of the company's entire net worth back in 1993. Sega would lose another $450 million in fiscal year 1998, for a composite loss of $1.07 billion – roughly 1/3rd of the company's net worth five years before, at the height of its success.

Just how big is a $1.07 billion dollar deficit over five years? That's 1.07 thousand million per the formal English standard, or 1,070,000,000 in numerical digits. Had Sega instead paid Joe or Jane Gamer approximately $1,000 a day – with any kind of adjustments, withholding, or taxes – it would have taken just over 2,900 years to pay off the amount of money that they lost within five years. To put it another way: Sega would have done just as well to give each and every citizen or resident (legal or otherwise) of the United States about $3,700 each. That's about ¥683,000 for every inhabitant of Japan, or about

1424€ for every resident of Europe. In just five years, Sega had taken itself from first place to dead last, and now found itself in the same place from which it had started its rise to fame over a decade before. It had resumed its role as the video game industry's perennial whipping boy, and had no one to blame but itself.

Laying the blame

"You can have the best games in the world, you can have the best machine on the market, but unless you roll the two together with solid marketing and add to it a wide range of creative software from a varied mix of talented developers, you won't succeed."

- Mark Hartley

Despite common wisdom to the contrary, Saturn was not the absolute failure most U.S. gamers make it out to be. It's testament to Sega's brand name recognition that it managed to sell as many systems as it did, and it did this despite making critical mistakes at nearly every step of the way. Had it not been for certain key software releases – *NiGHTS: Into Dreams*, Sega AM2's arcade ports, the Three-In-One deals, and the *Panzer Dragoon* series – and their respective promotions, the system might truly have failed completely. "It is a shining example of Sega's marketing strength and its irregular strokes of brilliance that the console reached a two million unit installed base in the U.S.," noted Rodney Desjarlais of website Dimension Sega. Unfortunately, that cruel combination of crippled genius and tragic blunders ensured that Saturn would follow in the steps of NEC's Turbo Graph/X 16 – a specialty system almost exclusively the purview of diehard system loyalists, but little more. So where did Sega screw up with the Saturn? What led one of the world's oldest and most experienced video game companies into the deepest financial hole of its entire history? Let's ask some of the principal players themselves…

Panzer Dragoon Saga

Bernie Stolar, the man Sega diehards love to hate, has been quite candid in his comments over the years regarding the failure of the Saturn. In his opinion, the Saturn fell victim to a litany of issues that all converged at the right (or wrong) moment in time.

"I really think it was a combination of things. Bad timing, high price, launch software that didn't sell the hardware, no Sonic at launch, limited retail distribution, and the 32X didn't help out our position at retail, with the consumer or with the developer/publisher community. I don't think any one thing was the issue - it was the layering effect that these things had on the business. Remember, no launch has ever been perfect for anyone. You can hide a lot of mistakes by overcompensating in different areas."

Panzer Dragoon Zwei

Unfortunately, Sega either would or could not "overcompensate" for all the mistakes that the company's executives (himself included) were making at the time. Kazutoshi Miyake, former chief operating officer of Sega of Europe, is quick in his remarks to point out Sega's failure with the third party development community.

"I think the key to success in video games nowadays is how quickly and firmly you form the business model and how the manufacturer is obliged to launch hardware at the right price, with the right timing, and with the right marketing. This encourages the third-party community to develop games for the platform. Third-party games follow after the initial launch. Then, we must appeal to the right user, and we also must review the price point of the hardware. We also need games to appeal to the right users and various publishers, and then also we need an overall marketing strategy. I think Sega didn't make this business model in the right way. This is the reason we've been behind our competitors... I think they thought our business model was not attractive enough to them for making a huge investment... Maybe because of our huge success with 16-bit machines, we paid less attention to the importance of the reliance on third-party publishers."

And what of Sega of Japan? Hayao Nakayama and his fellow executives

had to bear the lion's share of the blame for the Saturn debacle. Here are a couple of comments that Nakayama's replacement, then-newly installed Sega CEO Shoichiro Irimajiri, made about the Saturn in an exclusive interview conducted in 1998 with *NextGen* magazine:

"We have lost some credibility among our Saturn users – even in Japan – because they have seen the PlayStation become the dominant force in the worldwide video game market... In the past, I think that Sega has maybe been arrogant."

It seems clear that many of Sega's own personnel were aware of the problems the Saturn had either caused or exacerbated. Unfortunately, the new management team took over far too late in the console's lifecycle to be able to really do anything about it – and some would argue that they simply carried on making many of the very same mistakes. It should be noted in all fairness that those Sega personnel who knew about and were willing to do something about the problems were unable to act until Okawa began to personally intervene, staring in mid-1997. And by then it was too little, too late.

"Sega never expected that an outsider would have so swiftly demolished its preeminence in the video game market," noted the writers of *NextGen* magazine, "but armed with a powerful machine, Sony did just that – pulling the rug out from under its rival's feet and redefining how a console could – and should - be marketed." Sega was too busy basking in its culture of corporate arrogance, keeping top management personnel from realizing they had a problem on their hands until it had grown beyond their ability to control it. The following is a comprehensive summary of all of the major mistakes that Sega committed on behalf of the Saturn, and of which all prospective console vendors should take heed.

Overly sophisticated system architecture: It was a
common perception that Saturn was the most notoriously difficult-to-program next-gen video game console on the market. This reputation still persists to this day, but in truth, it all depended on your point-of-view. Sega gave programmers exactly what they wanted: A system whose complex hardware

could be directly tapped for whatever software they desired to code, along with ample documentation on every aspect possible. This was a dream if you were a top-notch code-head, a challenge if you weren't, and a nightmare if you were the manager of a development team at a leading third-party software house whose superiors wanted you to finish your game ASAP – and therein lay the problem. Sega's Saturn dev kits weren't ready in time for the console's rushed launch, and the first ones shipped out didn't tap the machine's full potential. Programmers had to practically hack the machine at times to get what they wanted; for many, it was too much time and trouble.
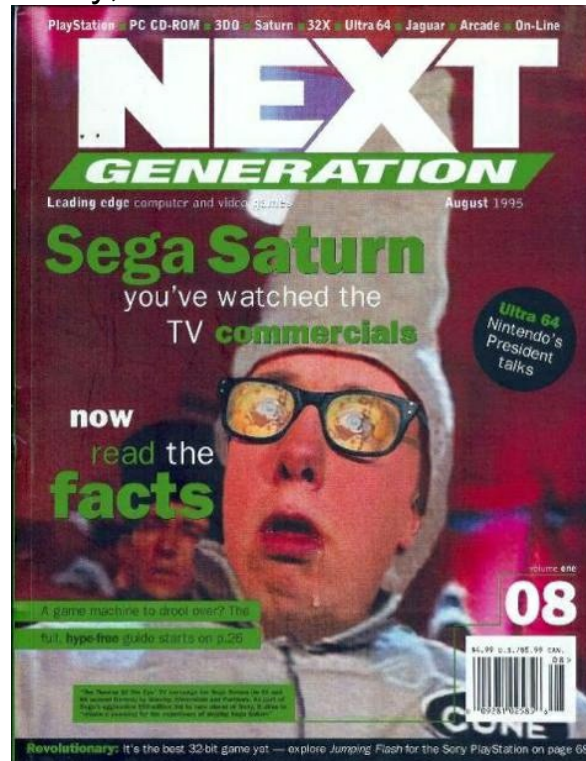
NextGen magazine

It wasn't until the revision 2.0 dev kits came along that the Saturn's full potential could even begin to be exploited by the average programmer, but they came too late in the market cycle – and too late to save the machine. The critical time for Saturn was in those early years, when all potential Saturn programmers had was the old dev kit – and it was at just this time that its reputation as a 'difficult' machine became entrenched. Recall the words of Sega's own acclaimed programming genius Yu Suzuki, "I think that only one out of 100 programmers are good enough to properly program the Saturn." Third parties interested in Saturn development didn't have time to learn a dev

kit "whose basic manual was three volumes" (Yuji Naka), and their bosses didn't care – not with an easier-to-program console such as the PlayStation readily available. Remember what veteran third-party programmer Steve Palmer had to say on the subject? "Video games were no longer a "niche" market, and the "big boys" had moved in. Time is money. Nobody was given the time to learn new hardware anymore." In creating an overly complex system architecture – while at the same time failing to properly support it during its most critical market period – Sega had practically guaranteed delays for all parties concerned.

Lack of a good development environment: Chris Slate of Game Players magazine made this observation as 1995 drew to a close: "Sega struck first with an early sneak attack launch in mid-May. Unfortunately, Sega caught itself by surprise as much as the competition and the result was a great piece of hardware left to sit on shelves with just a handful of mostly mediocre games. It would stay this way until development caught up months later with worthy titles." The reason, as we now know, was that Sega had practically no third-party titles ready to ship with Saturn for its abruptly early U.S. launch. Game developers were still busy wading through manuals and learning the hardware, and many of them preferred to wait until they better understood the console. Remember, many of the best games to grace Sega's venerable 16-bit Genesis/Mega Drive came from such notable third parties as Capcom, Core, Electronic Arts, GameArts, Masiya, and Namco, to name but a few. Where did almost all of them go when the 32-bit generation of consoles came along? To the system for which software development was the easiest. Sega was too busy running Saturn third-party support the old-fashioned way to realize just how appealing Sony had made PlayStation development with its canned software libraries. Almost every developer who has publicly commented on the issue has noted that the Saturn was quite capable of matching – and in some cases outshining – the PlayStation, but it wasn't until the second-revision Saturn dev-kits and the Sega Graphics Library 2.0 that they felt they had what they needed to produce good games fast. Recalling Yu Suzuki and Steve Palmer's words, it's important to remember that developers had to make good-looking, decent-playing games yesterday per their employer's demands. For the average developer, the only system on which they could consistently do that without having to tackle a lot of documentation was the PlayStation, and that remained the situation until it was too late for

Sega to fix the problem. By the time it presented a solution to Saturn development, most of the developers and its expected audience had abandoned the system for Sony's.

Misreading the system's early market performance:

Sega of Japan was under the mistaken impression that Saturn performed far better in Japan than it actually did. According to Isao Okawa, they were too busy counting sales to take stock of long-term market trends, and it proved to be Sega's undoing. Simply put, Saturn did as well as it did in Japan for one reason: It was the only next-gen console with *Virtua Fighter*. Once the glamor wore off, and the PlayStation proved itself a worthy competitor – less sophisticated in its hardware, perhaps, but with superior 3D capability and a wider software base – Japanese gamers proved as astute as their Western counterparts by jumping ship. It just took a lot longer in Japan than it did in the West. Sega should have been paying far more attention to the number of Saturns sold over the counter than from its warehouses to retailers.

Panasonic 3DO R.E.A.L.

Pricing the system too high for its intended market:

You would think that Sega would have learned from the blunders made with the 3DO; instead, it almost immediately committed the very same mistake that doomed Trip Hawkins' dream machine. The Saturn was simply priced too high for its intended market. Trends that had developed in the video game market over the previous two decades indicated that the average price of a brand-new, next-gen console in the 1990s should fall within the $200-$350 range. 3DO boasted a hefty $800 price tag – a loftily absurd figure that seems ridiculous even now. For Sega to price the Saturn at $399 was an open invitation to disaster in the minds of industry analysts both then and now. Of

course, Sega had a legitimate reason to do so: It was operating under a steadily growing mountain of debt, and the machine was expensive to produce. Even so, Sega would have been wise to take a hit on the price of the console and instead recover the needed funds in software sales, where the real profits lay. Steven Kent sums up this particular issue well when he observes, "Saturn was too expensive for the consumer electronics category. The $399 price point was known to be more of a high-end electronics ticket – something that people might pay for a stereo component, but not for a video game console. Sega was making the same mistake Trip Hawkins had made with the 3DO."

Alienation of potential system supporters: Sega's once-strong relationship with third-party developers was fraying fast due to managerial meddling from Sega of Japan. Like Nintendo before it, Sega had started throwing its weight around, dictating to its licensees what they could and could not do, how much, when, and so on. Developers no more liked this in 1995 than they did a decade before, when Nintendo was doing the exact same thing. Sega had by now also gained the unenviable reputation of "putting out one hardware unit after another," and while Sega of Japan made it perfectly clear that Saturn was – and always would be – the company's future, developers remained dubious. This skepticism only increased after news of the rumored Eclipse 64-bit Saturn upgrade and the all-new Katana and Black Belt console designs leaked in 1997. With all this confusion, it's no wonder that the third party community began to seek out a more reassuring partner. They found it in Sony, who was very generous in its licensing terms and offered a console with simple-to-program architecture that yielded incredible results. It was the exact same thing that Sega had done to Nintendo – and Nintendo had done to Atari – years before; you'd have thought someone at Sega would have seen it coming.

Working Designs logo

A lack of good, diverse software: If there's one lesson to

have learned by now, it's that software sales are the true money train for any given vendor's system. Even with all the fancy hardware in the world, if you don't have enough software to properly show it off, your system will suffer – and your profits with it. Sega should have known better than to launch the Saturn the way it did in the U.S., ensuring nearly no software for the system, let alone good software. The scant handful of titles available was obviously and admittedly rushed – not the best way to get your foot in the door of consumers' homes. The rushed launch also meant the console sat on store shelves for months without any significant software support. By the time it arrived, the opportunity Sega had hoped to seize had passed, and gamers were now looking to the PlayStation instead. Sony may not have had Sega's experience in making video games, but it did have lots of money, and as Game Players magazine put it, "Baby, that can buy you all the experience you need." Add to that the simplicity of the PlayStation architecture in comparison to the mess that comprised the Saturn's, and it's no wonder that the third party community jumped ship as fast as it did. This trend would continue throughout the lifetime of both systems, with Sony's deep pockets enabling it to afford the third-party support and system exclusives that Sega could no longer afford. That Sony was able to launch the system with the backing of the likes of Namco and Konami, wrestle Square (and its *Final Fantasy* franchise) away from Nintendo, get Capcom in its corner with its best programming teams and first go-round on hot titles, and court a disgruntled Working Designs speaks volumes. With few exceptions, Sony had the better, more diverse software library, and for two simple reasons: They welcomed third parties with open arms, and they could afford to pay others to develop their system's software for them.

Ignoring the good advice of peers: The executives at Sega of Japan were hell-bent on making the Saturn succeed in a market that was clearly Sony's for the taking. Since their side of the company was the older and more experienced – or so the thinking went –they knew what was best for Sega. Nakayama and his allies repeatedly ignored and overruled the advice of Tom Kalinske and his staff – as well as that of Shinobu Toyoda, their own U.S. market liaison – on nearly every critical aspect of the burgeoning 32-bit video game market. They were determined to make American gamers fall in love with the Saturn just as they had the Genesis years before. What they overlooked was that it was the American side of the business that had endeared Sega to its American fans – not its Japanese overlords. The same was true over in Europe, but Saturn had already flopped there, and Sega of Japan wasn't about to waste time and money on a failed market. The U.S. was

what mattered – the big money market, the place where the stakes were the highest – and it was there that the Saturn needed to succeed. And because Nakayama and his staff refused to heed the advice of Kalinske, Toyoda, and others – the ones put in charge of that market in the first place – it didn't. "You're launching far too early," Nakayama and his staff were repeatedly warned, "It doesn't have the software base. You're wasting your efforts." Sega of Japan wouldn't hear out those who best knew the intended market, so what happened next should surprise no one.

Sega Saturn advertisement

Banking it all on a gamble: The single most important decision made regarding Sega's future was Nakayama's 1996 gamble in banking all of its fortunes solely on the Saturn. In all fairness, he had no other choice – Genesis was fading in the West, and seasoned developers were shunning his beloved 32X. The flaw in Nakayama's decision is that he made it as early as he did. It is generally agreed by industry observers that the Genesis still had enough life left in it to survive another year – a year which could have given Sega at least one more (desperately needed) profit stream. With the benefit of hindsight, it's also plausible that more developers would have begrudged the 32X another chance. Driven by desperation to see Sega seize the emerging 32-bit market for its own, Nakayama pulled the plug on Genesis before it was really dead, and axed the 32X before it ever had a fighting chance. By putting all of his eggs in one basket, and leaving no safety net (something the competition over at Nintendo was certainly not doing), Nakayama was in effect tying down the wheel, leaving the good ship Sega to drift where she would in the video game market's choppy currents. How could he possibly have known

that this one decision would shape Sega's course as it did?

Poor advertising campaigns: One of the Saturn's most glaring problems was its public image. It got a bad rap from the industry, it got a bad rap from gamers, and it wound up getting a bad rap from Sega as well, due to the company's erratic and largely ineffectual advertising efforts to promote the system to Western gamers. Sega fans in Japan got excellent advertising, including a number of spots still fondly remembered today. Over in the West, however, Sega promptly ditched the beloved "Sega Scream" and "Pirate TV" campaigns in favor of a more measured and mature image. It seemed Sega was no longer the rebel youth depicted in those beloved ads of yore. Rather, it was the dweeb getting bullied by the bigger kids all over again. It didn't matter which firm Sega employed. Save for a few notable exceptions, the Saturn's advertising wound up selling a staid message: "Here's the Saturn, damn it – now take it or leave it." Most Western gamers chose the latter. By the time Sega executives figured out what was happening – and why – it was too late. It no longer mattered how they advertised; they'd already lost the media war.

Playing your hand too early: In a high-stakes poker game, you never want to tip your hand – especially a losing one. Hayao Nakayama did just this by advancing the Saturn's U.S. launch by five months, despite the protests of Sega of America. In doing so, he left the Saturn high and dry – a console with virtually no software to sell – thus giving Sony the chance to build up a decent launch library, and blitz the media with pre-launch hype. Surprisingly enough, Bernie Stolar would repeat Nakayama's mistake after coming to Sega, albeit for different reasons. In fact, this may be the only major mistake made in his tenure at Sega of America. Notwithstanding the infamous personality clashes Stolar had with various individuals working with or in conjunction with Sega, he made clear early on that Saturn was a doomed system – and at E3, no less. It was curtains for Saturn in the West; nobody wanted to develop for it, nobody wanted to sell it, and nobody wanted to buy it because no less than the president of the company had effectively declared the system dead. The negative press on Sega's "dying system" would snowball until the official announcement was made the following year, hurting sales across the board. Yes, Saturn was already doomed, but Stolar had no business letting the rest of the world know it – not while it still had some market presence. A single comment killed any chance that Saturn had at a respectable showing in 1997. Most of the market share Sega lost from Stolar's remark went to a re-emerging Nintendo, with Sony gobbling up the leftovers.

In the end, it wasn't Sony's fault that Sega bombed with the Saturn. Nearly every bad move that directly impacted the Saturn or hurt its chances to compete within the rapidly changing video game market of the 1990s can be traced directly back to none other Sega itself. Who could blame Sony (or, later, Nintendo) for taking advantage of the situation? As one commentator would later put it, "The Saturn deserved to be a bigger success than it was, but in the end it was still Sega's fault that it faded from view."

Sega Saturn advertisement

Sega Saturn Factoids

• There were 16 variations of the Saturn produced during its initial lifespan, of which nine were exclusive to Japan. Of all of these models, only one – the Hitachi Hi-Saturn Navi, which included an attached LCD screen and GPS functionality – offered any additional features over the original design.

The top ten all-time best-selling Saturn games in Japan are as follows:
1.   *Virtua Fighter 2* (1,703,000 units)
2.   *Sega Rally Championship* (776,000 units)
3.   *Virtua Fighter* (711,000 units)
4.   *Virtua Cop* (629,000 units)
5.   *Fighters Megamix* (619,000)
6.   *Sakura Taisen* (558,000)
7.   *Daytona USA* (557,000)
8.   *Super Robot Taisen F* (548,700)
9.   *Super Robot Taisen F: Final Edition* (548,200)
10.   *Sakura Taisen 2* (535,000)

• The Sega NetLink was a 28.8k modem designed to fit into the Saturn's cartridge slot, enabling internet multiplayer and web browsing. In Japan a (now defunct) pay-to-play service was used, whereby gamers paid ¥20 (~$0.18, at that time) per match to play. Only five games are compatible with the North American version: Daytona USA (CCE NetLink Edition), Duke Nukem 3D, Saturn Bomberman, Sega Rally (Plus) and Virtual On.

• In 2013 the existence of another "planet" was revealed with the discovery of the Sega Pluto. Nothing more than a Sega Saturn with Sega NetLink built into the casing, only two of these consoles are known to have existed. Had it been released to the public, the Sega Pluto would have been the first internet-enabled game console.

• The graphics chip in the arcade Model 1, 2, and 3 boards were developed by Martin Marietta (Lockheed Martin), a Florida based defense contractor. While

Model 2 built upon Model 1 with an internally-designed texture-mapping board, *NextGen* reported Model 3 was designed from the ground up to "push lots of textured polygons for as few dollars as possible." While not directly related, it was reported as late as 1995 that Lockheed Martin was designing a similar chip destined for the Saturn 2. This was thought to be a future upgrade for the console, much like the 32X was to the Genesis, but no product was ever released.

- Utilizing the cartridge slot behind the CD drive, storage cards are inserted to store such game information as high scores and save files. These were one of the few Saturn accessories to be available from third-party manufacturers.

- An important takeaway from this generation is that Sega considered licensing its arcade hardware for other companies to use, beginning with Capcom's 1995 game *Slipstream*. Continuing the third party licensing of the architecture, the ST-V was licensed to Acclaim in a unique undertaking when the consumer game publisher dabbled in the coin-op scene. The resulting 1996 release of *Batman Forever* saw the motion picture turned into a *Streets of Rage*-style brawler. But problems in the development process – and the need to turn the game into a conversion kit – saw it sink, taking Acclaim Coin-Operated Entertainment with it.

Sega Saturn type-2 controller

- The original American release of the Saturn included the NA-Model 1 controller, a bigger, bulkier version of what would later launch in Japan. Sega's outlook was that Americans, with their large hands, would prefer a large controller. Once the Japanese version was released, the demand for a smaller controller quickly reached such a point that Sega soon began including one (NA-Model 2) in with all Saturn systems.

- In 1996, as part of the marketing blitz to promote the Saturn's newest games lineup, Sega initiated an ad campaign featuring a blond-haired, blue-eyed, and obviously naked woman, her body discreetly covered by screenshots. Inspired by an old advertising industry cliché, its tag line read, "In case you didn't notice, there is a beautiful, naked woman on this page." Evoking Sega's raucous advertising of old, it proved to be quite successful, with Electronic Gaming Monthly magazine awarding it best ad of the year in its 1997 Buyer's Guide.

Sega Saturn advertisement

Death of the Dream:

The Sega Dreamcast

PART ONE OF THREE
(March 1997 - August 1999)

Saving face

As 1998 came into view and the video game industry readied itself for the 128-bit wave of next-gen systems, once-proud Sega found itself looking up from the bottom of the digital barrel. Its reputation had suffered greatly, tarnished by intransigent company executives caught in the same culture of corporate arrogance that had practically destroyed Atari and humbled fellow rival Nintendo not too long before. Save for the absolute diehards, its customer base had since departed for greener pastures, confused by a plethora of questionable hardware and downright incensed by the company's apparent arrogance. Sega once had aspirations of redefining the video game industry in its own image; now it was struggling on a quarterly basis just to keep its head above the waters of bankruptcy.

Sales of Sega products had been trending downward since 1993, the year that Nintendo's SNES finally moved ahead of the aging Genesis in overall sales. It wasn't that Sega hadn't tried; the public simply did not want or did not care about the company's attempts to field a worthy successor to its venerable

Genesis. Instead of capitalizing on the success of the Genesis, Sega instead chose to squander its windfall on corporate posturing and overly complicated hardware. 1992 saw the release of Sega CD, a console that was too far ahead of its time to succeed. Its failure contributed heavily to Sega's downward sales trend the following year. 1994 saw the sudden rise and subsequent swift fall of the Sega 32X. It probably should not have been released in the first place, given its rushed development and absolute lack of worthwhile software. 1995 saw the launch of the Sega Saturn, a console whose confused development and rushed production ensured its inevitable failure at the hands of the Sony PlayStation.

By 1996, Sega's heir apparent to the Genesis was in no position to carry its intended load, suffering as it did from a poor software base and lack of support on all fronts. Saturn cost Sega approximately $1.07 billion over the course of five years, and there was no way that Sega's other, more profitable divisions could offset those losses. By 1997, the Sony PlayStation dominated the video game console market, Nintendo was a strong second with its N64, and Sega had been reduced to a distant and weak third. That same year Sega posted one of the largest single-year losses in the company's history at that time; the $389 million bath that Sega took in 1997 was one largely of its own pouring. 1998 would see Sega suffer a massive 21% drop in overall product sales and managing an even larger single-year operating loss of $450 million. The one-time dominant force in the North American video game market was now little more than a heavily indebted pauper. Nonetheless, there's an old adage that certain members of Sega's top management seem to have taken to heart: "When you're at the bottom, the only way to look is up."

After asserting direct control over the company's affairs in 1997, Sega chairman Isao Okawa moved decisively to rescue Sega from the sad shape it was in. He was firmly convinced that if Sega was ever to have a chance to survive as a major player, it was going to have to make drastic changes in the way it did business. Okawa – a veteran of Japan's post-World War II economic reconstruction – knew what had to be done in troublesome times,

and wasn't afraid to act once he'd made up his mind. And so, a massive shake-up of top echelon Sega personnel took place, with Okawa clearing Sega's top ranks as best he could of the bad management that had been the chief cause of the company's internal woes. Fifteen of Sega's twenty-five corporate directors were either fired outright or encouraged to leave via voluntary resignation, including Hayao Nakayama – aging CEO and one of the company's original founders – who was unceremoniously replaced by his subordinate, Shoichiro Irimajiri. Irimajiri, a former Honda executive and Formula One race car engine designer, was now thrust into the unwelcome role of reinvigorating Sega and providing it with a new sense of purpose and direction. As for Sega of America's Bernie Stolar, the former Sony pitchman was placed in sole charge of Sega's flagging North American fortunes. Sega of Europe also saw a management shakeup at this time, with the charismatic J.F. Cecillon assuming the helm. Many of the people that Okawa brought into Sega's corporate ranks were from outside Sega's rather close-knit ranks. This was a deliberate choice on Okawa's part; he felt it was high time for Sega to get new ideas from new people, and hopefully regain something of its lost vision of old. "It seems that Sega wants some fresh perspective on the business," noted *NextGen* magazine's Markus Webb. The personnel shakeups would continue through the remainder of the year and well into the first half of 1998. In analyzing its failures and subsequent fall from grace, Sega's new leadership team reached the following conclusions concerning the collapse of its fortunes:

Isao Okawa

Lack of a good development environment: The chief complaint regarding Sega CD was that it came too early for its full potential to be tapped. The chief complaint about the 32X was that its full potential was never tapped. The chief complaint about the Saturn was that its full potential was too difficult to tap. The root of all these complaints was the lack of a good development environment early on. The SDKs for Sega CD were late in arriving from Japan, which was one of the key factors behind the lack of a good software base, and also partly explained why the library wound up being as lousy as it was. The SDKs for the 32X shipped the same day as the Saturn SDKs, so developers naturally gravitated towards what looked to be the more powerful, more long-term, more marketable console. As for the Saturn, Sony's SDK for the PlayStation made the creation of software so much easier that the choice between the two was a no-brainer. Sega may have enjoyed a reputation as one of the best video game creators in the business, but the software development environment created for the successors to the Genesis left a lot to be desired. Okawa and his management team resolved that Sega's newest console, already in the development pipeline, would have one of the most sophisticated – yet user-friendly – development environments ever wrought for a Sega video game system.

Lack of third-party support: The poor development environment

was a major cause behind the loss of third-party support for Sega's later systems, which in turn was a significant contributor to Sega's failing fortunes. One of the first things Sony had done with the PlayStation was to line up major third-party support long before it launched the system. The way Sony sold the PlayStation to them – as opposed to how it had been done by other vendors in the past – was threefold: First, it worked the third parties long before launch time to pique their interest. Second, it provided SDKs with plenty of easy-to-use tools. Third, it provided whatever support they needed, whenever they needed it. Sony's plan combined all of the successful techniques it had seen other vendors use in the past, including Sega itself – the key difference was in the timing. Instead of building the system and then inviting third parties in to do what they could with it, Sony brought them in as early on in the console creation process as it could. This effectively guaranteed that the PlayStation launched with a bigger and broader software base than Sega could have ever hoped to with the Saturn. Bringing in third parties early was a major change in mindset for the video game console industry – one that Okawa and his team knew they'd have to emulate in order for Sega's next console to succeed.

Inferior marketing techniques: To quote *NextGen* magazine,

"Sega never expected that an outsider would have so swiftly demolished its preeminence in the video game industry, but armed with a powerful machine, Sony did just that. It pulled the rug from under its rival's feet, redefining how a console could – and should – be marketed." Sony had been in the software development business on behalf of its rivals for years, giving it time to study and analyze the successes and failures of the marketing techniques of both Sega and Nintendo. It then successfully combined elements of Nintendo's inventory management promotions with the youthful brashness of the Sega scream, melding them into a multi-million dollar advertising campaign that wound up pushing far more consoles that its rivals could have imagined. There was another factor at play here, too, one Sega knew all too well: it had turned its back on the Sega scream. This beloved ad campaign had defined the company during its Genesis glory days, and its abandonment had been one of the major factors in the erosion of support among Sega's once-loyal user base. Okawa knew Sega had a twofold responsibility in pitching their newest console: First, it had to create an ad campaign following the parameters recently defined by Sony in order to promote the new system to the general gaming public. Second, it had to bring back Sega's rebellious advertising image of old as fast as possible in order to win back the support of as many of its once die-hard loyalists as it could.

Sega's new leadership team was not about to echo the mistakes of the past. The Sega of 1998 knew that the Sega that had existed from 1992 to 1997 had screwed up – big time – and in so doing, had almost taken the company down with them. New CEO Shoichiro Irimajiri was blunt in an interview he gave to *NextGen* magazine, saying, "In the past, I think that Sega has maybe been arrogant." *NextGen*'s editors put it this way: "Unlike the Sega of 1995, which refused to admit that anything was wrong, the Sega of 1998 is composed of an entirely new team, one that recognizes the mistakes of its past and is determined not to repeat them. Can the company come back? That will be decided by the marketplace, but the initial plans and efforts seem promising."
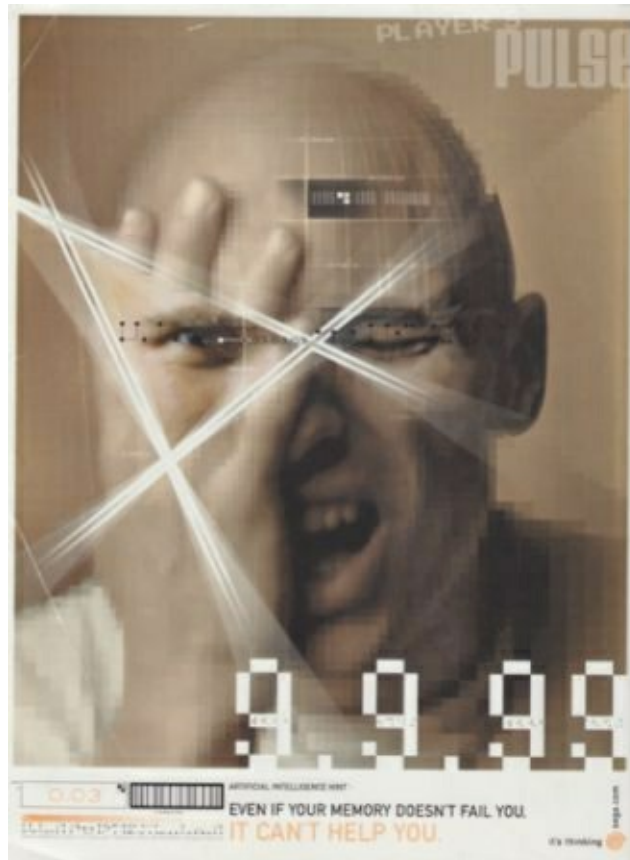
Sega Dreamcast advertisement

Eclipse... Dural... Black Belt... Katana... These and other names for a new and more powerful Sega console had been floating around the videogaming scene since the Saturn's failure had become apparent. Even so, few took them seriously, and the word on the street was that "Sega's washed up. They'll

make the same mistakes as before, screw up just as bad as before, and fall just as flat on their face as before. They'll work up a new system, then turn right around and abandon it, just like they did with the 32X. They'll stab us in the back with an expensive console, and keep almost all the good games in Japan, just like they did with the Saturn. And until Sega proves it's serious, we're sticking with PlayStation." This is just a general representation, but gives some sense of just how far Sega's reputation had sunk. Deep down, the Sega faithful wanted the cool new games that would come with a new and more powerful Sega console. The only drawback was the console itself – especially if it was going to be another Sega effort. Would Sega get serious this time, and release a real console with real support – or would it just be another infamous Sega flash in the pan? It was going to take a lot of work on Sega's part to regain its lost reputation among gamers, and one hell of a console for consumers to bring Sega back into their homes again.

The revolutionary and short-lived console known as the Dreamcast was the product of the final act in this troubled period in Sega's history. It represented Sega's last desperate bid to remain a major player in the console wars, a fight that Sega had been steadily losing since 1994, when Nintendo briefly regained its number one position in the market prior to Sony's arrival. The fact that Sega released three failed console efforts in a row certainly didn't help matters. The results of Sega's characteristic mismanagement, coupled with the increasing inability of its revenues in other venues to cover its mounting console division losses, and a growing lack of public trust in Sega's assurances, makes it easy to understand why Sega was willing to take this gamble. Now over $1 billion in the hole, Sega had to start making money any way it could, or go belly up. Dreamcast was Sega's last, desperate throw of the dice – it had to take its chances with Dreamcast because it simply had no other choice. It was do or die time for Sega, and if Dreamcast proved even a modest success, Sega would rally and – perhaps - in time go back to business as usual as one of the industry's major players. All eyes within Sega and without were on Dreamcast, as Sega's latest, greatest console was made ready for the starting gate. All

Sega could do now was deliver the goods, and pray.

128 bits - the new next-gen wave

Hideki Sato had already begun looking at a new Sega console as early as 1996, once it became clear Saturn had failed to catch on with the public. The elegant design Sega came up with could have come straight from the 32-bit console proposal Tom Kalinske and company had fielded back in 1994: A single-processor design utilizing the best graphics and sound chipsets available at the time. Sato and his fellow engineers were deliberately designing Saturn's successor to be everything that Saturn was not: user-friendly, programmer-friendly, market-friendly, and affordable to the average consumer. As it happened, Sega was in a perfect position to lead the next generation of video game consoles. None of their current or potential rivals would be able to field a comparable system for at least a year after Sega's had debuted. Having that much lead time over the competition enabled Sato and his team to make sure that they "got it right" this time. Given Sega's limited resources, there would be no second chance.

NVIDIA logo

A number of changes had taken place in the computer and electronics industry since Saturn had bolted out of the starting gate. The exponential increases in graphics processing technology, spearheaded by the friendly rivalry between 3dfx and NVIDIA, had resulted in high-speed 128-bit 3D graphics processors that could generate the kinds of high-res, high-color, high-texture, photo-quality images previously reserved for movies and video demonstrations. The processor speed war between Intel and former partner AMD had pushed the top speed of CPU technology up to 200 MHz, and

promised to go even higher in the near future. Advances in sound technology spearheaded by Creative Labs, Ensoniq, and Yamaha were bringing theater-quality surround-sound to the average personal computer user. Once again, the console industry was lagging behind the personal computer and video arcade industry in terms of hardware. It was time for "the next-gen wave," which this time would be based on 128-bit processing technology – and once again, stuff that had previously been reserved for the arcade and computer geeks was about to find its way into a console near you. Sega, by luck of the draw, would be the leading the pack with Dreamcast. It didn't really matter what Sega fielded; whatever it was would by default become the benchmark by which the rest of the 128-bit (and 256-bit) generation of consoles would be measured. Sega could either rise to the challenge using what resources remained to it, or pass on the opportunity, possibly never having such a chance again. Sato and company were determined to ensure that Sega's once-legendary technical prowess would meet that challenge, and that the Sega Dreamcast would make the 128-bit console standard a high one to meet.

In developing the hardware behind the Dreamcast, Sega lined up four major players in the computer industry. NEC, the well-known Japanese computer giant and one-time rival back in the Genesis days, won the contract to come up with the console's 128-bit chipset. Hitachi, another famous Japanese electronics powerhouse, was tapped by Sega to provide the console's CPU with its brand-new 200 MHz SH-4 processor. Yamaha, whose excellent reputation in the music industry spoke for itself, wound up providing both the console's 64-bit 3D stereo sound system and a customized CD-ROM based delivery system. Finally, none other than Microsoft took on the task of providing an alternate programming environment to Sega's own, with its industry-standard DirectX APIs.

Microsoft's involvement with the Dreamcast is particularly noteworthy. Sega and Microsoft had worked together before on joint projects, such as the porting of popular Saturn titles to the then-new Windows 95 operating system. Sega executives were willing to bend over backwards to provide a

programming environment as friendly as possible to third-party developers. The rapid acceptance of Microsoft's DirectX as a standard within the personal computer gaming industry seemed to Sega to be the most reasonable approach to adopt. Not only could Sega offer its own proprietary SDK, but it could also offer a customized version of Microsoft Windows CE as an alternative development environment. This was not without its consequences, however, as later events would show. When Sega put Microsoft's OS into the Dreamcast, Stolar saw the move as Microsoft's way of getting its foot in the video game business door – and he was right.

"[Microsoft] brought a whole team of people in. They got to learn the business and then walk away. I said to sell them the company, and they should have, because then they could have gotten out of the hardware business clean. I knew [Microsoft President of Entertainment & Devices] Robbie Bach really well, and I said, 'Hey, let's just get this done.' [sighs] Those things happen in the world of business."

- Bernie Stolar

WinCE was a stripped-down version of Windows geared specifically towards small computer systems, such as pocket and palm devices, so its small size would work fairly well in a dedicated video game system such as Dreamcast. The only major change – one that would prove significant – was the inclusion of the DirectX graphical programming environment from the full-blown version of Windows. This opened up a new world of development possibilities for Dreamcast and immediately caught the eye of the third-party community, just as Sega hoped. While Sega's proprietary APIs were faster and made the most of the hardware, Microsoft's DirectX was already well-known to the industry and therefore easier to program. It also made for easy porting of existing software titles to the new platform, and a number of vendors began making such plans even before the console was officially launched. Microsoft, meanwhile, took note of the rapid acceptance of DirectX among the gaming community, filing this fact away for future reference.

Microsoft®

Arguably the most important piece of hardware to be built into the Dreamcast was an internal high-speed modem for Internet access, which was included at the insistence of Okawa himself. He believed strongly in the power of the burgeoning Internet, and felt now was the right time to invest in its future promise. It was not Sega's first Internet effort with consoles; however, Saturn's NetLink had proven to be little more than an expensive testbed for the concept. By making the modem part of the Dreamcast itself –instead of an expensive accessory – Okawa was enabling Sega to set yet another standard for the rest of the industry to follow. How it would play remained to be seen, but the promise of online console gaming caused more than a few heads to turn and look Sega's way.

One of the most unusual aspects of Sega's newest console was the way it addressed removable memory cards. The idea was not new to Sega (recall the Sega CD's Backup RAM Cart and the Saturn's memory expansion modules), but once again Sony had taken the lead with its compact PlayStation memory cards. Seizing upon the concept, Sega's engineers took it one step farther. Instead of just making Dreamcast's removable memory cards a place to dump game save files, Sato and company designed them to be standalone accessories. The Dreamcast Virtual Memory Unit (VMU) could be used for more than just a removable RAM cart; it had its own built-in LCD display and controls, and was also designed with interlink capability with both the console and other VMUs. The potential possibilities were not missed by the video game industry. To quote EGM on the subject:

"You can save games on them. You can download mini-games on them... You can push them together and pass information back and forth on them. You can use the screen to do secret stuff in games. You can use them as a calendar and a clock. The VMU is possibly the most versatile peripheral for a

games system ever made... and we bet Sony and Nintendo are kicking themselves because they didn't think of it first."

The VMU also promised to revolutionize the arcade gaming experience. Much hoopla was made at the time regarding arcade cabinets with VMU ports. After all, who wouldn't like to plug their VMU into their favorite Sega or Sega-affiliated arcade game, capture gameplay data from that game, and then take it home and continue the experience on their Dreamcast? Speculation was rife among Sega fans as to which of their favorite arcade titles would be the first with a VMU slot, with *Daytona USA 2* and *Spike Out* (both popular Model 3 board games) frequently topping the lists. It was not a new concept – something like it had already been attempted with SNK's Neo-Geo and Memory Card hardware back in 1990 – but it eventually proved to be an opportunity squandered. VMU support for dedicated arcade games never materialized; Sega simply lacked the financial resources to make it happen. Many who were in the arcade industry at the time still lament this missed opportunity to create a true crossover experience.

Sega Dreamcast VMU

There were four other systems then in development by rival companies waiting to pass the bar the Dreamcast had set. Sony was developing a successor to the PlayStation, with Ken Kutaragi and his team once again leading the charge. It would not hit the market until about a year after the Dreamcast, but Sony had something Sega did not: An excellent reputation with the public, and large cash reserves for the inevitable pre-launch market push. Nintendo was farther behind, being some two years out, and at this point not even the name of its new console had been decided. The other two – Project X (i.e. NUON) and the Linux-based Indrema – posed no serious threat, but deserve notice for their efforts to break the console industry out of its traditional confines and delve into previously unexplored territory. Perhaps the best observation about this state of affairs came from SegaWeb's Sheriden Hortness, who wrote "The one thing that everybody seems to have overlooked in this whole DC vs. PSX2 debate is the fact that Sega started this round of the war and the gamers of the world should thank them for it. In effect, Sega forced the industry to take a huge step forward." That debate was about to come into play in the most profitable video game market in the world, and this would be Sega's last shot at the home console market. It had to do well – somehow, some way – because too many other competitors were now lining up behind them, readying themselves to catch the 128-bit next-gen wave. There would never be another chance, not with a market opportunity as wide open as this one. Dreamcast had to succeed, or else.

Development of the Dreamcast did not come cheaply for Sega. Making sure that it had the right system at the right time to catch the 128-bit generation cost Sega dearly. Recall that Sega was suffering from the reputation of putting out one underpowered or overly complicated system after another, abandoning them almost as soon as the bad reviews began to roll in. This wouldn't be the case this time, if Sega CEO Shoichiro Irimajiri had anything to say about it. According to an interview he gave to *NextGen* magazine, Sega spent nearly $600 million in pre-launch research and development in order to make sure that

Dreamcast was done "right" – the way that it needed to be, and the way that the market wanted it to be. To use Irimajiri's own numbers, between $50 and $80 million was spent on hardware development, $150 to $200 million on software development, and an additional $100 million per venue for each of Sega's three major distribution markets in advertising and promotion. "When I was involved in the auto industry," Irimajiri laughed, "to launch a new car it cost $600 million, the same as to launch this tiny machine!"
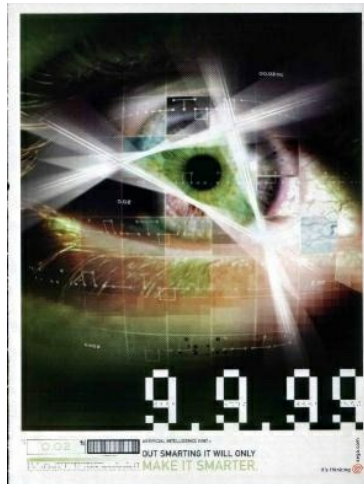
Sega Dreamcast advertisement

Given that Sega was over $1 billion in the hole at this point, it may seem absurd to the uninformed that Sega was spending money it didn't have on a system that might not even succeed. It was a big gamble, perhaps the biggest in Sega's long and storied history, but Okawa's conviction remained unshaken. He authorized the expense knowing full well just how precarious Sega's position now was in the market. He also knew that Sega would eventually have to get out of the hardware business altogether; it was simply too expensive for a company with limited resources like Sega's to sustain. Nevertheless, he didn't want Sega to have to bail with the stink of Saturn on its back. It would cost money that Sega did not have, putting the company deeper in the hole, but for Okawa it was now a matter of honor. Japanese businessmen place a great amount of value in the concept of honor, and Okawa still believed that Sega was and always would be an honorable company. Dreamcast would mean many things to many people, but perhaps most importantly it gave Sega

the perfect opportunity to rebuild its long-lost reputation with the gaming public. If properly presented and carefully managed, the Sega brand would once again shine in the positive light it had enjoyed just a few years before. There was also the outside chance, however remote, that Sega might actually pull some kind of profit with its new system. Okawa was no stranger to market gambles, but the Dreamcast would be the biggest of his life.

Up from the depths

On March 12, 1997, stories appeared on several Internet sites that Sega was working on a 64-bit upgrade module, code-named Eclipse, for the ailing Saturn. On March 31, 1997, the story changed: instead of a mere upgrade, Sega was in fact designing a whole new console. While details were sketchy, it was revealed on June 28, 1997 that Sega's newest console had two competing design specs ready for final consideration, code-named Black Belt and Dural. The two specs were practically identical save in the processor departments, and just happened to sync up nicely with the specs for Sega's newest arcade board, code-named NAOMI. Sega's unique naming protocol for Sega arcade hardware continued with the NAOMI ('New Arcade Operation Machine Idea'), which would go on to become one of the most prolific arcade platforms in modern history, boasting a vast library of titles. Since it would share the same hardware and basic system architecture as the Dreamcast, it would benefit from all the effort and resources Sega was pouring into its new home system. It was a relationship practically identical to that of Saturn and Titan in the late 1990s and, like Titan, NAOMI hardware could continue to be produced and vended long after the Dreamcast had run its course. Once again, Sega was cutting costs by having nearly identical arcade and home system architecture, and enabling perfect ports of its arcade experiences on its newest home system. Identical hardware, perfect ports. This was welcome news to Sega fans, who hadn't seen anything like this since the glory days of the Genesis.

NAOMI

Gamers and industry watchers immediately began speculating as to which of the two competing hardware specs would be chosen for the final Dreamcast/NAOMI design. This proved to be an eerie parallel of sorts to the early pre-production days of the Saturn, when a choice had to be made between Sato and Kalinske's system proposals for Saturn. This time, however, instead of blindly backing Sega of Japan's proposal, Okawa ordered full, working prototypes of both designs fabricated for better evaluation. He wanted the best bang for his buck, even if that meant going with hardware that hadn't yet proved its market staying power. As might be expected, Sega of Japan backed one and Sega of America backed the other. Sega of Europe sat on the sidelines and watched, but secretly leaned toward Sega of America's favored system. Who wanted which design, and what made that design unique?

Black Belt (SOA):

Hitachi SH-4 CPU, 3dfx Voodoo2 GPU

Katana (SOJ):

Hitachi SH-4 CPU, VideoLogic PowerVR2 GPU

Both systems were originally built around Motorola's PowerPC processor, then the darling of the Apple Macintosh product line, but which was soon cast by the wayside. It wasn't because of any faults in PowerPC technology; rather, Hitachi's SH-4 was a natural extension/upgrade of Saturn technology and Sega's tech teams were already familiar with programming Hitachi processors. There wasn't time to learn an all-new processing architecture, and the quickest path to getting Dreamcast to market was to go with what was already known and could be quickly built upon. A similar decision would also affect Sega's choice of vendor for Dreamcast's VDP. 3dfx graphics processors were at that time the industry standard for 3D video on personal computers; however, the company was losing the battle with rival NVIDIA for that very market, and

needed to broaden its customer base. The PowerVR2, designed by VideoLogic, might not have been as popular as 3dfx's Voodoo2, but was well known in the industry, and just as capable of bearing the high-end 3D processing burden as its upstart rival. Some hard choices were going to have to be made, so Sega began its official evaluation of both designs as soon as the prototypes were functional. By summer, Sega had finalized the design of the console, and by fall, it was ready to proceed.

Hitachi logo

Sega's successor to the Saturn – still unnamed at this point – was announced to the public on September 8, 1997, with official specs released a week later. Sega had opted for the Katana design, but with one key difference: The production model would have 16 MB of video RAM instead of the Katana prototype's 8 MB. This change would permit greater rendering capabilities and texture storage, thus making for a video graphics suite as powerful as the best personal computer of the day had to offer. Other differences between Sega's newest console and the Saturn were equally impressive. Its 200 MHz Hitachi SH-4 CPU meant that it had over 10 times the processing capability of Saturn – parallel processing notwithstanding. Its 128-bit PowerVR2 graphics processor could render a practical limit of about three million polygons on screen per second, an approximate thousand-fold increase over the Saturn. Saturn had a theoretical limit of 500,000 with its twin 32-bit VDPs, but system limitations constrained it to a practical limit of about three thousand polys per second. It was hard not to take notice of what Sega was planning for its new system, and many within the industry were quietly pleased at its plans.

First blood

Sega of America wasn't happy that Sega senior management had opted for

the Katana design. Their work on Black Belt had reached such an advanced stage that they were already in the process of selecting and awarding production contracts. Many felt deceived once again by what they considered to be an about-face on the Japanese side of the company, having been assured time and again that this time Sega of America would have a greater say in affairs than before. Almost all of the Black Belt development team quit in disgust and moved on. That should have ended the matter then and there; but before Sega was able to gear up for Dreamcast production, it had to contend with a sudden, unexpected legal battle over the way that the console was designed. This went largely unnoticed save for by industry watchers and insiders; however, it would eventually prove to be a major headache for Sega, significantly impacting the company's already strained resources.

On July 17, 1997, the industry trade magazine Microprocessor Report broke the news that Sega was planning to use the NEC-produced VideoLogic PowerVR2 as the graphics processor for its new console. Word had it that Sega of Japan had been highly vocal in objecting to the use of 3dfx's Voodoo2, claiming that it was "unproven technology," and that continued work with it was "a waste of time." Yuji Naka had gone on record saying that "the Voodoo2 3D graphics card is still a long way off the performance of the Dreamcast." The story caught everybody by surprise, not least of all 3dfx, which had in its possession a contract drawn up by Sega authorizing it to provide the graphics chipset for Sega's newest console. On July 21, 1997, in a carefully worded press statement, 3dfx said that Sega had "...a contractual obligation to 3dfx Interactive to utilize the company's Voodoo graphics technology as the graphics engine for its next consumer gaming platform. Should they choose to introduce a product that does not utilize this technology, 3dfx believes that the terms of the contract entitle it to commensurate damages." The following day, Sega officially broke all ties with 3dfx and publicly renounced any plan to use Voodoo technology in any Sega hardware product. On September 2, 1997, 3dfx filed a multi-million dollar breach of contract lawsuit. And on October 27, 1997, 3dfx expanded its suit to include both NEC and VideoLogic, makers of

the PowerVR2.

The 3dfx vs. Sega case took about a year to wind its way through the American legal system before resurfacing in the news, but by then it was all over. On August 4, 1998, Sega and 3dfx agreed to settle out of court. While the exact terms of the agreement remain undisclosed, it was later reported by the BBC that Sega had agreed to pay 3dfx approximately $10.5 million in exchange for dropping the suit and setting aside all claims for punitive damages. That figure tallies roughly with the amount of money 3dfx claimed Sega owed it per their original contract. It may seem like a small amount, but it was money wasted on a court battle that should have never taken place – not to mention funds that Sega could have spent elsewhere.

To DVD or not DVD?

How could Sega have spent an extra $10.5 million in Dreamcast development? On the one feature users were anticipating the most: The inclusion of a DVD-ROM drive. On February 5, 1998, it was reported by several sources claiming inside information that Sega had decided against including a DVD-ROM drive as a standard feature of the Dreamcast. Instead, Sega had opted to develop its own proprietary 1 GB format based on time-tested standard CD-ROM technology. This was sobering news to gamers worldwide, who'd been speculating for months that – given all of its other firsts – Dreamcast would also be the industry's first DVD-capable video game console. The two major reasons cited by these inside sources were the high cost of DVD-ROM technology, and the lack of a pressing need for such large amounts of storage capability (about 4 to 4.5 GB per DVD-ROM, depending on the format employed) in a market where the majority of games didn't fill a stock 650 MB CD-ROM. Sega's proprietary technology, dubbed GD-ROM, was significantly cheaper than DVD-ROM to use, and the extra 350 MB of storage would provide that much more incentive for software developers to tap Dreamcast's deep resources. Besides, having your own proprietary format is one of the simplest and most effective copy-protection measures around, and

Sega hoped that GD-ROM would keep the software pirates at bay long enough for them to turn a profit. In fact, Sega would have preferred DVD-ROM, which at that time would have been the ultimate proprietary format due to the special discs required, but then there was that nagging issue of cost.

3dfx logo

DVD capability turned out to be one of Dreamcast's most contested issues, debated from the moment the console was announced in 1997 until more than a year after it hit the market in 1999. Sega's Charles Bellfield flat out declared on March 15, 2000 that Dreamcast never had DVD, and never would. Even so, just two months later on May 13, 2000 at the E3 consumer electronics show, Sega displayed an upgraded Dreamcast mockup with DVD capability. The rest of the industry seemed impressed, yet Sega itself sounded strangely uncommitted to the idea. To quote Sega of America's Peter Moore:

"To me, if the DVD format allows better gaming, then it's a rational reason that it has got a place in gaming. If it's simply to play DVD movies, then that's one that we would have a more difficult time in the US to rationalize... It's still not clear to me now - it may clear up tomorrow - what DVD does for gaming. Obviously you can pack more data to the disc, but other than that, we're pretty committed to the GD-ROM format."

In typical Sega fashion, it subsequently backed away from the notion of a

DVD-capable Dreamcast, dumping the idea altogether by the end of the summer. Again, cost was the chief concern, although by this time other market factors had crept into the picture. The whole thing wound up being a sore spot with Sega fans, resurrecting memories of Sega's nagging habit of making one broken promise after another.

It wasn't that Sega didn't want a DVD-equipped Dreamcast, it simply couldn't afford it, and knew full well it was making a major mistake in not including one. There was no choice; DVD-ROMs – which cost hundreds of dollars apiece at the time – were still something of a pricey novelty. Sega's own Hideki Sato had this to say about the DVD affair, in an interview with EDGE magazine published on January 1999:

"We gave DVD up because it was still too expensive and the development environment was a major problem. We needed to create the authoring tools from scratch! So we searched for a new cost-effective solution, and we came up with the GD-ROM."

Sega Dreamcast advertisement

Sato knew better than anybody at Sega that DVD-ROM would be the wave of the future for large-capacity, disc-based delivery of video games. He also knew that this time around Sega was in no position to ride the cutting edge and lead the industry. It simply couldn't afford to blaze the trail for everybody else

to follow, as it had in the past with other technologies. Sato knew – as did everybody else at Sega – that they were taking a big risk by not including DVD with Dreamcast; it could have been one of the console's biggest selling points. The market was there – especially in Japan – for an inexpensive DVD player, and a reasonably-priced, DVD-playing console would sell itself in such an environment. It was a gamble Sega took solely because it had no choice in the matter, but in retrospect may have been one of the worst hardware mistakes Sega ever made.

Component	Description
Processor	• Hitachi 128-bit SH-4 RISC CPU at 200 MHz • VideoLogic PowerVR2 CLX2 at 100 MHz • Yamaha AICA Sound Processor at 22.5 MHz • 32-Bit ARM7 RISC audio CPU at 45 MHz
Graphics	• 16.78 million colors • 3 million polygons per second • 640x480 screen resolution
Sound	• 64 channel PCM/ADPCM sampler • XG MIDI support • 128 step DSP
Memory	• Main RAM: 16 MB • Video RAM: 8 MB • Sound RAM: 2 MB
Connections	• 57.6 kbps internal modem • Optional cable modem
Storage	• 1.2 GB GD-ROM • Visual Memory Unit ("VMU") removable storage device
Other	• Additional ports available on controller

Foot in the door

On October 20, 1997, Sega of Japan gave a private in-house demonstration to several software companies who had expressed interest in developing for Sega's next console. The console in question was the 128-bit Dural prototype system, and the game demonstrated was a workable port of Sega's first-ever Model 3 arcade game, the highly-regarded road racer *Super GT* (aka *Scud*

Race in Japan). Sega's visitors were reportedly impressed by how well the arcade-quality port looked on the console. The following day, Core Design became the first third-party vendor to commit to Sega's newest console, with other notables such as Capcom, GameArts, and Namco signing on in the weeks and months to come. By March of 1998, Sega management had gathered enough interest in the new console – now known as Katana – to justify hiring a significant number of new personnel, whose services would be needed once the new system began the ramp-up process towards production.

Sega Dreamcast motherboard

The very first piece of software announced for Sega's new 128-bit system was Kenji Eno's *D2*, originally intended for Matsushita's ill-fated 3DO M2 upgrade. Eno made his announcement at the spring Tokyo Game Show on March 20, 1998. Up until then, a fair number of vendors had expressed interest in the system – and several were rumored to have software in development – but nothing had yet been officially announced. It had been hoped that Sega would also officially unveil the system itself at the show, but instead, on April Fool's Day, Sega unveiled its NAOMI arcade hardware to the public. Nearly identical to Sega's new home video game console save in a few minor areas, it gave a news-thirsty public some of the "hard stuff" on which to ponder as the

new console was readied for production. Everyone could see that having nearly identical home and arcade hardware was going to make the software porting process dreadfully easy. In addition, NAOMI easily blew Sega's most sophisticated piece of arcade hardware at the time – the venerable Model 3 board – right out of the water in terms of processing power and graphics capability.

On April 21, 1998, Sega began shipping first-generation Katana development kits to most of the major and minor third-party software houses within the video game industry. And on May 21, during the Sega New Challenge Conference hosted by CEO Shoichiro Irimajiri, Sega officially unveiled its newest video game console to the public. The design had been finalized into the form it's known by today, and bore the official name of Dreamcast, which Sega explained "...symbolizes the universe and the infinite power of human beings." Dreamcast now had an official Japanese release date, too – November 20, 1998 – with some 120 software developers reportedly at work on games for it. Over 11,000 people showed up for the event, and Irimajiri's handling of the event was a big hit with the attendees. Clearly enjoying himself, he fielded a number of questions about Dreamcast, and conducted several interviews, including one with *NextGen* magazine, from which the following comments are reproduced:

"Most of the third parties say they want to develop their lead titles for Dreamcast because of the superiority of the hardware, and I think that gives us the upper hand for one or two years. The most important thing is that before PlayStation 2 comes out, we get a considerable share of the market and generate enough momentum to carry it through... We have lost some credibility among our Saturn users – even in Japan – because they have seen the PlayStation become the dominant force in the market. To recapture them, we have to convince them that Sega is serious about satisfying its customers... I have been saying only one thing: think and look at things from the customer's point-of-view. In the past, I think maybe Sega has been arrogant. We decided to be far more open and listen to our customers...

Online facilities will be a mandatory requirement for all game development in the very near future. At the same time, we know we can't make money from the online gaming business, but we also know that everyone has to add value by developing online gaming. I discussed this issue with lots of top management people from the big publishers. They all said that it would be hard to make a profit from online gaming over the next few years, but they still have to explore the business opportunities... Sonic will remain as the major character for Sega, but we also want to bring lots of new characters forward, and that's one of the major challenges."

The following day, a major executive representing Sega's biggest technology partner in its latest console effort claimed that "...Dreamcast will set a new standard for entertainment... and will achieve huge success in this industry." That executive was none other than Bill Gates, founder and CEO of Microsoft.

Developing for Dreamcast proved ridiculously easy, thanks to Sega's early insight into the SDK issue, and it wasn't long before word spread about all kinds of high-caliber software under development for the platform. Epic Games was reported to have ported their hit shooter *Unreal* to Dreamcast within a few weeks. Bizarre Creations threw together a playable, decent-looking, in-house Dreamcast game inside of a month. By September, Ubisoft was already in the process of porting a number of its hit Windows-based personal computer games to Dreamcast, including *Monaco Grand Prix 2, Redline F1 Racer, Speed Busters,* and *Sub Culture*. Other software houses took Sega's SDKs and began creating high-end original efforts on their own, and the news just got better and better... A perfect port of Tecmo's newest fighting game, *Dead or Alive 2*... Project Berkeley, a sprawling 3D RPG authored by none other than Sega's own Yu Suzuki... A new *Phantasy Star* game Sega reportedly had in the works... *Resident Evil CODE: Veronica*, the latest installment in Capcom's hit horror series (and a Dreamcast exclusive upon its debut)... Yuji Naka's *Sonic Adventure*, the first "real" *Sonic* game for a Sega platform since the glory days of the Genesis... Namco's latest sword fighter, *Soul Calibur*... And

for Japanese dating sim fanatics, no Sega platform would be complete without a new installment of *Sakura Taisen*.

Developers from around the world praised the power of the Dreamcast. "The Dreamcast hardware gives us all the features that we could ever want from a gaming system," noted BioWare's Cameron Toffer, an attitude shared by many of his Western peers. His Eastern counterparts felt the same way. "Switching to Dreamcast development will be our biggest challenge," said Capcom's Noritaka Funamizu. "Up to now, we've never been able to do what we really wanted to do because there's always been some kind of hardware limitation... We pushed both the Super Nintendo and the PlayStation to their limit, but the Dreamcast is too powerful - we'll never be able to do that." Sega's strategy was working. Not only were third parties accepting of Dreamcast, they were welcoming it with open arms. The time had come to get it out of the back room and onto the sales floor.

The Japanese launch

On September 22, 1998, the first delay in the Japanese launch date for Dreamcast was announced. There were two reasons given by Sega for the delay. The first (and most important to Sega fans) was that Yuji Naka and Sonic Team needed more time to polish up *Sonic Adventure*. The first "real *Sonic* game" in ages promised to be something special, so a delay was understandable – so long as it didn't take too long. The second reason, which tended to be glossed over at the time, was that Sega needed more time to produce more consoles. And it was here, as events subsequently proved, wherein the real problem lay.

Sega Dreamcast with controller

On October 20, 1998, Sega of Japan started accepting preorders for Dreamcast consoles. Two days later, in a written letter to Japanese retailers, Sega CEO Shoichiro Irimajiri asked them to stop; retailers were wanting to order far more consoles than Sega could make in time for the launch. Some retailers had ordered as many as 600 units apiece, which meant that over 100,000 units had been ordered by the time Irimajiri pulled the plug. That may seem like a rather small number of consoles to make available, but then again this was Sega. Many observers, both East and West, surmised that the struggling video game company was having production problems, and they were right. There were two things slowing Dreamcast production: A dreadfully short supply of PowerVR2DC graphics processors (NEC was having its own fabrication problems with a brand new plant), and the extremely rigorous internal quality control that Irimajiri was insisting upon for Dreamcast production. November 1 came and went – significant in that it marked the beginning of Sega's official pre-launch Dreamcast promotional blitz in Japan – and still the production issues wouldn't go away. If anything, they got worse, and company executives began to fear that they couldn't fill the orders they had on hand. Two days later, Sega began shaking up the Dreamcast software release schedule, pushing titles back down the calendar. On November 17, the schedule was revised yet again, and two days later Irimajiri offered a formal apology for the production delays. The following translation is taken from the Japanese gaming magazine Famitsu Weekly:

"To everyone who went to the stores to buy a Dreamcast but could not, I offer my most humble apologies. Thanks to you, the popularity of the Dreamcast has reached a boiling point. Because of this, all of our advance orders were filled more quickly than we had anticipated. We at Sega are doing our best to produce many more units, so please be patient."

On the side, Famitsu noted that NEC's PowerVR production problems were so severe that Sega would definitely miss its goal of having one million consoles ready to ship by launch. It also reported that NEC believed it would not be until February 1999 until it could get the rest of the kinks out of the fabrication process. November 20 came – and went – with nary a Dreamcast to be seen on Japanese store shelves. Sega had delayed the launch a full week hoping to get as many consoles produced as it could without further delay. Instead, Sega took the opportunity to revise its sales goals downward. Initially hoping to sell 800,000 units by the end of 1998 and 1.5 million by March of 1999, it marked those numbers down to 500,000 and one million. On November 25, 1998, NEC revealed that the biggest issue behind the PowerVR2 DC production delay was in reducing the complete chip mask down to the 0.25 micro level, which had caused far more headaches than originally anticipated. The following day, thanks to the arrival of their initial shipment of consoles, Hong Kong vendors began selling Dreamcasts to the public.

November 27, 1998 marked the Dreamcast's official launch in Japan. At 10:00 am, vendors in Tokyo's renowned Akihabara district opened their shop doors to long lines of prospective customers. Sega had only 150,000 consoles on hand, but that was still 50,000 more than it appeared they might earlier, thanks to the one-week delay. All 150,000 consoles sold out that day, and Dreamcast would continue to remain sold out until Sega was able to increase its shipments in mid-December. Sega management was pleased as punch at the success of the launch, modest as it was. "We have the big advantage of releasing a next-generation machine well ahead of our rivals," noted a Sega spokesman. "By the time Sony launches a new PlayStation model, we will have retail know-how on such systems and become more price competitive through

cost cutting. Our goal is to capture 50% of the market." Those were rather big words for Sega to be saying; at that time, Sony enjoyed a 55% share of the video game market, Nintendo claimed 30%, and Sega a scant 15%. Still, spirits were running high, and who could blame Sega for its ambitions? They were behind schedule, below target, and out of stock, but at least Dreamcast was now officially out the door, and was being dubbed "the PlayStation killer" by Japanese traders reporting on the launch. Sega CEO Shoichiro Irimajiri was quoted as saying that his company was looking forward to selling "ten million Dreamcast units in Japan within three to four years." Industry insiders quipped that Sega would have to sell at least three million units in Japan alone just to break even on its investment, also noting that Sega's biggest tasks would be gaining "support from powerful software manufacturers" along with "improving its relatively weak sales network in overseas markets." Ten million consoles sold worldwide within three to four years, and at least three million just to break even – notable numbers, which we'll get back to later on.

Sonic Adventure

By December 16, 1998, over 175,000 Dreamcasts had been sold in Japan, and just one week later the 200,000 mark was passed. In another eerie parallel to the Saturn, just over 188,000 copies of *Virtua Fighter 3* for Dreamcast had also sold, making Yu Suzuki's fighting franchise the biggest

launch hit of both systems. *Sonic Adventure* had been the second biggest seller, despite a number of graphics bugs and camera control problems that eluded Sega's beta testers. Dreamcast saw its first full-blown RPG with the January 19, 1999 release of GameArt's *Evolution: World of Sacred Device*, drawing the attention of genre groupies nationwide. Console sales began to pick up significantly once *Sega Rally 2* was released in July, and by the end of the month Sega's racer was the #1 best-selling video game in all of Japan. By February, Sega of Japan was so confident of the impending success of the Dreamcast that it released new sales figures. Sega's press statements claimed sales of some 500,000 consoles by the end of 1998, with goals to sell two million by summer, and four million by March of next year. This was nonsense to anyone who was monitoring actual vendor-to-customer sales figures, which showed that Sega had only moved about 200,000 Dreamcast consoles by then. Nonetheless, the Dreamcast was clearly making its presence felt in Japan.

The biggest news of all, though, was *Shenmue*, the latest creation from Sega's legendary developer Yu Suzuki. Previously known as Project Berkeley and conceived during the dying days of the Saturn, *Shenmue* was designed to be a first-person action RPG like no other before. Combining the visual horsepower of the Dreamcast with an epic storyline and Suzuki's sophisticated programming, *Shenmue* promised to set new standards for the genre. It was first publicly unveiled at the International Meeting Assembly Hall in Yokohama, Japan, before a stunned audience of over 15,000, with live simulcast video feeds to the Internet. During that event, an extensive demo utilizing pre-rendered video showed off the game's incredible graphics; however, it was made clear that what had been shown would be rendered in real time on the Dreamcast. The reception was very positive, with numerous reports declaring *Shenmue* "the best looking game in the history of video games." The only problem was that Suzuki's ambitions outstripped Sega's resources, and *Shenmue* began missing production deadlines. It would not be released until the end of the year, but when it came, *Shenmue* drew eyes to the Dreamcast

like no other game had done for a console before.

Sony PlayStation 2

A sleeping giant stirs

On November 13, 1998, software programmer Toby Gard of Confounding Factor offered this opinion about Sega's new video game console: "The Dreamcast is exceptionally good, and if Sony doesn't do something about it fairly swiftly then they deserve to be utterly trounced by Sega." It was an astute observation, for Sony had not been sitting idly by while Sega fiddled. The major drawback in being the first out of the gate was that it gave Sony time to better its efforts and capitalize on Sega's mistakes. Kutaragi and company might not have had the hardware ready just yet, but Sony still had its marketing muscle, and absolutely no intention of letting Sega get its foot back in the door. The time was ripe for the PlayStation 2 hype machine to kick into gear.

Three days after Gard's observation, Sony executives jump-started their PR efforts. While the Dreamcast's CPU was not as fast as the PS2's (200 MHz,

as opposed to 350 MHz), its graphics suite was easier to program and it had deeper memory resources (16 MB, as opposed to 4 MB). In layman's terms, this meant that the two machines were fairly well matched – what one lacked, the other one had, effectively cancelling out any real advantages as far as the hardware was concerned. Sony knew this, but it also knew how to go after Sega. There were two keys upon which the success of Dreamcast rode: Third-party support and consumer acceptance. Remove those keys, and the Dreamcast would never really get started, instead just rolling along the tracks using whatever momentum Sega could give it –precious little, when compared to Sony's vast resources. That was Sony's plan to derail Sega's comeback bid, and exactly what it proceeded to do.

On March 2, 1999, just as Dreamcast was beginning to establish a foothold in Japan, Sony held a public press conference concerning its newest video game console, the PlayStation 2. "I believe this is something that will surpass a mere game machine," said new Sony chairman Nobuyuki Idei as he unveiled the machine to the assembled throng. Sony had over $160 million already invested in its newest system, which – even before having hit the market – promised to deliver more goods than even the most wistful gamer could imagine. Ken Kutaragi, creator of the original PlayStation and godfather of its successor, calmly delivered the specs to an astonished audience. In the words of MSNBC reporter Steven Kent, as quoted in his book *The First Quarter*:

"As Kutaragi explained the performance specifications of his new console, it became obvious that Sony had created a stripped-down version of a super computer. Sega's Dreamcast rendered 3 million polygons per second, nearly 10 times as many as the original PlayStation. That sounded impressive until Kutaragi revealed that his next-generation machine could render... more than 16 million polygons per second. Central to the new console's performance was an amazing new processor which Kutaragi called the "Emotion Engine."... Its floating-point calculation performance was rated at 6.2 gigaflops (billion) per second, making it as fast as most super computers. Kutaragi's team had pulled out all the stops. The new console would run

games on DVD... While he would not commit to whether the new console would play movies on DVD, the announcement led to widespread speculation that it would. What Kutaragi did confirm, however, was that the new console would be backwards-compatible with the original PlayStation, meaning that it could play the thousands of games that had been released for the Sony platform worldwide."

A gaming machine with enough raw graphics horsepower to render the kind of computer-generated graphics Lucasfilm was using in its movies (according to none other than George Lucas himself)... A set-top console equipped with DVD-ROM and (in all probability, if Sony had any sense) the ability to play DVD movies... A next-generation PlayStation that would also play last generation's games. To gamers and consumers worldwide, it sounded like gaming heaven. Industry observers thought so, apparently, with many of them promptly predicting the death of the Dreamcast at the hands of Sony's "killer console." Sega's response to Sony's move was what one might have expected from the underdog: The following day, Sega of Japan proudly announced that Dreamcast sales had exceeded 800,000 units. Bernie Stolar also paid a call to the press a few days after the Sony announcement, as recorded by Steven Kent in *The First Quarter*:

"On paper Sony's machine sounds impressive, but the fact is it is still on paper. Dreamcast is here now. Frankly, Sony really has their work cut out for them creating a machine with the specs they unveiled on Tuesday and supporting it with a strong line-up of games. With a launch just one year away, that will be a challenge. And while Sony is working to create that hardware, Sega will already be in the marketplace with Dreamcast, building our installed base and developing an impressive library of games."

Stolar's brash bluster was what one might expect from Sega of America, still smarting over the Saturn debacle and hell-bent on rebuilding itself – with or without the support of its Japanese superiors – at any cost. Sega of Europe echoed their American counterparts, albeit more softly – after all, for them,

Dreamcast was still almost two years away. As for Sega of Japan? Hardly a peep, aside from the usual, predictable press releases. They knew the truth of the matter, despite Stolar's bold proclamations. All eyes in Japan were now firmly locked on Sony, and this would soon be the case in the West, as well, unless Sega struck first and hard.

The sad truth of the matter was that Sega's presence in Japan was never strong enough to create the kind of momentum Dreamcast needed to establish a firm beachhead, certainly not now that Sony had sprung its Pandora's box on the Japanese gaming public. The one factor upon which the fate of the Dreamcast had hinged in those early days was the scarcity of the PowerVR2 DC graphics processor. Thanks to NEC's production problems at its new plant, there simply weren't enough to make all the consoles that Sega might have sold. Now that PS2 was "on the scene," as it were, Sega and the Dreamcast didn't have a chance. Shoichiro Irimajiri was brutally honest about this issue when interviewed regarding Dreamcast's early days by industry reporter Steven Kent:

"We set up the whole program, and it seemed perfect except for the supply of the graphics chips... It was very sad to have the shortage of the graphics chips. We at Sega felt that 200,000 to 300,000 additional consoles could have been sold if we could have had enough supply."

In the closing chapter of *The First Quarter*, Steven Kent made this telling observation about Dreamcast's fortunes at this point: "Sega's only hope was to beat Sony on the basis of price and games." The two consoles were about evenly matched in terms of gaming capability, but Sega's scream would never best Sony's stormy thunder. It had Sony beat in terms of game programming prowess... but then there was that small problem of proper pricing. If Sega priced Dreamcast and its games too high, for too long, it would lose customers. If it priced them too low, and too soon, it would never make a profit. Sega was caught between a rock and a hard place.

Sega Dreamcast VMU and controller

On May 28, 1999, Sega Enterprises announced it was anticipating its third straight yearly loss in a row, and expected to end the year some ¥19.8 billion ($165 million) in the red. "Sales of Dreamcast in Japan have fallen short of Sega's original forecasts and wide adoption has been found wanting. Monthly sales of the PlayStation have outpaced Dreamcast sales handily in Japan," stated National Console Support. Dreamcast wasn't making Sega any money in Japan – something even the lowly Saturn was able to do. It was time to look elsewhere for those elusive profits that Sega was so desperately seeking. It was time to send Dreamcast across the big pond, and bring the West into the next generation.

Across the big pond

Dreamcast first made its presence felt in the West at the 1999 Nürnberger Spielwarenmesse (Nuremberg Toy Show) in Germany. The show lasted six days, from February 4 to 10, with many announcements being made by Sega and its European Dreamcast developers. Among these was a color change in the European Dreamcast logo from orange to blue – explained away by Sega for aesthetic reasons – and confirmation that country lockout technology would

be employed in all versions of the Dreamcast. They noted that defeating the lockout "will be very difficult," and publicly expressed doubt that it would be possible at all. Days later, industry sources cited possible trademark infringement as the reason for Sega's changing the color of the Dreamcast "swirl" logo in Europe. The German multimedia company Tivola had been using a similar orange swirl as its logo for years.

Soul Calibur

On March 5, 1999, Bernie Stolar reported that U.S. Dreamcast preorders from chain-store retailers had exceeded 11,000 units to date, and predicted that over 15,000 retail locations would have consoles in stock in time for the launch. He added that a U.S. pre-launch ad blitz was set to begin in April, some four months in advance, and would consist "of successful cross-promotional and PR methods." Just days later, Namco officially announced the impending release of *Soul Calibur* for Dreamcast, ported directly from the NAOMI arcade version of the game. This move got a lot of people excited; a console with Namco's support was clearly worth considering given how it had helped build the success of Sony's original PlayStation. It therefore attracted significant media attention when Stolar gave a major presentation at the Game Developer's Conference in San Jose, California. "I'm here to challenge you to

dream big," Stolar announced right off the bat, "and tell you that everything you know about video gaming is about to change, thanks to Dreamcast... I know that Dreamcast is the platform that will change more than a few minds." Previewed for the first time at that conference were working alphas of *NBA 2K* and *NFL 2K*, as well as mid-stage betas of *Cart-to-Cart Racing* and *Geist Force*. Taking no chances with the sports game screw-up that had helped kill Saturn; Sega of America would have its *Sega Sports* lineup ready to hit the ground running once the U.S Dreamcast launch commenced. Stolar also confirmed that Dreamcast would come standard with a 56K modem for the U.S., as opposed to the 33.6K modems being included with the Japanese and European versions. As part of his speech, he also took the opportunity to chide his former employer Sony, claiming that their rush to announce the PS2 proved they were scared of Sega and the Dreamcast.

A lot of anxious Western eyes were also focused on the 1999 Spring Tokyo Game Show, since this would be the place where Sega's upcoming lineup for Dreamcast in the West would get its first real public preview. As expected, Sega stole the spotlight on the first day of the show, its booth featuring demos and trailers for such in-progress Dreamcast and NAOMI titles as *D2, Resident Evil 2, Resident Evil CODE: Veronica, Rippin' Riders, Shenmue, Street Fighter Alpha 3,* and the acknowledged showstopper: A late-stage, working beta of *Soul Calibur*. The spectacular, lifelike graphics and seamless animation combined with first-rate gameplay made this perfect port of Namco's popular weapons-based fighter the most popular game of the show.

On May 25, Sega of Europe formally unveiled the Dreamcast at a special showing in London's West End in anticipation of the system's planned October launch. "We are committed to a market which is very different from the last market we were in," commented Giles Thomas, Director of Sega UK. The announced price was £199, with the European retail system essentially identical to the American one apart from packaging and the inclusion of the slower 33.6 kb/s modem.

Phantasy Star Online

If there is one title revered above all others among diehard Sega RPG fans, it is *Phantasy Star*. And so on June 1, when word leaked out from the Sega New Challenge Conference that Sega had reformed the old *Phantasy Star* development team the crowd went wild. A working title managed to slip between the cracks – *Project Ares* – and the rumor mill went wild. The only problem was that the few images leaked didn't resemble any of the previous (or abandoned) *Phantasy Star* titles for any of the older Sega consoles. An all-new adventure in all-new locales, perhaps? In the fall, it was revealed that *Project Ares* was the working title for an all-new RPG named *Eternal Arcadia. Phantasy Star* fans were understandably disappointed, but they liked how the new game was taking shape. After all, it had the *Phantasy Star* development team behind it, right? And there was another well-founded rumor that Sega had even bigger plans for its trademark RPG franchise. It might take a while, but the prospect of a new *Phantasy Star* on a Sega console was enough to mollify fans for a little while longer.

On June 28, Bernie Stolar and his staff unveiled the ad campaign they'd commissioned for Dreamcast's U.S. debut. While it wasn't the Sega scream of old, it was just as eye-catching and thought-provoking. "IT'S THINKING," went the ad copy. "IT KNOWS IT'S ALIVE... IT LEARNS FROM ITS MISTAKES...

EVEN IF YOUR MEMORY DOESN'T FAIL YOU, IT CAN'T HELP YOU..." The emphasis was on the Dreamcast not as a mere video game console, but as an intelligent opponent that even the most hardcore gamers would find a challenge. "This is not your typical ad campaign," quipped Sega of America executive Peter Moore in an interview. "It's all about building an aura around a platform. You'll see gameplay introduced in a very innovative way in the next phase. It will be interwoven into the entire campaign... It's alive. It's actually working against you, fighting you, challenging you, and in some instances humbling you." The first three "IT'S THINKING" TV spots made their debut on MTV later that evening, and a corresponding print campaign began appearing on a regular basis in most major video game magazines. "IT'S THINKING" would be the Dreamcast's calling card in the U.S. until well into 2000. Hardcore Sega fans weren't happy with the new ad campaign, and pleaded en masse for Sega to revive its trademark Sega scream. Griping over the "IT'S THINKING" campaign continued among the Sega faithful, but so did Sega's new ads.

Good press in the form of increased Japanese sales added fuel to the Dreamcast fire during July. Sega of Japan had dropped the price of the console by $10 and reduced prices on a number of older titles at the end of June. This caused a dramatic surge in Dreamcast hardware and software sales that, two weeks later, droved Sega to pass Nintendo and retake the #2 position on the market. As of July 16, Dreamcast consoles were outselling Nintendo's aging N64 by a 3-to-1 ratio. It wasn't enough to pass Sony's 7,000 unit per week lead in PlayStation sales, though, and it wouldn't last. As the novelty of the promotion wore off, Sega slipped back into third place by the end of the month, but it had earned some good press at a time when it was desperately needed.

Dreamcast magazine cover

July 24, 1999 saw the Japanese release of the game that would prove to be the Dreamcast's biggest showcase in the buildup to the American and European launches. Namco's *Soul Calibur* was a complex 3D fighting game in the same vein as the *Tekken* series for the original PlayStation, and the sequel to its own fighter *Soul Edge*. What set it on a pedestal above every other 3D fighter at that time was its eye-popping graphics. The fighters looked and acted real, their movements and costumes flowed in a realistic fashion, the environments looked like real places – and it had an excellent game engine to boot. There was really no need to advertise the game, and Namco's advance American ads were elegant enough. "This is the heart," read the ad copy, showing a mostly empty screen with a small Dreamcast near the center of the

page. Intrigued readers flipping the page found a gorgeously rendered two-page spread of the Mitsurugi in a "drawing stance," samurai and blade both riotously rendered in multi-million color and smoothly textured 3D. "This is the soul," read the accompanying caption. Simple, yet effective. There was no other video game console on the market at the time that could come close to rendering that image in real time – and for that matter, only an expensive handful of 3D accelerator cards for personal computers could claim to approach it. Potential buyers would drool over that ad, advance screen shots, and Internet movie clips and trade show demos as the countdown to launch grew closer.

By August, the Dreamcast had completely shattered the advance sales record set by the PlayStation, with some 200,000 pre-orders placed at retail outlets nationwide. Most major retailers reported they were averaging 14,000 pre-orders a week, and Sega of America confidently predicted the trend would continue. Stolar and company also predicted console sales of 400,000 units in the first 30 days after launch, one million by the end of the year, and 1.5 million by the end of March, 2000. One week later, Sega of America announced its upcoming "Mobile Assault Tour": Commencing August 23 and continuing for the next 22 weeks, two six-ton Sega "assault trucks" with trailers would tour 39 major U.S. cities, each carrying sixteen Dreamcast system kiosks and a variety of software to eager gamers across the nation. Old-time European Sega fans, upon hearing the news, could not help but draw parallels to Sega's "Pirate TV" ads for the Mega Drive back in the early 1990s. The arrogant and overbearing Sega of the Saturn days had disappeared, and in its place, it seemed, the bad and brash Sega of old had returned.

Sega of America's heavy-handed promotion of the Dreamcast had its price: Without warning, Sega of America president Bernie Stolar, who many credit with making the success of the Dreamcast launch possible in the first place, was forced to resign and leave the company. His was not the only head to roll. Gretchen Eichenger, vice president of third-party development, and Eric Hammond, vice president of internal development, also left around the same

time. Sega of America was now entering Dreamcast launch mode without the management team that had laid its foundation in the first place. Stolar's replacement as head of Sega of America was Toshiro Kezuka, and among the chief members of Kezuka's management team was Peter Moore, senior vice president of marketing. It was widely believed (and later confirmed) that Stolar's departure was encouraged in order to open up further third-party support, as his flamboyant style had caused measurable resentment among some top-flight, third-party software houses. Stolar's departure may have also have resulted from his constant personality clashes with Sega CEO Isao Okawa, with whom he had never really gotten along. One can only imagine the scene at Sega of America, with thousands of fingers crossing as 9.9.99 inexorably approached. There was no more to be done, though; those who had led the charge were now gone. It was now up to the whims of American consumers to decide Dreamcast's ultimate fate.

Death of the Dream:

The Sega Dreamcast

PART TWO OF THREE
(August 1999 - June 2000)

9.9.99

In its first 24 hours on the North American market the Sega Dreamcast proved to be a resounding success. It was accompanied by heavy promotion on youth-oriented television networks such as MTV, with a nationwide touring blitz accentuated by customized vans, mobile kiosks, and enthusiastic support from popular music acts such as Limp Bizkit and Filter. Video game magazines such as EGM and GamePro devoted their September issues to its launch. Only those who'd placed advance orders were guaranteed to get a Dreamcast on the first day it hit the store shelves. Over 15,000 retail locations across the continental United States reported brisk sales, with many selling out the first day. Total Dreamcast-related revenue amounted to approximately $97 million – more than three times the take from the opening to the much-ballyhooed *Star Wars: The Phantom Menace* that arrived that same year. The U.S. Dreamcast launch far exceeded Sega's own expectations, and forced the rest of the industry to sit up and take notice. There was no doubt about it – Sega was back. This didn't come as a surprise to industry observers who'd been watching the momentum build and the audience surge. EGM put it this way, "Hardcore game freaks – the type who still trek to the arcades, who've imported a game or two, who passionately defend their console – have always

gravitated towards Sega systems. The Dreamcast is no exception, and Sega knows it." The future seemed bright for Sega and its licensees as income from all those sales poured into cash-strapped pockets.

Unfortunately, the traditional market mishaps associated with most new console launches began almost immediately. There was some confusion in market order shipments, meaning that many first-time American buyers wound up with Japanese copies of their new games – which, of course, did not play on their American-only consoles. Midway aggravated this issue by releasing *Ready 2 Rumble Boxing* with improper drivers, leaving a lot of angry customers with non-working copies. And – in the wake of intense media hype over the Columbine school shooting – Sega decided not to release its own arcade-style light gun in the U.S., forcing American gamers to contend with inferior third-party designs that simply weren't up to par. On another controller-related note, the standard Dreamcast joypad was widely criticized as being too compact and awkward (as if it had been designed for the hands of small children), and the third-party controller business subsequently boomed as a result. As for Sega's VMUs, they were in dreadfully short supply during the console's first three months on the market, and many gamers declined to buy third-party units that lacked the standalone gaming functions of the Sega design. Finally, the promise of Internet gameplay – the single most touted feature of the Dreamcast – was conspicuously absent from all overseas launches, with Sega quietly announcing that the Dreamcast Network would be delayed until "sometime in 2000."

Regarding the Dreamcast's other major overseas launches, billboards and ad copy had been appearing all over Europe and the U.K. with a single word in large print, upon which a small sticker appeared to have been affixed: "PlayStation – Best used before 14/10/1999." By all accounts, the European launch was as big a success as the American one, featuring the largest launch list of software titles yet fielded by a Sega console. Unfortunately, things would not go so smoothly a month later in Sega's last major market to receive the Dreamcast. The system launched in Australia in November, and was a disaster

by any measure: No software, no accessories, and a shortage of consoles due to major screw-ups in processing advance orders.

It came as a complete surprise that the #1 best-selling title of the U.S. Dreamcast launch was neither Namco's gorgeous-looking *Soul Calibur* nor the eagerly-awaited *Sonic Adventure*. Instead, first prize went to Visual Concepts for *NFL 2K*, which narrowly edged out *Sonic Adventure* in launch sales – and this despite the fact that Sam's Club was packing in *Sonic* with every Dreamcast sold. Sega's all-new, 128-bit football game had wowed American gamers with its incredible realism, and there was a growing clamor for Electronic Arts to begin supporting the Dreamcast with ports of *Madden NFL* and other popular titles from its EA Sports lineup. EA stock dropped over 27 points on the New York Stock Exchange over the fourth quarter for the simple reason that EA's investors were furious at them. The company had no Dreamcast titles for the 1999 holiday season, seemingly content to pump out releases for the dying PlayStation. EA never listened, thus breaking the long legacy that EA had started with Sega and the Genesis a decade earlier. Much has been said in the ensuing years as to why EA passed on the Dreamcast, but former CEO Bernie Stolar eventually revealed the truth of the matter.

"[Former Electronic Arts CEO] Larry Probst is a dear friend of mine. Larry came to me and said, 'Bernie, we'll do Dreamcast games, but we want sports exclusivity.' I said, 'You want to be on the system with no other third-party sports games?' … I looked at him and said, 'You know what? I'll do it, but there's one caveat here: I just bought a company called Visual Concepts for $10 million, so you'll have to compete with them.' Larry says, 'No, you can't even put them on the system.' I said 'Then Larry, you and I are not going to be partners on this system.'"

Stolar's account of the affair hearkens back to the early days of the Genesis and EA's behavior at that time. EA wanted a monopoly on Dreamcast sports games – pure and simple – and Stolar would not grant it because the *Sega Sports* lineup was already under development by its own in-house label, Visual

Concepts. The two could not and never would come to terms, and that was that. Ironically, as it turned out, Sega did not need the *EA Sports* lineup after all, and EA would be taken to task in the form of criticism from industry press and poor profit margins for making the call.

NFL2K

The Internet gaming issue proved to be a sore spot with many gamers, and Sega was quick to acknowledge the problem. At the same time it was doing its best to avoid the rushed development pace that had tripped it up previously in Japan, and which many industry experts agreed had caused the Sega 32X and Saturn consoles to fail. Sega wasn't about to let history repeat itself, and was taking its time in order to get things right. So, while gamers were treated to constant press about the up-and-coming Dreamcast Network, and drooling over the prospect of a new, online *Phantasy Star*, Sega secured backing for its online gaming plans. The signing of AT&T in the U.S. and British Telecom in the U.K., among others, put major ISPs in Sega's corner. Every single Dreamcast came with a modem (some early overseas units had 33.6kbaud models, all U.S. models had 56kbaud) and free Internet software. Sega president Shoichiro Irimajiri was even quoted as saying that Sega of Japan would offer the system's first broadband or DSL network in Japan as early as 2000 – heady news, indeed. Modem and ISP now, network games shortly thereafter,

Internet play within a year of launch, and broadband play within two. That was Sega's plan in late 1999, and something major would be needed to shake them from it.

One other issue needs to be revisited at this point. Many industry wags were already criticizing Sega for not using a DVD-ROM with the Dreamcast. The high storage capacity and growing acceptance of DVD seemed a perfect fit to gamers who wanted every extra they could get – cost notwithstanding. But it was cost that ultimately caused Sega to reject DVD-ROM in favor of GD-ROM – a proprietary variation of CD-ROM that enabled up to 1 GB of storage per disc. Sega's Charles Bellfield reminded critics of this point.

"Today, and certainly... within the next two years, DVD technology is prohibitively expensive for a console product – that is, if you want to focus just as a low-cost piece of hardware that delivers the highest performance games. If you want to be just an entertainment black box, and you can feel you can charge more for it, that's a different story."

With this comment, Bellfield was no doubt taking a swipe at fellow competitor Sony, whose PlayStation 2 was being billed as a "total entertainment solution" for both movie and gaming fans. It utilized DVD technology, was black in color, and cost nearly twice as much as Sega's system. It was a notable observation on Bellfield's part, and it was too early to tell if Ken Kurtaragi's ambitious plans for Sony's new system would be realized. In the meantime, speculation continued to run rampant regarding Sega's DVD plans, with all signs pointing to an announcement of some kind at E3 in March of 2000.

Seaman

At the same time, the Japanese market was going nuts over a weird little "life simulation" game by Yutaka Saito with the rather odd title of *Project Seaman*. It was possibly the console's first bona fide smash hit in Japan – people were going out to buy a Dreamcast just so they could play it. What a change from the previous year, when most Japanese gamers wouldn't even think of buying a Dreamcast! Word of mouth was quick on the game, and the clamor for an overseas release commenced soon thereafter. Its vendor, Vivarium, showed an English-language demo that fall at the 1999 Tokyo Game Show, and not long after promised a full port sometime in 2000.

This is perhaps the best time to take a look at the chief competition the Dreamcast would face: Sony's PS2, Nintendo's GameCube (at this point code-named Dolphin), and a third contender that came out of nowhere – Microsoft's Xbox.

The PS2 promised to be a superior box, but at almost double the price ($370). Sony was hyping it as the ultimate entertainment solution for the home, hoping that the new system would completely reshape not only video games, but also the entire industry itself. Sony expected that its audience would buy into the dream and bring others into the fold; as *NextGen* quipped, "If we build it, they will come." PS2 would not hit North America until late 2000, but already

the hype was building. Was Sega concerned? Yes, but it wasn't about to lose any sleep over Sony's grandiose pronouncements. "If Sony wants to sell a million PlayStation 2 units to 55-year-old men, fine – let them do that," quipped Sega's Charles Bellfield. "We are literally a video games company. You'll never hear us say we are an entertainment company. Our audience is the 12-to-24 year old male gamer. We're core to that audience."

Nintendo had nothing on hand that could hope to compete with the Dreamcast; its Dolphin project was still at least two years away from producing a marketable system. Instead, they released *Donkey Kong 64* just in time for the 1999 Christmas season. Most critics (and fans) saw it for the empty gesture that it was: A beefed-up version of *Banjo-Kazooie* that required the Expansion Pak included with the game. Sales were strong, but not quite as strong as Nintendo had hoped, making it one of the N64's last big hits.

The most surprising announcement of the year was the confirmed existence of Microsoft's Xbox project, the software maker's attempt to create a dedicated gaming platform based on PC-compatible hardware. The software giant promised to provide serious competition, yet Sega remained surprisingly unfazed. After all, Microsoft had cut its teeth on the Xbox concept by helping Sega with the Dreamcast, even lending its "seal of approval" and a modified version of the Windows CE operating system. As a result, it was dreadfully easy to port PC games to Sega's new platform, and knowledgeable industry wags hinted that Xbox could actually help Sega in the long run. It became known that Sega's Shoichiro Irimajiri had been given a demonstration of an Xbox prototype, news that sparked yet another round of rumors and speculation. The Sega-Microsoft partnership would continue to influence both Sega's and Microsoft's long-term plans for their respective companies in ways that no outsiders could anticipate.

By October, Sega of America had sold well over half a million Dreamcast consoles, moving 518,000 systems in approximately one month – roughly equivalent to the total number of 32X systems sold during its thirteen months on the market. By the beginning of November, Sega had sold over 750,000

consoles, and by the end of the month over one million units. At that rate, Sega expected to break the two million mark in the U.S. console market by March 2000, if not before, and Sega's Peter Moore was later quoted as saying that the company hoped to have an installed base of six million units by the end of 2000. Over 30 Dreamcast titles were on U.S. store shelves by year's end, with approximately 250 titles available or under development worldwide. This was far more than any other video game console's first year to date, and considerably more than the 140 projected by Bernie Stolar before launch. In comparison, this figure is about the same as the total number of N64 cartridges that Nintendo had sold in the first three years that its underpowered system was available on all major markets. There was no question about it: The U.S. Dreamcast launch was a success by any measure.

Having a sizeable software library so soon after launch had been one of Sega's goals from the beginning, and certainly played its part in its success. Sega's objectives for its major markets had been twofold: First, promote their machine. And second, build a large library of decent titles in record time. They successfully achieved both goals. "It's been amazing to see publishers step up in genres that I didn't think would happen this soon on the platform," said Sega's Neal Robison, director of third-party support. "We're already going to have RPGs by Christmas. We've obviously got the benefit of the Dreamcast having been out for a while in Japan." And so it was, with Ubisoft's *Evolution: World of Sacred Device* releasing on December 20, 1999. Peter Moore perhaps put it best when he observed, "Going forward, we're building the Dreamcast gaming community." Ever quick to comment, Charles Bellfield added his own insights over the incoming flood of Dreamcast releases in 2000. "All the categories are going to get even richer, even deeper going forward."

Evolution: World of Sacred Device

Unfortunately, over in Japan, that flood had slowed to a trickle. Namco, who was primarily responsible for the word-of-mouth leading up to 9.9.99 with *Soul Calibur*, practically halted all Dreamcast development until the end of the year. Other developers, such as Konami (creators of *Air Force Delta* and *Castlevania: Resurrection*), also followed suit. The reason for this troubling trend did not become immediately clear until mid-September, when the 1999 Tokyo Game Show was held. As it turned out, almost everybody who was anybody in the Japanese video game industry had been hard at work readying for the debut of the PS2. *Tekken Tag Tournament* , long rumored as a scheduled Dreamcast release, popped up as one of the prime launch titles for Sony's new platform. About a dozen other titles were also demonstrated for the PS2, including the eyeball-popping *Grand Turismo 2000*. Everything shown looked as good as anything the Dreamcast was currently delivering, and one look at the system specs boded ill for future Dreamcast third-party support. It was clear why Japanese developers had shifted their efforts: Although it wasn't even out on the market, the PS2 had already "arrived" – and everybody wanted to be in on the action. Already narrow, Sega's window of opportunity in North America and Europe was now closing. Soon to be no longer alone in the 128-bit console space, the Dreamcast was going to have to compete with the

PS2 in order to ensure its continued survival.

Sega ended the year in typical Sega fashion, with lots of grand announcements intended to out-trumpet that one bit of inconveniently-timed bad news. There was a preview of the planned ZipCast ZIP drive (no more VMU save game size limits!) and with it came a look at the very first Ethernet adapter designed for a video game console. Both were slated for release "sometime in 2000." There was also news that NEC and Videologic, the makers of the Dreamcast VDP, had completed a plug-in replacement for their well-respected PowerVR 2DC. This new chip was 100% compatible with the old one, but added so much 3D processing ability to the system that it was said to run rings around the most powerful 3D graphics processor available at that time – the highly praised NVIDIA GeForce 256. Sega had promised that the Dreamcast would be both expandable and upgradeable, and it looked as if they were keeping their word. And, in a completely unrelated development that caused classic gamers to rejoice, Sega of Japan (in conjunction with NEC) announced they would be making over 300 Genesis/Mega Drive and TG16/PCE "ROMs" available on their website for use on the Dreamcast via emulation. It was the first time that such a service had been offered by an OEM (original equipment manufacturer) on the Internet, and Nintendo was quick to follow suit by announcing plans for N64 emulation support of its older NES and Super NES titles.

Sega Dreamcast cable modem

Dreamcast sales for the Christmas season were very strong, with many retailers selling out their stock of consoles, or at least coming very close to doing so. Sam's Club, the Arkansas-based discount warehouse chain, found that its Dreamcasts were selling out nationwide, no doubt due to the fact that copies of the ever-popular *Sonic Adventure* were packed in with each one. Other titles that sold out by the end of the year included *Sonic Adventure, Soul Calibur*, and the newly-released RPG *Evolution: World of Sacred Device*. In fact, supplies had dropped so low by mid-December that Sega was forced to revise its sales figures upward. The number of Dreamcasts sold in the North American market officially broke the 1.5 million mark shortly before the end of 1999, and Sega was basking in its market resurgence. Business Week named the Sega Dreamcast as one of the 30 most innovative products of the year in its final 1999 issue. "Dreamcast" was the word on the lips of many expectant gamers for the holidays, and not even the revival of Nintendo's resident primate could overcome Sega's newfound popularity.

All of that good news, however, was immediately eclipsed when Sega chairman Isao Okawa was quoted by many sources at the end of the year as stating that Sega was "getting out of the hardware business" after the Dreamcast. One can easily imagine the sinking feeling Dreamcast fans

worldwide felt at that news, and many wags – still reveling in the twin failures of the 32X and Saturn – were quick to say, "We told you so." It was a stunning admission from a company that finally seemed to be getting back on its feet, and effectively tossed the public's projections of Sega's future plans right out the window. Sega was quick to counter the move, publicly assuring its fans that Dreamcast support would continue. As to why Okawa would make such an announcement at that point, all signs pointed to Microsoft. Both companies having worked well together on the Dreamcast, rumors began to spread that Microsoft was planning to tap Sega's considerable experience and resources for its up-and-coming Xbox system. All in all, it seemed a rather absurd way for Sega to end a largely successful year.

And so ended 1999, a momentous year for American gamers, with the promise of more just over the horizon. A paradigm shift had just shaken the video game industry, and it was Sega that had set the course the competition would follow. Would Sega succeed in its designs, or would the word about Sega's future hardware plans actually prove true? How would PS2 impact Dreamcast sales? Could Nintendo withstand the dual 128-bit threat until it got the GameCube out the door? What about Xbox? And what was the deal with Sega and Microsoft? How would it affect Sega's plans? Above all else, when would more first-class titles – especially in the underserved RPG genre – reach American and European Dreamcast owners?

New century, new market

The year 2000 was a momentous time for the video game industry, with 128-bit consoles expected to establish total dominance over the home video game market. The most eagerly anticipated of these was the PS2, with a North American debut tentatively set for September 20, 2000. To Sony, the Dreamcast represented little more than an advance man working their audience – free of charge – prepping it for the real pleasures that Sony would unveil later that year. If Dreamcast was 1999's preview into the future of video games, then the PS2 in 2000 would see that future fully realized – or so they

made clear to both employees and potential customers alike. To reach that goal, Sony of America began assembling a $150 million ad campaign designed to deal with any possible move that its current (and future) competition could offer.

In the meantime, Sega continued with business as usual – much to the pleasure (and occasional chagrin) of fans and vendors alike. They had the successes of 1999 upon which to build, and were determined not to commit Nintendo's past mistake of resting on its laurels. There were the occasional blunders – as might be expected of any successful company fending off its competitors – but Sega had a lot riding on the line. They had achieved their first two goals in the North American market, successfully launching the Dreamcast and building up a large library of titles in a short time. All eyes were upon them as they entered the next stages in the Dreamcast's planned future: To continue expanding the software base, launch the Dreamcast Network, and – somehow – survive the PS2 launch. If Sega could just sell all two million of the consoles manufactured for the North American launch by June, as well as another million or so in Europe, it just might finally turn a profit on its $600 million investment. Having ended 1999 with projected losses of $100 million, the company now had eight months before PS2 hit American shores; its financial future now rode entirely on its Dreamcast gambit. It was make-or-break time. The year 2000 had to be "the year of the Dreamcast…" or else.

Peter Moore

At the beginning of the year, at least, the Dreamcast's immediate future was looking rather rosy. Holiday sales had met or exceeded expectations, and the first generation of games was about to give way to a second, larger and more diverse wave. "Even if no other software ever came out for it," noted Next-gen, "Dreamcast is a good buy. That said, enough software is coming out for the system, and the early sales are so strong, that we think Dreamcast will be a viable system for some time to come – even though both Dolphin and PlayStation 2 will surpass it technologically." Sega was determined that no category would be left lacking, and no stone unturned, all the while working to ensure that the development, translation and porting of new titles remained firmly on track. In the meantime, Dreamcast fans, already salivating over what Sega and its licensees planned to offer in 2000, even enjoyed a roughly 20% reduction in the price of Soul Calibur and other first-generation Dreamcast titles. The resounding success of holidays still echoed through the corridors of Sega corporate, yet no one forgot that they still had a job to do. When asked b y *NextGen* magazine how many units Sega would have to sell in order achieve success, Peter Moore responded, "Multiple millions," before elaborating on his answer.

"It's the velocity that you hit certain milestones which is important, and the momentum you build, but I think the industry has grown so dramatically that a million is no longer critical mass... Five million is critical mass! I don't think anyone can turn their back on you, in any industry, if you're talking to five million dedicated customers... We're committed to our two million sold through to the customer from March 31. Then we have to go back to Japan and work on product planning for fiscal '01.

[The] reason? PlayStation 2. Sony had dropped the announced system price down to US$299, making it more competitive with the Dreamcast upon launch. If a 'competitive platform' launches on 9/20 at US$299 and the Dreamcast is available at US$199, Mr. Fence-sitter, where's your money? So we're very bullish that if and when this thing launches, we'll have established a major beachhead in terms of installed base. Now obviously that's going to be millions. Exactly what we'll be able to add onto the two million we'll already have had from March 31, I don't know, but it could be anywhere from as low as three million to as high as five million."

Moore's comments are easier to understand when considering that Sega of America only made about $1 in profit for each Dreamcast console sold in the U.S. during its 1999 launch. In contrast, Sega corporate had actually lost about $20 per console worldwide until that point, and did not expect to hit the break-even point until June of 2000. Some reports even indicate Sega lost as much as $75 per console when launching the Dreamcast in Japan back in November of 1998. With that kind of minimal-to-negative profit margins, one can understand why Moore wanted Sega wanted to push "multiple millions" of Dreamcast consoles. It had to. Moore also noted that Sega considered their Internet strategy to be its "ace in the hole" when it came time to actually deal with the PS2 launch, stating, "Sony decided to sit out the narrowband era. We think, quite frankly, that he who builds the community during narrowband has the competitive advantage during the leap to broadband." Finally, in a nod to Sega's newly reinvigorated customer base, Moore closed the interview by talking about the company's desires for the second generation of Dreamcast

releases.

"We recognize that if we could trade five racing games for an RPG, we would! These questions are not falling on deaf ears... In the old days, if you had a miss, but Yuji Naka had a hit with Chu-Chu Rocket or whatever, then somewhere you're covered. Well now, you're naked and exposed in this restructured situation... From our perspective here, I agree with it, because all I want is a great game. That's the only deliverable I care about on this side of the Pacific Ocean – where are all the games?"

The second wave

To those planning their purchases for the upcoming months, it seemed that Moore was right on target: Sega was going out of its way to widen the Dreamcast software base. This was entirely in keeping with Sega's plans, and all markets were scheduled for a virtual "software blitz" during spring of 2000, with February and March appearing to be the most crucial: *Carrier... Crazy Taxi... D2... Dead or Alive 2... Draconus: Cult of the Wyrm... Elemental Gimmick Gear... Gundam Side Story 0079... Legacy of Kain: Soul Reaver... NHL 2K... Rayman 2: The Great Escape... Sega GT... Tech Romancer... Time Stalkers...* And let's not forget the eagerly anticipated release of *Resident Evil CODE: Veronica* (considered by most franchise fans as the "true" sequel to *Resident Evil 2*), which would win Sega more converts from the fading Sony PlayStation that any other game during this time.

Crazy Taxi deserves special mention at this point, for being the right game at the right time for arcade aficionados everywhere. It embodied everything an arcade classic should: Great graphics, top-notch sound, and a deceivingly simple premise revealing surprisingly sophisticated yet entertaining gameplay. The game was so well received that EGM devoted their February 2000 cover story to the Dreamcast port, earning accolades in several other industry trades as well. EGM's article succinctly summed up why the game was such a resounding success: "Simple is effective." *Crazy Taxi* promised to be the first

real must-buy title for the console in America, just as Project Seaman was to the Japanese market mere months before. At the other extreme was *Resident Evil CODE: Veronica*, the first in the series to make use of fully 3D environments and stunning 128-bit graphics throughout, earning it extensive coverage in gaming trades and magazines for months on end. The integration of several user-demanded features – including quick, 180 degree turns and multiple independent weapon targeting – were topped off with a well-written (and acted) storyline, resulting in practically guaranteed success. 600,000 units were already on pre-order in Japan before the game's release, and potential U.S. buyers were busy filling pre-orders (or importing the Japanese release) long before the game ever shipped Stateside.

Crazy Taxi

The second generation of U.S. Dreamcast games kicked off on February 1, 2000 with the simultaneous releases of *Crazy Taxi, Tee Off, Wild Metal,* and *Zombie Revenge*. By the end of the week, *Crazy Taxi* had ousted Square's *Final Fantasy VIII* for PlayStation as the #1 best-selling title across consoles on GameStop/Babbage's retail sales charts. In fact, all three of their top-selling titles were second-generation Dreamcast games: *Crazy Taxi, Legacy of Kain: Soul Reaver*, and *Zombie Revenge. Crazy Taxi* peaked at #3 on the NPD Group's official video game chart, and not far behind was *NHL 2K* for

Dreamcast. The sudden surge in Dreamcast console and software sales – so soon after the holidays – caused many industry insiders to predict that U.S. Dreamcast console sales would indeed break the two million mark by the end of March, two full months ahead of Sega's own projections. Sales were so strong that Sega of America confidently reiterated Peter Moore's prediction of six million Dreamcast consoles sold worldwide by March of 2001.

Meanwhile, Capcom unleashed upon Japan what many consider to be the finest Dreamcast game ever coded, and an all-time classic. *Resident Evil CODE: Veronica* stormed the software charts in February, selling 377,377 copies in just one week. It easily claimed the #1 position, ousting Sega's own *Shenmue*, which had finally been released just before Christmas of 1999, and had sold roughly 400,000 copies to date. Shortly thereafter, *Sega GT* – Sega's "*Grand Turismo 2000*-killer" – took the lead in the Japanese charts, ousting Nintendo's long-running *Pokémon* and selling some 93,691 copies in just four days. By the end of the month, more than 450,000 copies of *CODE: Veronica* had been sold, with *Project Seaman* selling just 10,000 fewer. The buzz surrounding Dreamcast and its successful second wave of software led Bizarre Creations' coder Martin Chundley to say this:

"Where else can you get a machine to connect you to the Internet for only $200 AND be able to play next-generation games on it, both off- and on-line? As the quote goes, "If you build it, they will come." If we developers build the right online games, then the gaming public will be more than ready to jump on board. Quake 3 *would be great!"*

He and many other gamers got their wish at the end of March, when no less than idSoft's own John Carmack announced the pending port of *Quake 3: Arena* to Dreamcast, slated for a fall 2000 release. At the same time, Sega also closed a lucrative deal with Blockbuster Video to begin renting Dreamcast titles to its 42 million customers. Blockbuster later revealed that it had been test-marketing the service in 534 of its nationwide stores since the system's launch the previous year; now, Dreamcast consoles and software were to be

made available in over 4800 Blockbuster stores nationwide as soon as possible.

On March 28, 2000, the English-language version of *Resident Evil CODE: Veronica* hit North America, with many retailers selling out their complete stock over the weekend. Within a week, it had shot to the #2 spot on the NPD Group video game chart (Nintendo's *Pokémon Snap* held on to top honors), and remained in the NPD Top 10 for weeks thereafter. Sega's was the only console powerful enough to handle Capcom's newest *Resident Evil*, ensuring that – for now – *CODE: Veronica* would be a Dreamcast exclusive.

Sega's resurgence continued, with the Dreamcast recognized in various forms of pop media. In the syndicated comic strip Sally Forth, Sally's daughter Hillary was depicted throwing out her aging N64 in order to make way for the more capable Dreamcast. The system was featured prominently in the 2000 season opener for *South Park*, Comedy Central's most popular television show at the time. Ulala, the sexy heroine of *Space Channel 5*, was "signed" for a series of commercials by Vidal Sassoon; word had it that she might even become MTV's first-ever "virtual VJ." *Space Channel 5* had done extremely well in Japan, where music rhythm games were (and continue to be) very popular, and it was believed that it just might do as well in the West given the game's stylish presentation and overall excellent design.

Resident Evil CODE: Veronica

In spite of all this, the impending release of the PS2 boded ill for Dreamcast third-party support. Brandon Justice, writing on behalf of IGNDC, offered his own insights into what he believed would pose "a MAJOR #$%#$@& problem" for the Dreamcast community: A lack of lots of good, new titles. He had noted that PS2 would have its own share of programming woes, saying, "This thing is going to be a bit more difficult to program for than the systems you're used to. Look at what that did for the Saturn," and then identified the real root of Sega's third-party problem: increasingly incessant hype over Sony's contender.

"The problem for Sega has come in due to the fact that Sony has done an impeccably evil job of making sure that, from a hardware standpoint, the Dreamcast was NEVER in developer's minds. From nearly the first day Dreamcast dev-kits went out, games have been built under the shadow of a promise of something better, and in the same sense that it is hard to go back to Soul Blade after witnessing a game like Soul Calibur, every hardware limitation they have encountered with the Dreamcast has made the PlayStation 2's seemingly limitless potential seem all the more attractive. So attractive, in fact, that companies seem to be doing something that in this business borders on insanity, or at the very least, severe stupidity: walking away from a near-certain profit."

One only has to look at EA's lost profits from the fourth quarter of 1999 to see the point Justice was making. Unfortunately, EA remained rather lukewarm on the subject as the Dreamcast barreled along, at the same time making very public its plans for PS2. Justice may have been right on the mark after all.

Rise of the pirates

One of the biggest surprises in the first quarter of 2000 was Sega's stand on the Dreamcast mod-chip. Hong Kong hackers had succeeded in their efforts to break the Dreamcast country code scheme, and the first unofficial

Dreamcast "mod-chip" went on sale on October 20, 1999. Rumor had it this mod-chip had been made to enable playing the bootleg GD-ROMs of U.S. games floating about the Hong Kong black market. Sega remained silent on the issue until January of 2000, when an official company spokesman stated that Sega would make no moves against mod-chip sale or distribution. Gamers worldwide rejoiced at this news, while intellectual property rights advocates were left scratching their heads. Why would Sega make such a move? Sony had fought a running legal and technological battle against PlayStation mod-chips, which enabled gamers to play import titles and to use bootleg CD-R copies of PlayStation releases on modified consoles. Mod-chips stood in the way of maximizing profit, or so the Sony stance had it. Sega took a more practical approach, maintaining that their custom GD-ROM format would help defer the blatant piracy – especially of imports – that the PlayStation market suffered from. "There are only a few plants worldwide that can produce Dreamcast software, so we are not worried about piracy," stated the spokesman. "As far as I know, we have no intention of combating the mods or import software."

Sega Dreamcast internal view

In fact, Sega was quietly incorporating new code into its newer Dreamcast

consoles to defeat current and future mod-chips. In February, the sudden appearance of Dreamcast consoles bearing a mod-chip-proof BIOS caused a sudden and noticeable demand for older consoles in all markets. This in turn created an artificial boost in console sales (and profits) that Sega's accountants no doubt enjoyed. Were Sega's actions underhanded? Were they "going back to their old arrogance," as some put it, saying one thing and then doing another? It was, of course, more about the player. If you were an honest gamer – playing by Sega's rules – then the issue didn't affect you. If you preferred to void your warranty and play games you weren't intended to see, then you were undoubtedly upset. And with this, the "battle of the mod-chips" kicked off in earnest, with new mod-chips being developed just as fast as Sega could figure out a way to lock out the old ones. It proved to be an interesting issue in the Dreamcast gaming community for quite a while. Sega had followed the trail Sony had blazed, and was now treading down the path its competitor had chosen over the PlayStation mod-chip controversy. If anything, it all proved that there was at least one segment of the market that thought the Sega Dreamcast a worthy product – worthy of hacking, that is.

The competition arrives

So how were things going with the competition during the first quarter of 2000? If you were Sony, you were busy ramping up for the worldwide PS2 rollout, and making sure everybody else in the industry stopped by to kiss your Fisherman's Ring. And if you weren't? Well, you were pretty much treading water.

Nintendo, who had now been playing second fiddle to Sony for over three years, was finally seeing its position erode. Like everybody else, the company had been completely caught off guard by the wild success of the Dreamcast. Its *Donkey Kong 64* gambit – while successful in its own way – had failed to stop the Sega onslaught, leaving the long-delayed *Perfect Dark* the only "killer title" left in the N64's arsenal. Nintendo's next-generation console was nowhere to be seen, and would not be in any form until the following year. Nintendo was

in the worst possible position for a company trying to compete in the volatile video game industry: Caught between changing technologies. All it could do was watch as support for the dying N64 began to evaporate – starting with Acclaim's departure in March, followed by Fox Interactive's surprising bow-out (*Die Hard 64*) – and fret as once-loyal customers began snapping up Dreamcasts. Nintendo could only pray that the Game Boy Advance and its reputation for programming excellence would keep them afloat until Dolphin was ready to swim. To quote Daily Radar, "...it must be conceded that the N64 is now a well-supported last-generation console no longer in competition for the top spot."

Xbox logo

The on-again, off-again nature of Microsoft's top-secret Xbox continued to attract attention as new data became available. Most remained skeptical as the specs continued to shift with each new advance in graphics and processing technology. By the end of February, the original AMD Athlon 500 MHz/GeForce 256 rumored spec had been replaced by an AMD Athlon 1 GHz/Gigapixel design, with the appropriate changes in memory and storage requirements. Curiously, the only thing that remained constant was the operating system itself: Microsoft Windows CE, of course. The software giant apparently still intended to put its Dreamcast experience to use on its own box,

but it wasn't above hedging its bets. Microsoft continued its support of Dreamcast, and Windows CE was by now the preferred working environment of most of its third-party developers – all of which worked in Microsoft's favor. The continuing U.S. v. Microsoft anti-trust case, on the other hand, definitely did not. Industry insiders claimed that the lawsuit had seriously hampered Xbox development, explaining why it was still little more than "a piece of paper" in the eyes of many. Others thought differently, with the Internet broadsheet The Register running a series of stories claiming that Microsoft would unveil its Xbox prototype at the 2000 E3 show in March. Not coincidentally, this was the same time that Sega was supposed to announce the long-rumored Dreamcast DVD-ROM, and Sony was scheduled to launch the PS2 in Japan. Trade publications were already speculating that Xbox could be a PS2-killer product, and Virgin's Paul Whipp claimed it "could blow the PlayStation 2 out of the water if Microsoft puts their whole weight behind the console." A mighty big "if," considering the system was still vaporware to most folks at this point. More relevant to Dreamcast owners was the still-strong rumor that Sega was playing a prominent role in Xbox development, which didn't bode well for Dreamcast's long-term future.

Another ghost from video game projects past finally reared its head, albeit this time in marketable form. The long-delayed, oft-derided Project X found new life in the guise of VM Lab's NUON, designed to enable suitably equipped DVD players to run NUON-compatible video games. The debut of NUON at the 2000 Winter CES in Las Vegas was met with a great deal of skepticism, and rightly so. Nearly all of the games were no better than what the venerable PlayStation could offer, and the whole affair came off as smacking of Atari at its worst. Only time would tell how NUON would fare, but nobody was placing any bets on the outcome.

By the end of the first quarter of 2000, Sony remained in the lead – and was all but assured of maintaining it. Second-place Nintendo, meanwhile, was faced with the very real possibility that it would be trading places with Sega within a matter of months. And as for NUON and Xbox, well, they were still vaporware

for now. While this wasn't quite the rosy picture that Sega had painted back in 1998, the prospect of being a strong second nevertheless suited Sega just fine. It certainly beat being a weak third.

On February 18, 2000, Sony began taking preorders in Japan for the PS2. Over 100,000 consoles were sold in just under an hour before Sony's computerized ordering service overloaded. But it was on March 4 that the PS2 wave began to sweep the video game market in earnest. The system made its official debut in Japan accompanied by an impressive list of launch titles nearly three times longer than Sega's when launching the Dreamcast in Japan. Sony had produced one million consoles for the occasion, with some 500,000 sitting on store shelves ready for purchase. Sony had built it, and now the customers came. First day sales were fantastic, and the following weekend returns netted Sony the most successful video game console launch in the history of the industry to date. By March 6, 2000, PS2 sales officially broke 980,000 units, although a closer examination of the sales figures reveals that only about 600,000 units had cleared shelves, with the remaining 380,000 representing online sales that didn't actually ship until two weeks later. PS2 purchases had effectively doubled the booming DVD market in Japan practically overnight; but without warning, a funny thing happened on the way to Sony DVD heaven. Angry owners of brand new PS2s began to complain about their newly acquired purchases. Soon, scattered reports of DVD failures – at first attributed to "wild-eyed otaku" – snowballed into a nationwide demand for action. Nobody seemed to agree on the exact cause of the problem, but one definitely existed. Before long, in an effort to "save face," Sony recalled every single memory card that it had released to date. By the end of the month, they were taking back PS2 consoles as well. It was an inauspicious beginning for what was supposed to be the industry's new benchmark console, especially after news of the PS2's "DVD hack" became known. The whole debacle threatened to push the scheduled U.S. launch all the way back to late November of 2000, which definitely didn't sit well with eager American gamers. And yet, the Sony hype machine rolled on.

Dead or Alive 2

By March 14, 2000, Sony had sold over one million PS2s in Japan. Nine days later, American preorders had become so great that Sony began asking its vendors to stop accepting them. According to a Fairfield Research survey of 200 nationwide retailers, 53% reported that PS2 preorders were exceeding records set by the Dreamcast the previous year. In response to this news, Sega president Shoichiro Irimajiri conceded that Sony's system was selling exceptionally well, "due to its dual use as a DVD player," but argued that it offered few other new benefits for its buyers. Soon after, well-placed anonymous sources were reporting on a virtual online software blitz being planned by Sega prior to the U.S. debut of the PS2 in the fall. Among the titles hinted at as part of Dreamcast's third wave of software – all with full online gaming modes – were *Half-Life, NBA 2K1, NFL 2K1,* and *Quake 3: Arena*. When asked about these and other rumors, Peter Moore responded appropriately: "If they [Sony] think we're just going to curl up into the fetal position and die, they're in for a rude awakening." It should be noted that as of this date, Dreamcast was doing very well in North America, with over 1.9 million consoles having cleared store shelves since 9.9.99 – easily exceeding Bernie Stolar's original prediction of 1.5 million units by March of 2000. But by month's end, Sony was sitting in the catbird seat. The PS2 was out, and aside

from some "minor glitches" was selling like gangbusters. Sony had shipped some 1.4 million of its "Dreamcast killer" to Japanese retailers, of which 1.25 million had cleared store shelves. Corporate pitchmen eagerly touted the company's goals of selling at least three million consoles in America, another three million in Europe, and total Japanese sales of four million by the end of 2001. Sony's year-end financial statement told another story: A fiscal year-end profit of ¥122 billion ($1.14 billion), down from the previous year's profit of ¥179 billion ($1.68 billion). The drop was widely attributed to three reasons: A strengthening yen against the American dollar, continued sales and promotion of the original PlayStation in Asian markets, and…the high cost of hyping the PS2 launch in Japan. And that last burden was only expected to increase as the impending U.S. launch drew near.

Sega was not without its own problems, however. Newsweek's March 6, 2000 issue, featuring the PlayStation 2 on the cover, contained within its pages a ticking time bomb that threatened Dreamcast's future. It was a report from Tecmo's Tomonobu Itagaki, whose eye-popping fighter *Dead or Alive 2* was doing for early 2000 Dreamcast hype what Namco's *Soul Calibur* had done for the 1999 U.S. launch. Newsweek's science and technology journalist, N'Gai Croal, wrote the feature article. "But having maxed out the graphics capabilities of the Dreamcast, Itagaki is psyched for the increased realism offered by PlayStation 2. 'I can create a more emotional world with more details and facial expressions. The physics will be more accurate. I'll be able to do smoke, fire, and water. With current technology, the thickness of the fog is even throughout. With PlayStation 2, one part can be thin and another thick.' PlayStation 2, the ultimate keepin'-it-real machine, seems like it will satisfy these relentlessly inventive designers – until the NEXT paradigm-shifting polygon powerhouse comes along. PlayStation 3, anyone?" This was the last thing that Sega fans wanted to hear, even if it only presented the facts as seen through a developer's eyes.

Like it or not, Dreamcast hardware was now two years old – three, including the development phase. It had been conceived in the era of Voodoo2

and the heyday of Riva TNT2, back when three million polygons per second seemed to offer game designers the world. Dreamcast was still impressive, given a sound gaming concept and talented programmers, but PS2 offered so much more. It was no longer vaporware. It was here, now, despite the early bugs, throwing over six times as many polygons around the screen per second as a Dreamcast running full tilt – and that without even breaking a sweat. Developers now faced the same choice that had effectively doomed the 32X back in early 1995. They could either develop for an inferior platform now, or start learning how to develop for a superior platform. It was the same choice that had plagued Dreamcast third-party support from the beginning, but now more than ever, thanks to Itagaki's comments, industry watchers were starting to pay close attention to the Dreamcast's future release schedule, with everyone seeing the picture that Sony had painted: Dreamcast was the "interim system." But how long would its services be required before the real show started?

A strange courtship

One of the most interesting events in March 2000 was an under-the-table offer by Microsoft to buy out Sega of America. The reasons were obvious: Microsoft wanted Sega's expertise and technical ability to buck up its own Xbox project. Speculators even surmised that such a move would, in effect, turn Xbox into "Dreamcast 2," since Sega probably didn't have enough money left to release a successor console. According to several independent reports, promising initial talks between Sega and Microsoft quickly broke down over two key issues: Dreamcast back-compatibility and the Windows operating system. Sega wanted Xbox to be backwards compatible with Dreamcast. This Microsoft refused to agree to, and Sega reportedly balked at the high cost of making new Dreamcast titles compatible with the evolving Xbox standard. Sega also didn't want to have to be constrained to Microsoft's requirement that all video game console development be done under the bloated environment of Windows. For all its claimed compactness, Windows CE was rather hefty; that

was the prime reason why Sega preferred to stick to its own proprietary APIs insofar as Dreamcast development was concerned. The whole affair lasted only a matter of days, but revealed an interesting juncture in the unusual relationship between the world's best known arcade video game manufacturer and the world's largest software company. The move reportedly brought a temporary halt to Microsoft's Xbox plans, but at the same time left Sega free and clear on the 128-bit market for a little while longer. Sega was quite willing to work with Microsoft – and would do so again – but in this case the asking price was just too high. In retrospect, the failure to make a deal may have had something to do with Microsoft pulling planned Dreamcast ports of several popular PC games, but Sega didn't mind the loss. It now had more than enough Dreamcast titles released or in development to make up for their absence.

Microsoft Xbox

On March 10, Microsoft's Bill Gates officially unveiled the Xbox. "Building on our strengths as a software company," Gates said at the official press briefing, "Microsoft has developed Xbox, which will offer game developers a powerful platform and game enthusiasts an incredible experience. We want Xbox to be the platform of choice for the best and most creative game developers in the world." Xbox was a DirectX/PC-based console running on an Intel Pentium III

733 MHz CPU. Its graphics hardware was derived from the latest NVIDIA GeForce chipset. With three times the horsepower of Sony's PS2, it was far and away the most powerful entry into the 128/256-bit next-gen wave, outclassing all other consoles in every category. Xbox was slated to hit the market in the fall of 2001, supported by practically every major Western third-party software vendor, and a fair number of prominent Japanese ones. Microsoft announced a $250 million ad campaign designed to promote the console, a figure that surely made the other console vendors blanch in shock. SegaWeb's Craig Hansen was quick to quip, "Bill Gates is cursing both heaven and hell that he has no one like Yu Suzuki in Xbox's corner," due to the fact that it did not appear that many quality software titles would be available for the new console's launch. A few days later, however, MCV reported that merger talks between Sega and Microsoft had not broken off as previously reported, but were quietly continuing "along different lines." As the weeks and months rolled on and Xbox news continued to build steam, rumors begin to surface that Sega and Microsoft were close to a mutual agreement regarding their respective consoles. Sega was rumored to have begun software development for Xbox, and in exchange Microsoft would include some form of Dreamcast back-compatibility with its new überconsole.

Two months later, on May 25, Sega's Isao Okawa set the record straight: Microsoft was not playing a major role in Sega's Dreamcast plans, including online gameplay, and never would. When questioned, he also confirmed that Sega was asked to help Microsoft develop Xbox, but that the deal fell through due to "mutual disagreements." Concerning Sega and Microsoft's relationship regarding the Dreamcast, Okawa stated that "...Sega will not enlist the help of Microsoft. We're done with them." Many industry commentators promptly noted that Microsoft had more or less used the Dreamcast as a proving ground for certain early Xbox ideas, something Sega didn't exactly appreciate. However, Sega seemed to have realized the potential profits of software development for Microsoft's new console and had apparently decided to swallow its pride. In light of what was to come for Dreamcast, it appears to

have been a prudent move.

The birth of SegaNet

In other news, Sega's plans for network gaming continued firmly on course. Over half a million Japanese gamers had registered on Dricas by January of 2000, representing some 30% of all Dreamcast buyers in the country. In the United States, Sega's Neil Robison painted a rosy picture for EGM's Crispin Boyer about the next few months: "Picture a first-person shooter like *Rainbow Six* that has your team of troopers playing split-screen and hunting four terrorists on another console across the Internet," Boyer beamed. "Coordinating attacks would be easy, since team members are all in the same room. Of course, such a game would cram too much data down the Dreamcast's 56K pipe, so don't expect this novelty until Sega cozies up to broad bandwidth." Public response was generally favorable, although there were growing complaints from eager gamers that Sega wasn't moving fast enough in launching the Dreamcast Network.

Tom Clancy's Rainbow Six

Speaking of broadband, Robinson also shared some new bits of info regarding Sega's plans. "Robison also told me," Boyer noted, "not to be shocked if the Dreamcast's Ethernet adapter – set for release in the second quarter – will do more than let you link up a cable modem; it'll also allow you to hook Dreamcasts together at home. So I figure that, as long as games support

this feature, you'll be able to build your own local area network and play with a group of Dreamcast-owning pals, all in the same room. Sega will thus introduce the previously PC-only concept of LAN parties to console gamers." Later that year at the Game Developers Conference in San Jose, CA, Sega's Charles Bellfield announced that the Dreamcast Ethernet adapter would hit North America by the fourth quarter of 2000, giving the console broadband capability via third-party cable modems long before anything of the kind became available for PS2.

Several more Dreamcast hardware announcements were notable to those awaiting full network gameplay. A number of reports surfaced in the Japanese trades that Sega of Japan had a PHS cellular phone modem under development, with the apparent intention of allowing Japanese Dreamcast owners to network via iMode services on the PHS network from anywhere in the country. And in the same vein, Nikkei Net reported that Sega of Japan was already testing alpha hardware of Dreamcast satellite tuners, the commercial version of which was reported to cost ¥20,000 (about $200). These would allow networking via two-way K-band (DirecTV, Dish Network, et. al.) signals, even during concurrent broadcasts. It wasn't all that different from the DirecTV Internet service that Hughes had pioneered in the U.S., and Sega's experience with the Sega Channel back in the late 1990s made it seem a perfectly reasonable proposition. Later, on February 22, 2000, Sega of Japan officially announced a next-generation VMU with expanded memory that could also function as a portable MP3 audio player, although no release date was announced. At the same time, Sega announced that the next update of its Dream Passport browser software would include the anticipated DreamLibrary Mega Drive/Genesis and PC Engine/TurboGrafx-16 emulation software.

In the meantime, game developers continued to track Sega's online gaming plans with considerable interest. Surreal's Alan Patmore, in a February 2000 interview with *NextGen* magazine, probably summed up the feelings of most developers in this regard. "I think it's the start of something that's going to be big. Actually, I think it's going to be a very niche-y thing... but it will happen

sooner than we think, because broadband has been making such inroads, such quiet inroads in America." He was of course referring to the sudden and explosive rise in Internet access by the average American home, and the narrow yet extremely dedicated market for Internet gaming. It had been Sega's plan all along to tap into this niche with the first video game console powerful enough to do it, and developers were impressed. The subsequent release of Sonic Team's *Chu-Chu Rocket,* America's first online Dreamcast video game, went a long way towards demonstrating Sega's continued commitment to online gaming – no matter how "niche-y" it might be.

By February 17, 2000, Sega of Japan was reporting that it had sold over two million Dreamcast consoles, and that over 1 million Dreamcast users were actively using Dricas, the Japanese version of the Dreamcast Network. Sega of America reported that "over 300,000" U.S. console owners were using their Dreamcast to access the Internet, and Sega of Europe claimed that "over 200,000" European console owners were doing likewise. Sega's Shoichiro Irimajiri took a swipe at the current state of the Internet at the Milla 2000 trade show in Cannes, France. "The Internet is not fast enough for the interactive content designed to take advantage of it. The Internet is not good enough." So what did he propose as an alternative? Irimajiri outlined a plan beyond broadband cable that would deliver gigabit-level speeds, not mere megabit speed. The network would be based on fiber-optic technology, and Sega hoped to lead the way. "We are determined to become the first company to tackle this new technology," Irimajiri noted, "and seize the 21st century with a vengeance." He also took the opportunity to demonstrate other up-and-coming third generation Dreamcast titles such as *Ecco the Dolphin* and *Tomb Raider: The Last Revelation*. A couple of weeks later, on March 1, 2000, Sega of America made U.S. video game history by releasing Yuji Naka's *Chu-Chu Rocket*. It was the first fully-networked, Internet-capable console game in North American history, although it (and similar fare) had already been available in Japan for some time. *Chu-Chu Rocket* completed the fourth phase of Sega of America's online strategy. Now all that was needed was the

network itself.

Chu-Chu Rocket

In April of 2000 Sega made an announcement that shocked the video game industry: You would soon be able to get a Dreamcast FOR FREE! That little surprise put Sega light-years ahead of Sony and all other comers in the potentially lucrative Internet video game market. In order to fully understand the impact and significance, let's step back in time a bit and put things in proper perspective.

Since the U.S. launch back on 9.9.99, many gamers had opted not to buy the Dreamcast. When asked why, one of the two most common answers was, "We're waiting for the price to drop. We figure Sega will cut the cost to US$150 or so after Christmas, so we're going to wait." Not surprisingly, the same thing was happening over in Europe, where many a cost-conscious gamer decided to hold out for a few months more, in hopes of a price drop. And when that didn't happen, many members of this crowd got upset. The grumblings grew louder as the new year advanced; if forced to wait too long, they'd be just as well off waiting for PS2 to arrive. Naturally, the words "free Dreamcast" got everybody's attention. There was a catch, of course. In order to qualify, gamers would have to sign up with Sega's new dedicated online

gaming service, Sega.com, for a period of no less than two years. This is the same online service that had been previously known as the Dreamcast Network and would later be known simply as SegaNet. The particulars were as follows: Current Dreamcast owners who subscribed to Sega.com would receive a $200 rebate check and a free Dreamcast keyboard. New Dreamcast buyers would receive a $200 refund voucher (in effect refunding the full purchase price of their newly acquired console) and a free keyboard. Current personal computer owners who subscribed to Sega.com would receive a free Dreamcast console with keyboard. Regardless of how they got there, all new Sega.com subscribers were required to maintain their subscriptions for a minimum of two years, or else return Sega's $200 or their free Dreamcast – whichever they'd received as part of the initial offer.

The actual idea for SegaNet was the brainchild of longtime Sega consultant Brad Huang, who on April 8, 1999, paid a visit to Sega of Japan president Isao Okawa. During the visit, he had broached the idea of "giving away free hardware in exchange for signing up with an online service" – in this case, one that Sega would own lock, stock, and barrel. Huang foresaw the video game market making a tremendous move onto the Internet within a few short years. Thanks to increasingly rapid advances in computer technology, the capability for online gaming would soon equal – and perhaps surpass – the experiences offered by traditional consoles. Huang wanted Sega to be there first, but Okawa was understandably lukewarm to the idea. It wasn't that he didn't like the idea, but Sega was ill-equipped to pursue it. It took some considerable doing on Huang's part to convince a recalcitrant Okawa and his advisors, but Sega corporate eventually ponied up some $100 million for Sega.com. It was a tempting proposition for gamers, to be sure. The $22 monthly user fee was a bit pricey, yes, but you got all the hardware you needed to access the Internet for free (including the keyboard). The two-year requirement irked some, but Sega executives were no dummies. In order for SegaNet to turn a profit, it needed committed subscribers; otherwise, the fledgling startup would sink under its own debt-laden weight. Whether it would be perceived as a "carrot-

and-stick" or a "bait-and-switch" remained to be seen. But it didn't seem to matter to Sega of America executives, so confident that SegaNet would prove successful that they promptly announced plans to sell an additional four million Dreamcasts to North America "by this time next year." Their confidence wasn't entirely unfounded. As a direct result of the Sega.com announcement, Sega was now the third most prominent video game company on the Internet, easily passing Nintendo and pulling within striking distance of Sony. But number one was Microsoft, and they showed no signs of going anywhere anytime soon.

Dreamcast keyboard

While Sega issued its press releases and the media speculated about the implications of Sega.com, the retail community largely ignored the affair, which garnered little mention among the major toy vendors, such as Toys 'R' Us and Kay-Bee, or such electronics chains as Best Buy, CompUSA and Electronics Boutique. As for the major department stores, such as Target and Wal-Mart, the announcement was ignored altogether. The implications of this frosty reception were not lost on those paying attention to Sega's newfound generosity. To put it simply, Sega's "free Dreamcast" offer was being ignored. Why? PlayStation 2. The launch was closing in, and the prospect of a free Dreamcast didn't appeal to many potential customers – especially those with large pre-existing PlayStation game libraries. You see, there was still the matter of buying software, and Sega was providing little help in that regard. The new, Internet capable stuff would cost more on the whole than the first and second-generation games – which was by now being discounted to a more tantalizing price point. Also, within days of the Sega.com announcement, Sony moved to accelerate its own online plans, announcing a modem that would be a standard feature for the PS2 upon launch in North America, and that their

own online gaming network, PlayNet, would already be operational in Japan by the time the U.S. launch rolled around. The keyboard? No problem. Any USB keyboard could be used with the PS2, courtesy of its USB ports. Also of note, the system would supposedly come equipped with both DVD and an 8 GB hard drive as standard features, with all of the storage and online flexibility they implied. Dreamcast did not and would never have such features, according to Sega's own accounts. Surely the implications of Sony's swift move and the tepid reception to Sega.com weren't lost on the folks at Sega corporate headquarters. The Sony juggernaut continued to lumber on, swallowing all of their hard work along the way. Some means had to be found to driver greater public support for the Dreamcast.

"If the PlayStation 2 was less powerful than the Dreamcast then people would laugh. You need to make people dream, but I don't believe graphics are everything. And I don't think it's normal to spend so much money on such a huge project to reach children. … Recently games have been so graphics-oriented. But games with good graphics are not always good games. We need to go back to the origins of gameplay."

- Yuji Naka (1999)

All that glitters is not gold

As 2000 rolled on, it seemed that nothing could stop Sega's comeback to profitability. The Japanese market may have been ailing, yes, but it wasn't dead by a long shot. Meanwhile, the Western markets had roared to life and Sega was re-earning its reputation of old with the gaming public there. In fact, Western sales were by now so strong that Sega executives were confidently predicting that they would sell 10 million Dreamcasts worldwide by the end of 2001. Dreamcast games had strong representation in the NPD Group software charts, with Dreamcast's second generation of games – most notably *Resident Evil CODE: Veronica* – leading the charge. Sega's supporters were also doing quite well. Capcom, the most notable Japanese third-party developer for

Dreamcast, reported a 6.4% net profit increase for fiscal year 2000, due largely to selling some 730,000 copies of *CODE: Veronica* worldwide. It had been the #1 best-selling video game in Japan and the #2 best-selling game in North America over the past quarter. Even so, Capcom expected to take a hit in 2001 to the tune of 34% on their bottom line due to "making the transition from PSX to PS2 support." It was a move many third-party vendors were considering as the Sony tsunami continued to swell. Surreal's Alan Patmore spoke for all in an interview with *NextGen* when he said, "...Dreamcast will stick around until PlayStation 2 really makes its mark. I think it'll be the interim system. It's pretty hot right now." The truth of Patmore's observation was made all too clear at the 2000 Spring Tokyo Game Show, where Sega stole the limelight once again thanks in part to public backlash against the PS2, and to the sheer wealth of current and coming attractions it had to offer for Dreamcast. Among the most talked-about Dreamcast titles previewed at Sega's booth were the unconventional, uber-stylish skating game *Jet Set Radio*, the long-anticipated multiplayer RPG *Phantasy Star Online*, the European-produced *Metropolis Street Racer*, and Japan's own *Shukoto Highway Battle 2* (aka *Tokyo Xtreme Racing 2*). Sega may have had the public ear at the Tokyo Game Show, but Sony had the developers' support.

There were signs, though, that all was not quite as rosy with Sega's comeback as it seemed. The first sign was that Sega consistently refused to drop the price of Dreamcast in all markets. There was only one way for Sega to stop Sony, as summed up by Relic's Alex Garden. "Sega could really give PlayStation 2 a strong run for their money, but they'll need to whack the price down now, take a huge loss, ship a ton of units, and really establish themselves within the mass market and create a market for the long term." Sega fans and casual consumers alike had hoped that the system would drop from $200 to $150 after the holidays, but Sega deliberately distanced itself from any such move. Sega of Europe's J.F. Cecillon said that such a scenario would only come about "as part of Sega's long-term market strategy." Sega of America's Peter Moore was blunter, saying that a Dreamcast price drop would

not happen "for a long time yet," stating the reasoning behind Sega's move in a March 15, 2000 interview with MCV.

"Whether the gamer understands it or not, the business is not about providing great gaming entertainment. It's about putting a set top box in there as a Trojan horse. Why? Because gaming entertainment for Sony and Microsoft is a means to a different end, and that's controlling the living room... It's not about spending more, it's about spending clever."

Sega's refusal to drop the price of the Dreamcast seemed a continued insult to cash-strapped gamers, yet Moore's comments were not without grounds. At the first of the month, Sega had released predictions regarding its annual financial statement for fiscal year 1999: once again, Sega would be posting a net loss. It was running some $228 million in the red – more than double its initial projections. The shaky start and slow acceptance of Dreamcast in Japan were acknowledged to be the main problem; Sega had missed its Japanese sales goals by a half-million consoles. It was money Sega sorely needed for its operations elsewhere; hence the price of Dreamcast could and would not drop during this time. Sony and Microsoft had money to spend on advertising that Sega definitely didn't – it had to "spend clever," as Moore put it. The only silver lining in this otherwise dismal cloud was that it was the lowest net annual loss in three years. The sign of an upward trend for Sega? Was the Dreamcast gamble working? Perhaps... But Sega's money hole was mighty big, the company dug in pretty deep. As Newsweek's N'Gai Croal put it, "If Sega's designers can keep turning out inspired games, they may just survive Sony's onslaught."

A second cause for concern was the continued absence or subsequent bailing of key third-party software vendors. In late January, at the Square Millennium show in Yokohama, Japan, the world's #1 crafter of RPGs formally announced that it would not be supporting the Dreamcast. This was a heavy blow to the console's supporters, and it ached all the more to know that this was the same company who back in 1999 was said to be seriously considering

producing RPGs for the system. In March, Electronic Arts confirmed its intentions to support PS2 instead of Dreamcast, promptly announcing 10 titles for the North American launch, and dashing any lingering hopes that its presence would be felt in the Dreamcast market. About the same time, Eidos quietly began shifting its own in-house software projects away from Dreamcast and toward PS2, although such high-profile titles as *Legacy of Kain: Soul Reaver 2* continued to receive attention. By the end of the month, Konami had cancelled *Castlevania: Resurrection* for Dreamcast; shortly thereafter, it ceased Dreamcast production altogether. By May, the lack of quality third-party titles for sale in the West was becoming so acute that Sega changed the packaging of Dreamcast games (from white spines to black spines) and gave its licensees more latitude in pricing. Intended to draw more public attention to Dreamcast in 2000, these moves opened up the possibility for first-run releases as low as $30 – but industry observers and pundits were unimpressed.

Castlevania: Resurrection

Many current and future high-caliber Dreamcast titles were now said to be heading to PS2. In response to persistent rumors that such prominent upcoming in-house Dreamcast games as *Crazy Taxi 2* and *Ferrari F355*

Challenge were to be ported to PlayStation 2, an unnamed Sega executive is reported to have said, "A Sega property will never go to PlayStation 2." One developer whose company had at one time been a prominent Sega third-party vendor had no qualms about addressing the rumors. Victor Ireland had taken a lot heat from hardcore RPG fans ever since the Dreamcast launched sans Working Designs' support. In a frank and rather caustic Internet posting made on May 22, 2000, he made a relatively prophetic statement.

"Software sales on DC suck... I'm not going to torpedo my company by supporting Dreamcast to satisfy a few people who wish Sega wasn't in real trouble. The simple fact that Seaman, Crazy Taxi, House of the Dead 2, Zombie Revenge, Space Channel 5 and others are all coming to PS2 from various publishers next year says that despite Sega of America's best efforts, the writing's on the wall for Sega, and Sega of Japan has decreed that future to be multiplatform, with or without Dreamcast. It's actually a good thing, because now Sega will survive, doing what they do best – software."

Space Channel 5

Sega's Peter Moore had this to say in response:

"You can't expect million-sellers on a two-million installed console base...

At any rate, our business has never called out for a million-seller. It will next year, but that's a function of installed base. Quite frankly, to drive through a million-unit seller in the first 12-18 months of a console is very difficult to do."

The third sign came from within Sega itself. On April 13, 2000, Sega announced plans to split its arcade division into five wholly owned subsidiaries, hoping to increase profitability and offset continuing losses from its console division. Recall that Sega had ended fiscal year 1999 with a net loss due largely to the Dreamcast's lackluster launch in Japan, and its subsequently slow acceptance after that. Roughly 1000 employees of Sega Japan lost their jobs as a result. One week later, Sega of America proudly announced that it had sold over two million Dreamcast consoles, beating the deadline set by Bernie Stolar by just over a month. Sega corporate, however, was still running in the red, and hadn't even come close to recouping its initial $600 million investment in Dreamcast. Just as Victor Ireland had said, software sales sucked. Regardless of market, even in North America, nowhere would Dreamcast software sales be strong enough to refill Sega's empty coffers. As a result, Sega corporate announced that it was cutting its operational expenditures by some ¥30 billion. Every single department within Sega would lose funding – including future Dreamcast development.

On May 26, the PS2 achieved parity with the Dreamcast in the Japanese video game market, despite having what many considered to be a lackluster software library. It was an amazing feat, nevertheless, considering that Dreamcast had a year-and-a-half head start. The reason? DVD capability. Sony's machine was killing Sega's in Japan just by being the cheapest DVD player around. Many Japanese who would never have considered buying a video game console bought a PS2 for the DVD capability alone. Sega executives had grumbled and mumbled about it, but there wasn't much to do except spin it as best they could. They had taken their gamble with GD-ROM technology and lost. Now they were paying the price, as they watched Sony reap profit margins that should have been Sega's. It had dug itself into a hole too deep with Saturn to ever seriously consider incorporating DVD into

Dreamcast, other than as an expensive afterthought. Now, with the PS2 asserting its presence in the DVD realm, the decision was quietly made to scrap Sega's Dreamcast DVD plans altogether. Sega simply did not – and never would – have the resources to carry them out.

The Dreamcast deadline

On April 24, 2000 Peter Moore was promoted to president of Sega of America, replacing Toshiro Kezuka in the job. Also promoted were longtime Sega executives Shinobu Toyoda and Neal Robinson. Moore's successful management of the Dreamcast launch in North America had made Sega corporate extremely confident in Moore's abilities, as evidenced by the words of Sega corporate president Shoichiro Irimajiri.

"As Sega gears up for a critical year, we know the company will be in good hands with Peter Moore. After we witnessed the incredible launch he orchestrated in the U.S. and experienced his impeccable leadership skills first hand, we knew there was no better candidate for the job. Peter has the strength, depth and experience to oversee all aspects of our multi-layered company, and will be able to continue giving Sega the strategic direction it needs as the company focuses on online console gaming."

Sega's third-party licensees were quick to support the change in leadership. "Peter has what it takes to bring Sega back to its true birthright as a leading gaming company," commented Bill Gardner from Capcom USA. "From day one, we were impressed with his understanding of our business, partnership orientation and his commitment to continually pushing the envelope in redefining this industry." Moore understood his position well; he would be in charge in North America during the most critical period of Sega's re-emergence. It was not a task to be taken lightly, and there was no one better qualified than Moore to handle the job. Moore promptly swung into action, working to realize his unspoken goal of making the year 2000 "the year of the Dreamcast." It was going to take every talent and resource at his disposal to overcome the Sony

hype machine. Reports from Japan claimed that over two million PS2s had been sold by the first week of May, pushing an average of between 50,000 to 100,000 units per week. It was a formidable challenge for a formidable man.

May 11, 2000 marked the beginning of the yearly Electronic Entertainment Expo (E3). Sega and the Dreamcast dominated the console portion of the show, with Moore and his staff making every effort to blitz the show with all things Sega. A full-blown demonstration of SegaNet – the company's rechristened online service – was given in all its glory, and it was revealed that the service would be available (along with the broadband adapter) sooner than anyone might expect. Sega also announced its initial lineup of 16 games that would support online plan: *4x4 Evolution, Alien Front Online, Black & White, Bomberman DC, Chu-Chu Rocket, KISS Psycho Circus, Magic: The Gathering, NBA 2K1, NFL 2K1, PBA Tour Bowling, POD 2: Speedzone, Sierra Sports, Phantasy Star Online, Quake 3: Arena, Railroad Tycoon 2*, and *Worms: Armageddon*. A full-blown preview of the English-language version of *Shenmue* was given, with the game set for release by end of the year. Sega confirmed the Dream Mouse, addressing the concerns of hardcore *Quake 3* addicts itching to get their hands on the Dreamcast port of *Quake 3: Arena*. Present for inspection (if not use) were mock-ups of the Dreamcast MP3-capable VMU and the rumored DVD-capable Dreamcast console. Vivarium's Yoot Saito, creator of *Project Seaman*, revealed tentative plans for a sequel of sorts. Finally, in a pleasant surprise coming after months of constant pleas, Sega of America announced that it was dropping the price of the Dreamcast to $150 in June. The whole show might have swung Sega's way if not been for two things. First, an anonymous EA spokesman bluntly stated his company's official reasons for not supporting Dreamcast: "We believe that the Dreamcast will be a non-factor in the next generation console race." Second was Sony's announcement regarding their intentions for PS2 in North America, setting a October 16, 2000 U.S. launch date at a suggested retail price of $299. Furthermore, 50 titles would be on-hand and ready to market by that date.

Quake 3 Arena

The end of spring brought about another major personnel change at Sega, this one shocking nearly everyone. On May 23, Sega corporate president Shoichiro Irimajiri resigned his position, taking the blame for Sega's third straight yearly loss, and stepping down to the role of vice-chairman. Assuming direct control of Sega's worldwide affairs would be Chairman Isao Okawa. Revised internal financial forecasts now predicted that Sega would take a corporate year-end loss of some ¥44.9 billion ($411.5 million) in fiscal year 1999. These projections also noted that Sega of Japan had only sold some 600,000 Dreamcast consoles between September of 1999 and March of 2000, rather than the estimated 1.1 million initially reported. In a brief discussion with the press, Okawa reaffirmed his December 1999 statement that Dreamcast would be Sega's last home video game console, and that the official report on the company's 1999 earnings would be released on May 26, 2000.

It should be noted that Sega's losses were actually down a bit from previous years; however, the revised figures also took into account the highly successful American and European Dreamcast launches. In comparison to the nearly one million PS2s Sony sold in Japan alone at launch, Sega had only sold 5.8 million Dreamcasts – worldwide, to date. The news sent Sega stock – already low by any measure – reeling on the Tokyo Stock Exchange, dropping by 41% of its

value as of November 1999. In a subsequent press briefing, Sega spokesmen expanded on the company's intentions to break up its software R&D division into nine separate entities, and its arcade division into five independent regional companies. The move was praised by Sega investors as a wise one. Speculation was strong that Sega was about to undertake another massive companywide shakeup. This time, though, it would be away from the console video game market and towards the promise of the Internet. In the west, rumor had it that that Microsoft or even Sony was now seriously considering buying the financially ailing Sega. While the Microsoft rumor was given considerable credence due to past moves made in that regard, both eventually proved untrue. Sega was still charting the waters alone, and while its reputation with gamers was rising, the ship continued to sink.

Sega released its yearly financial statement on May 26, 2000, reporting an actual year-end net loss of ¥42.9 billion ($398 million) for fiscal year 1999 – about the same as for 1998. Sega's inept Japanese market performance was, as expected, cited as the chief culprit behind the loss. Sega also reported a net 27% increase in product sales worldwide, due primarily to the moderately and wildly successful European and American Dreamcast launches, but it had not been enough to offset losses from hardware sales. Sega's financial statement projected a net profit of some ¥1.5 billion for fiscal year 2000, due largely to division reorganization and expansive cost-cutting measures. It also predicted, rather unconvincingly, that Dreamcast would remain competitive with PS2 during that time. Also buried in Sega's annual financial report were figures for worldwide Dreamcast console sales. Sega had sold to date some 5.8 million Dreamcasts – of which 4.65 million were sold during 1999 –most of which were sold overseas. That was more than 300,000 consoles below target – a result of the system's dismal performance in Japan. The statement noted with pride the performance of the Dreamcast in North America, having sold some 2.5 million consoles there, and also predicted another 2.5 million units sold by March 2001. It was a grand total of five million – down from the six million originally predicted for March 2001 – reflecting market difficulties and

the impact of Sony hype surrounding the oncoming U.S. PS2 launch. Also noted was that none of Sega's first-class Japanese Dreamcast titles had met their projected sales expectations, including such well-known names as *Shenmue, Space Channel 5*, and *Virtua Striker 2*. Stories continued to abound concerning Sega's in-house development efforts regarding Dreamcast spin-offs, accessories, and successor consoles, but the clouds of doubt were already in place.

Virtua Striker 2

June 1, 2000 was the most critical date in the projected lifecycle of the Dreamcast. According to a report authored by the Japanese branch of Salomon Smith Barney and issued on January 5, 2000, this was Dreamcast's "make or break" date. By then, Sega should have recouped all of its initial $600 million investment in the system, having sold all two million units of its initial production run for North America, and now selling approximately one million consoles per month across all major markets from this point forward. In plain language, Sega should have started turning a profit on Dreamcast after June 1, 2000. Did it happen? No. Was Sega even close? No. Sega should have had a roughly 20% market share by this point; instead, it was wallowing around at 14%, with no sign of gaining significant ground any time soon. There

was not a single Dreamcast game to be found in top ten software charts worldwide, save in the United Kingdom, where for some perverse reason the Dreamcast port of *Who Wants To Be A Millionaire* was selling exceptionally strong. People liked the console and the games, but most opted to stick with what they had and save their money for the consoles to come. Losing money as it was, Sega couldn't hold out and maintain the high price of Dreamcast any longer. In both Europe and the U.S., Sega made preparations to cut the price of the Dreamcast by 25%. Isao Okawa and his colleagues had hoped for some outside chance of the company making some kind of profit off of its Dreamcast gamble. It never had, and now it never would.

Death of the Dream:

The Sega Dreamcast

PART THREE OF THREE
(June 2000 - December 2002)

The long, hot summer

After assuming the helm at Sega of America, a self-assured Peter Moore travelled to Japan, where Sega CEO Isao Okawa wasted no time in letting him know just how precarious the stakes were. While the full scope of the exchange will probably never be known, two important facts about what happened during that meeting have come to light. Moore left Japan with $500 million in his pocket for Sega of America and a single marching order: Make the Dreamcast a success in North America...or else. Did this mean Okawa would can Moore if he couldn't pull it off, given that the odds were as long as they were? To the contrary, Okawa had given Moore what amounted to Sega's last cash reserves. The Dreamcast had bombed in Japan and wasn't doing much better in every other worldwide market save one. Dreamcast had proven to be a bigger-than-expected success in the United States, and was poised to take the #2 spot from Nintendo by Christmas of 2001. If there was any hope at all of pulling off the Dreamcast gamble, the best bet was North America, where the odds were shortest and the market most favorable. If they succeeded, Sega could stay in the console business for at least one more year, clean out its back inventory of hardware, and assume a better position to remake itself once the time came. If not... Well, there was one consolation prize: Sega would restore its tarnished reputation in the one market that really mattered. Moore's job wasn't on the line – Sega's very existence was at stake. 2000 had to be "the year of the Dreamcast," as far as the United States was concerned. Sega would not be able to survive if it wasn't. Armed with this

knowledge and a serious chunk of change, a determined Peter Moore returned home to face the daunting task of single-handedly saving Sega before all was lost.

Sega of Europe, meanwhile, wasn't waiting around for orders from above. It knew the situation as well as anyone else; besides, as the last of Sega's major markets to roll out the Dreamcast, it was constantly winding up on the tail end of directives from Japan. Not this time. Sega of Europe president Katsutoshi Miyake conferred with COO J.F. Cecillon and his staff as to how to start pushing Dreamcast sales. Thus, credit goes to Sega of Europe for leading the way in dropping the console's price. On May 31, 2000, Sega of Europe cut the cost of the base Dreamcast to £150 for ten days during the British Bank Holiday. Although the move was a temporary one, it was a welcome one, and sales surged as a result. On June 12, 2001, Sega of Europe kicked off an $8 million advertising campaign based on the theme of international competition, as various representatives of the European Common Market battled it out for bragging rights as to who could both make and play the best Dreamcast games. While European software sales as a whole were paltry when compared with Japan and North America's, Sega of Europe aggressively pushed the Dreamcast lineup – including the recently released megahit *Resident Evil CODE: Veronica* – for all it was worth. As it had done elsewhere, *CODE: Veronica* rose to the #1 spot on the charts, bringing other Dreamcast titles – such as *MDK 2* and *Zombie Revenge* – along for the ride. It was a daring move, given the financial woes Europe's software development community was suffering at the time, but Sega of Europe had nothing to lose. Feeling left out of the loop with regards to the big decisions made by Sega corporate, they felt emboldened to try anything.

MDK 2

Sega of Europe's devil-may-care attitude was not without its consequences, though, which manifested in a rather unexpected and inconvenient manner. On June 22, the Independent Television Commission (ITC) of Great Britain pulled the plug on one of Sega UK's television commercials for its popular *Sega Worldwide Soccer 2000 Euro Edition*. The ad campaign had been deliberately designed to tap into the nationalistic fervor surrounding the Euro 2000 football (soccer) championships, and it was feared by the ITC that Sega's in-your-face advertising would help promote more fan violence at the event than usual. Here's how SegaWeb reported the incident:

"The entire campaign is quite stereotypical in nature... In fact, they take xenophobia – not the cool arcade game – to a new low. We will show the ads here for illustrative purposes from which you can draw your own conclusions. The particular ad in question showed a German in a pronounced mullet stating, "Come and have a go if you think you're hard enough." The Independent Television Commission decided to have the ad pulled on Friday, a day before a grudge match between Germany and England in the Euro 2000 soccer championship. The ITC issued a statement late Friday, "The ITC believes the advertisement was calculated to tap into the current nationalistic

fervor surrounding Euro 2000. There is considerable public concern about violence breaking out during this championship. In this climate we consider the provocation implied in the advertisement to be ill-judged and irresponsible." "We took the decision on Friday. What happened after Friday only served to show that we have taken the right decision," the regulator told CVG. A ban of England has been suggested by championship organizers in light of fan violence involving English fans due to Saturday's match. The UK government is even considering legislation meant to curb soccer violence... Currently, Sega has not voluntarily pulled any other advertisements in the series and has until Wednesday to make its case for the lifting of a ban on the Dreamcast Online ad."

Approximately one month later, Sega of Europe's COO J.F. Cecillon denied rumors that Sega was preparing yet another controversial ad campaign. Was he gun shy, after the reaction to the Euro 2000 ad campaign? Perhaps, but it didn't stop him from inking an exclusive contract with Virgin Games at the end of the month for distribution rights to Sega's online-capable Dreamcast games. It needed all the help it could get, too; in the words of one quip-throwing industry reporter, "European Dreamcast sales just plain suck."

Sega Worldwide Soccer 2000 Euro Edition

At the same time, though, a number of Sega's most important third-party

houses in Europe were suffering financially, and seriously reconsidering their Dreamcast commitments. The France-based Infogrames, Europe's largest software distributor, posted a net loss for fiscal year 1999 to the tune of $320.7 million due to "...changes in internal management and write-off of excess inventory." Eidos Interactive, creator of the popular *Tomb Raider* franchise and an early Dreamcast supporter, was buried beneath a mountain of debt. It was enduring both the ignominy of one buy-out offer after another, and the unwelcome presence of government investigators checking to see whether or not Eidos executives had planted rumors of unprofitability in order to score some quick and easy stock profits. These and other troubles with Sega of Europe's third party providers would continue through the rest of the year, although they did result in one unexpected and rather ironic side effect. Due to limited funds and the cloud hanging over the console's future, a number of Europe-produced Dreamcast software titles would not make it overseas. Thus, Sega of Europe could finally, proudly proclaim that it had exclusives its own, including *Agartha, Headhunter,* and *Sega Worldwide Soccer 2K1*.

Back in America, the Dreamcast's summer didn't get off to a very good start. Moore may have had the money and Okawa's *diktat*, but he still had to contend with fallout from the console's end-of-spring slump. Internet gaming, one of the lynchpins upon which the console's success rested, was months behind schedule – and still slipping. The Dreamcast Network was supposed to have launched in March, but had been plagued by numerous technical delays and would not be ready until the end of summer. *Frontier*, the multiplayer space shooter that was supposed to have launched the Dreamcast Network in the States, was quietly cancelled, and by summer's end another high-profile title would be lost, as well: *Baldur's Gate*, Microsoft's multiplayer RPG based on the world of *AD&D* was cut, too. Several imports from Japan were being delayed due to problems with their networking features, which in a few notable instances were removed altogether in order to meet shipping deadlines. While 63% of Internet gamers surveyed by PC Data confirmed the Dreamcast as their choice for most popular online gaming console, Dreamcast's online

gaming potential remained just that, and most industry analysts and reporters treated SegaNet's "free Dreamcast" promotion as the joke it eventually turned out to be. Far too few gamers took advantage of the offer; pundits blamed this on "a weak, ineffectual advertising campaign that is simply not doing its job." To be fair, it was hard to advertise for a network that at that time still had practically no content besides its browsers. U.S. Dreamcast gamers had *Chu-Chu Rocket*, but little else, and many were fed up with being limited to playing cat and mice games online. "So then, what do we have?" quipped SegaWeb's Eric Barzeski. "Sega falling flat on its face as far as promotions. What else is new?"

To his credit, Peter Moore and his new staff tackled these problems head-on. The old "It's Thinking" ad campaign was quickly ditched in favor of a new one: "Opponents Are Everywhere." Moore and his staff constantly sang the praises of Dreamcast's networking potential in public, and persistently pressured their Japanese counterparts for network-capable hardware and software in private. Moore wanted more to offer to Internet-hungry Dreamcast gamers, and he eventually got it. By the middle of June, all three of the world's best first-person shooters – *Half-Life, Quake III: Arena*, and *Unreal Tournament* – were confirmed for release on Dreamcast by the end of 2001. The entire *Sega Sports* lineup would have network play added; *NFL 2K1* and *NBA 2K1* would both have it out-of-the-box in the fall. The promotional campaign became so intense that for a while it seemed that every other Dreamcast game Sega of America announced would have online gameplay. In the meantime, it worked to ensure it would finally, actually meet its Dreamcast online gameplay goals. By August 8, everything was finally in place for full-scale beta testing of the system. Both the hardware and software were in place to make Isao Okawa's dream of Internet gaming a reality.

Ecco the Dolphin: Defender of the Future

Dreamcast's second generation of games continued to roll out in splendid fashion throughout the summer of 2000. Dozens of titles were announced, spanning a wide variety of genres. One in particular from that summer release schedule deserves special mention: *Ecco the Dolphin: Defender of the Future*, a 128-bit revamping of the 16-bit Genesis classic. It retained the quirky, difficult controls older gamers remembered, but the graphics had received a major overhaul. The stunningly realistic aquatic environments, replete with bubbles, shadowing, and light and water effects, were so mesmerizing that many game shops looped the demo in order to tout the power of the Dreamcast. While there were other, more playable Dreamcast games out there – and with graphics every bit as good – no other title at the time managed to so perfectly convey just how powerful the console's graphics capabilities could be in the hands of skilled programmers. The RPG crowd hadn't been forgotten, either, with more games being imported to meet player demand. There was UbiSoft's *Evolution 2: Far Off Promise* (a graphically-improved sequel to 1999's first decent Dreamcast RPG), Kenji Eno's *D2*, Infogrames' *Silver*, and rumors of yet another full-blown RPG courtesy of Game Arts, creators of the Sega CD's beloved *Lunar* franchise. Dreamcast even got what was arguably the best port of the hottest "extreme sports"

game around, just in time for summer. *Tony Hawk's Pro Skater* by Crave Entertainment would do for its genre what *CODE: Veronica* had done for survival horror fanatics: bring them en masse to Dreamcast. The PlayStation original had been declared the best skateboarding video game ever made; until, that is, the graphically superior Dreamcast version hit store shelves on the last day of spring. It may not have offered any new gameplay features, but to play the game in full 128-bit graphical glory was a temptation few could ignore, and it remains to this day one of the select few Dreamcast titles to move consoles all on its own.

Virtua Tennis

And what of traditional sports video game fans, still awed by what they had seen the past holiday season? The one game *Sega Sports* fans eagerly awaited most that summer was the Dreamcast incarnation of *World Series Baseball* (*WSB 2K1*). They knew it was coming, because it was the only major U.S. sport that Visual Concepts hadn't yet touched. When it was finally released in August it was instantly snapped up, but soon earned a reputation for being the worst of the *Sega Sports* games due to poor controls. In spite of the negative press, *WSB 2K1* proved to be one of Sega of America's best sellers that season. And there was more. Lacking all of the pre-launch hype

surrounding *WSB 2K1*, Sega's *Virtua Athlete* came out of nowhere, and went on to earn a reputation of its own. Essentially an upgraded remake of the Saturn multi-event sports game *Decathalete, Virtua Athlete* wasn't even slated for a U.S. release, until Sega found an eager and willing distributor in Agetec. *Virtua Athlete* was not Sega sports programming at its best, and its graphics hearkened back to its Saturn roots. Nevertheless, the gameplay was solid enough to help round out the Dreamcast's sports software library. Given that the summer Olympics took place the same year – and that former Sega licensee Konami made an about-face, porting its own multi-event sports game to Dreamcast (*Sydney 2000 Olympic Games*) – it was a good thing Sega's effort made it out the door, after all. It may not have looked as good as Konami's game, but it certainly played better. Without dispute, though, the Dreamcast's dark horse sports hit of the summer of 2000 was Sega's own *Virtua Tennis*. It was so good that even those who didn't care for tennis (like this author) found themselves playing the game for hours on end. The players and environments looked real, the game engine was spot-on perfect, and the controls were easy to master. The only thing gamers faulted it for was the lack of any female players to choose from. Sega would later address this oversight in the form of *Virtua Tennis 2*, which it delivered by the end of the year. But in spite of that notable omission, *Virtua Tennis* went on to become the biggest Dreamcast game of that summer.

It was around this time that Electronic Arts rubbed salt in an old wound with some rather nasty public comments by EA president John Riccitello. In an article with Forbes Magazine concerning the company's support for various systems, Riccitello refused to admit the mistake made in not developing software for Dreamcast. Instead, he inadvertently revealed that EA's exclusive and profitable contracts with Sony would have been jeopardized had it decided to go through with its already announced Dreamcast development plans. Sega's Peter Moore was justifiably upset at the revelation, as were gamers like Tom Moore, who snarled in an interview with IGNDC, "For every dollar EA would have spent on the DC, they'd have gotten over ten back. Losers." That

fact was made painfully clear at the end of July, when EA's first quarter 2000 earnings statement was made public. The company had suffered a staggering 30% drop in revenue during that particular period, all because they'd refused to back the Dreamcast. But the PS2's U.S. launch was right around the corner – and so far as Riccitello and EA were concerned – it would pay to wait.

Gundam Side Story 0079

Even then, it was easy to understand Riccitello's attitude – it was just the way he expressed that really grated on the ears of Sega fans. Despite the massive amount of positive spin Sega of America was pumping out regarding its summer efforts, all was not well for Dreamcast. Every month that went by that summer saw the loss of yet another high-profile title or port: *Soul Calibur 2... Max Payne... Galleon... Rayman 3... Anachronox... Messiah... Supreme Snowboarding...* One by one, major vendors began shutting down their Dreamcast efforts, often citing the platform's uncertain future in the face of the PS2's impending arrival that fall. And despite a massive marketing effort – including heavy promotion on MTV – Tetsuya Mizuguchi's rhythm and dance game *Space Channel 5* failed to catch on with the American gaming public. Later that summer, a spokesperson for Bandai announced that it would not be exporting any more Dreamcast games based on its popular *Gundam* anime

franchise to the U.S. market due to sluggish sales of *Gundam Side Story 0079*. Yes, there were still a lot of impressive games on Sega of America's summer release schedule, but Dreamcast was still in a faster downward slide than could be explained away by the normal summer doldrums. Former Sega executive Bernie Stolar, now working for Mattel Interactive, summed up the situation as well as anyone. "I have financial concerns about Sega's marketing model, and until that's addressed to me, I have to wait and see." Many others – both within and without the industry – were more blunt. Brian Farrell of THQ, one of the more notable software houses of the day, expressed it this way:

"The Sega Dreamcast will provide short-term opportunities, however, [it] is not a strategic platform for THQ in the long term. We believe that once PS2 is released, the Dreamcast revenues will trail off in both Europe and America very quickly and very significantly."

It should be noted that earlier doubts about the future of Dreamcast had prevented THQ from supporting the platform in the first place. Nevertheless, such comments were not lost on Sega bloggers and perceptive gamers, with SegaWeb, one of the prominent Sega-oriented web sites at the time, putting it this way:

"Word around the industry is that Sega of America has until the end of the year to show substantial returns or else Sega of Japan will, at the least, begin publishing titles for competing systems. Furthermore, Sega of Japan may end Dreamcast support entirely, leaving America, Europe, and the rest of the world without a chance."

I happened to be writing the first half of this book at that time, as well as monitoring current Dreamcast marketing trends, and felt the same way. Here's what I said at the beginning of that fateful summer in a monthly Dreamcast newsletter to the folks at the Eidolon's Inn website:

"Dreamcast has got one good year left in the U.S., maybe two at the outside – especially if they can pull off their Internet plans as expected. After

that, it's all over. One verse, maybe a chorus, and that's it. End of song. I don't care how you look at it and from what angle. If you'll just sit down and honestly run the numbers, then this conclusion is inevitable... The problem is not in the hardware, it's not in the software, it's not in the advertising, and it's certainly not in the user base. It's in Sega's market strategy. It's not yesterday's console market anymore. It's today's, and it's quite a different animal than yesterdays. It nailed Sega of Japan right between the eyes. Sega of America is in the clear for now, but their turn is coming within mere months."

It was widely known that Dreamcast console sales were trailing well below Sega of America's intended sales targets. And it wasn't just the hardware that was suffering; software sales in the summer of 2000 were also significantly impacted, but for an entirely different reason. We'll get to why Sega of America's second and subsequent generations of Dreamcast software never quite managed to meet sales expectations later. First, it's best to understand what tune Sega of Japan was fiddling while Sega's Western fortunes were beginning to burn.

Sakura Wars (Sakura Taisen)

By the end of June, 2000, worldwide Dreamcast sales were poised to break the six million mark – but less than one million of those were in its home country of Japan. With the exception of certain popular franchise titles such as *Sakura Taisen,* very few Dreamcast games stayed on any of the weekly Top 10 Console Games charts for more than a week or two. Add to that all of those brand new PS2s out there – even if most Japanese consumers had (by their own admission) bought them as DVD players, first – and the conclusion was clear: Sega's days on the home console market were numbered. It was only a matter of *when*, not *if*. Sega CEO Isao Okawa was already mulling over the issue, having tipped Sega of Japan's hand back in December of 1999 when he said Dreamcast would be Sega's last home video game console. It was in the following year Sega's new direction would be confirmed.

Nintendo GameCube

The first clue had already appeared on April 13, 2000, with Okawa's blessing. Sega of Japan announced it was splitting its highly profitable arcade division into five wholly-owned subsidiaries in an attempt to increase profitability and offset continuing console division losses. Sega was taking huge losses with the Dreamcast, and had to make up the difference elsewhere. "Elsewhere" quickly became "everywhere else" just two weeks later, when

another press release announced intentions to cut operational expenditures by some ¥30 billion across the board. Three days later, a story "from inside sources" leaked on the Internet that Sega lacked the funds to continue development on NAOMI/Dreamcast successor hardware, rumored to have been well underway for months. As the fiscal axe began its long and ponderous swing across all of Sega's worldwide operations, its development divisions began to ponder possibilities that just a few months before would have seemed unthinkable.

The May 23 resignation of CEO Shoichiro Irimajiri was similarly significant. It was he who – in true Japanese fashion – became the fall guy, personally taking the blame for the Dreamcast's failing to achieve a significant foothold in Japan. Under his watch – and despite his best efforts – Sega had only sold about 600,000 Dreamcasts in Japan, instead of the 1.1 million it had originally forecast. It wasn't Irimajiri's fault – amongst other things, there was the problem with the PowerVR 2DC chip shortage – but he accepted responsibility nonetheless and stepped aside, with Okawa assuming the role of CEO. Not since Hayao Nakayama had one man assumed the dual roles of corporate chairman and CEO at Sega. Okawa again confirmed – for the record – that Dreamcast would be Sega's final home video game console, but that was all he would say. Far more apparently went left unsaid, for knowledgeable sources tipped off the *Nippon Keizai Shinbun* that a lot more fixing was about to take place within Sega corporate. "The company isn't just going to abandon Dreamcast," reported the newspaper's sources. "Sega will eventually abandon the console hardware business altogether." The very same day, a Sega press confirmed its long-standing plan to break up its revered software development divisions into nine independent entities, reiterating its recent announcement regarding the reorganization of its arcade division. Sega's investors promptly praised the move as a wise one, enabling greater flexibility in its future plans beyond Dreamcast.

To anyone paying attention to the news out of Japan, it was clear that something major was afoot at Sega. In fact, it been for months. Okawa was

no fool; he could read the numbers as well as anybody. That was why he eventually focused Sega's remaining Dreamcast marketing efforts on North America, more or less leaving Europe to its own devices. Back in Japan, he had already put out the word inside Sega to "maintain face" – while at the same time to start evaluating the potential of developing for (or porting to) the competition's platforms. The final decision about which of these to support would not be made until the summer; but Sega's R&D dutifully began evaluating one console after another. PC porting and development was a no-brainer – Sega had been doing this for years in one form or another – but the new next-gen consoles were another matter entirely.

Sonic Pocket Adventure 2

Yuji Naka and his fellows at Sonic Team expressed open contempt for Sony's system. "I do not think much of PlayStation 2," Naka was later quoted as saying. Instead, they were intrigued by the possibilities that Nintendo's latest gaming hardware had to offer. Having already developed a 16-bit *Sonic* game for the failed NeoGeo Pocket, they were candidly eyeing the prospect of porting to both the GameBoy Advance and the soon-to-be-launched GameCube. Perhaps the public admiration by Nintendo über-producer Shigeru Miyamoto for Sonic Team's recent Dreamcast efforts had something to do with

it. Perhaps it was simply Naka's personal familiarity – and years of unauthorized experimentation – with Nintendo hardware. Perhaps it was something else altogether. Whatever the reason, Sonic Team began gravitating towards Nintendo platforms for the bulk of their future efforts. Not surprisingly, other programmers at Sega – most notably Toshiro Nagoshi and his team over at the Amusement Vision division – echoed the sentiment.

Not everyone shared Naka and company's hardware inclinations. Yoot Saito and his staff – who were then working on a sequel to their hit, *Seaman* - were gravitating toward *Windows*-based PCs, and also evaluated the prospect of porting the planned *Seaman* sequel to Sony's next-gen console. "What's important is installed user base," Saito later shared with reporters as to the reasons behind his decision. Yu Suzuki and AM2 found themselves siding with the quirky Saito insofar as PC and PS2 porting and development went, toying with the possibilities Microsoft's XBox might offer, but that was about it. On the other hand, Hisao Oguchi and his crack team of programmers at Sega's Hitmaker division were so excited at the possibility of developing for XBox that they were already beginning to jot down ideas. Eyeing the competition's hardware for potential porting and development was not limited to Sega of Japan. In America, Sega Sports – who had also seen the writing on the wall – were salivating at the prospects of releasing their flagship titles on both Microsoft and Sony's consoles as soon as possible.

Nintendo GameBoy Advance

And so 2000 unfolded, with each of Sega's development houses evaluating and then picking those of its competitors' systems it liked the most. By the time summer rolled around, everything was in place to proceed. On June 6, 2000, Sega of Japan penned a deal with Motorola to develop Internet-capable games for a new generation of cell phones soon to hit the Japanese market. A few days later, it was revealed that Sega titles old and new would be making the transition, including the venerable *Columns* and several games based on Sega's flagship *Sonic the Hedgehog* franchise. Many industry watchers at the time shrugged it off – considering it no more impactful than the NeoGeo Pocket rendition of *Sonic Adventure* – and went about their business. Had they paid more attention, they'd have seen a portent of things to come.

It was not until the end of June that Dreamcast console sales in Japan finally broke the one million mark. But by then, other news from Sega corporate eclipsed any recognition of that dubious milestone. On June 20, 2000, Sega officially released all of its software development divisions to develop for whatever platforms they chose. The move was welcomed by practically everyone within the industry and correctly interpreted for what it was – this

was merely public acknowledgement of what had been quietly brewing inside Sega for the past half-year or so. In swallowing its pride, Sega could reach a much wider user base, increasing sales and dramatically improving chances of a return to profitability. Word had it – accurately – that Sega was already developing ports of hit Dreamcast titles for both XBox and GameCube. Strangely, though, the possibility of Sega's developing for Sony's PS2 was discounted – even though it had already licensed a PS2 port of its own *Crazy Taxi 2* to Acclaim. Security surrounding the home console version of the latest incarnation of Yu Suzuki's *Virtua Fighter* was so tight that no one knew for sure just which platform it would appear on.

About a year later, company co-founder David Rosen – who had long ago disassociated himself from Sega over the way its Japanese branch had treated Tom Kalinske back in 1996 – made the following comments over Sega's divestment plans:

"At one point in time, Sega had the best software publishing ability by far. We had 600 to 700 people just dedicated to software development. Even more than that… at one point there were 800 to 1,000, and they were the best, as proven by what they achieved in coin-op [the arcade business]… [Today's Sega] could have been designing for other systems, thereby having a universe to sell into that was not limited by Dreamcast. Whether it's three million or five million, or seven million, they could have had a universe to sell in to that was 70 million PlayStations… I have been advocating the idea that Sega should become a content provider, providing software for all existing systems and systems to come such as Xbox. Hardware has been such a drag on Sega. Selling software on one system is to limit your mobility. Why put yourself to a disadvantage to the Electronic Arts, THQs, and other companies who have the ability to sell software to all systems?... I've been advocating this for more than seven years now and always felt it was a bit of a folly for [today's Sega] to be limiting their potential to Sega hardware… Unfortunately, it took the situation that they are going through today to make them realize

that they had to make a change."

It can't be said that Sega of Japan's executives lacked a sense of humor as to the precarious predicament the company was now in. At the annual stockholder's meeting on June 21, 2000, all 62,239 Sega corporate shareholders received (or were mailed) their own "Poo-Chi" electronic dogs, products of the company's Sega Toys division. The custom Sega shareholder version came with its own exclusive bone, which some were quick to quip symbolized their growing frustrations with a company that was still sucking bilge-water at the bottom of the Nikkei stock exchange. Others took it in stride – after all, it was one of the few Sega ventures generating a profit. The toy had proven a phenomenal hit in Japan, and was soon exported worldwide to moderate success, driving desperately-needed cash into Sega's ever-dwindling coffers. Not soon enough for Sega of Japan employees, though, who saw their annual bonus checks slashed by 20% as a result of the company's financial predicament. And it wasn't about to get better. Dreamcast console sales results for Japan had just come in, and showed an alarming downward trend: from over 80,000 units sold per month at the beginning of the year down to just over 34,000 units per month by the end of May. With 282,238 units sold to date that year, Dreamcast was now the #3 console on the Japanese video game market. It had edged out the original PlayStation for the spot, but was still over 800,000 units per month behind GameBoy Advance. The number one slot, of course, went to the PS2, with 1,924,581 units sold. Sega's console sales were going in the toilet and dragging software right along with them. Even such highly-anticipated titles as Genki's racer *Shukoto Highway Battle 2*, Sega's unconventional *Jet Set Radio*, and the console port of Yu Suzuki's arcade racer *F355 Challenge* stayed on the Dengeki Top 30 charts for just a few weeks before slipping off, never to return. It was a pattern that would become all too familiar to Japanese Dreamcast gamers as the months dragged on.

As of June 30, 2000, new shares of Sega corporate stock were no longer issued in the name of Sega Enterprises, Ltd. Instead, they were issued in the

name of Sega Corporation, or just plain SEGA for short. Why the name change? Sega was now a household word. Most people neither knew nor cared how the company got its name; that's what it was called, so it was more convenient to change the name than continue wasting money on ink printing out the older, longer one. It was not without precedent. Back in the 1980s, the American Telephone and Telegraph Company had its name legally changed to its corporate abbreviation – the AT&T by which we still know and call the company today. If anything, it was confirmation that the Sega brand and identity were now firmly ensconced in the world consciousness. This, after all, was one of the things that Isao Okawa hoped to accomplish in his determined drive to rebuild his beleaguered company. Their finances might have been in the toilet, their profit projects still in the red, but at least the Sega name still bore a reputation for excellence and innovation – a trait that would prove crucial to the company's future plans as the first half of the first year of the new millennium came to a close.

F355 Challenge

In fact, Sega of Japan managed to surprise everyone – including itself – by pulling a rabbit out of its hat the following month. On July 5, 2000 – after three

straight years of heavy losses – internal projections showed Sega eking out a first-quarter profit for to the princely figure of ¥5 billion ($47 million). If the projected profit held, and Sega finally made it back into the black, it would be entirely due to Isao Okawa and the drastic cost-cutting measures he'd implemented earlier in the year. It was only a projection, but of course Sega trumpeted this unexpected bit of good news for all it was worth. And who could blame them? Encouraged by its unexpected turn of good fortune and overflowing with new product to show, Sega elected to follow the lead of both Nintendo and SNK and skip the Fall 2000 Tokyo Game Show, and hold its own in-house event instead. It had the programmers, it had the product, but – most importantly – it looked as if it finally had some profits once again.

Even so, there was no question who'd won the 128-bit console war in Japan. Sony was easily selling nine times as many consoles as Sega, despite less time on the market. Sony held 65.3% of Japan in comparison to Sega's dismal 11.1%, and even that small share was being whittled down by a resurgent Nintendo. Sega may have sold nearly six million Dreamcast consoles, but it was taking a ¥10,000 ($95) hit per console sold… and selling less and less consoles every day. Factor in software sales' falling far short of expectations, and the course was clear, as far as Sega of Japan was concerned: Soon enough, the time would come to leave Dreamcast behind and develop for other platforms. Daily Radar put it best in its online article "Sega's Chances" when it said, "If Dreamcast does fail, it will not be because there were no good games available for it. Few if any consoles have been blessed with such an astonishing catalog of games so early in their lives as the Dreamcast has. No, if Sega suffers defeat, it will be because other machines are backed with more cash."

Developers weren't waiting around to see how Dreamcast's fortunes fared, making a steady exodus from the Sega fold throughout the summer of 2000. SNK and then Koei were the first to go, in June; SNK due more to bankruptcy than anything else, Koei to a lukewarm reception of its war sims with Dreamcast gamers. That same month, Namco officially discounted the

possibility of *Soul Calibur 2* for Dreamcast – due to sales of the first game not meeting projected expectations. Gathering of Developers swore up and down that *Max Payne* would never be released, for any home console – including Dreamcast – and then quietly got to work porting it to PS2. Confounding Factor's long-anticipated, first-person RPG *Galleon* was suspended, then "delayed indefinitely" due to "development issues." UbiSoft quickly quieted rumors of another *Rayman* title being released for Dreamcast, quietly began killing off all of its remaining Dreamcast projects one by one... And, of course, Bandai publicly dashed all hopes for any additional *Gundam* titles arriving in the West. The slow bleeding of Dreamcast developer support that had begun at the beginning of "the year of the Dreamcast" was rapidly becoming an unstoppable hemorrhage. And in spite of all this, Sega plowed right on with its plans, seemingly undaunted by the mounting red ink, apparently oblivious to departures from its third-party fold, and unsympathetic to the howls beginning to arise from its supporters. I remember well how I felt as the summer of 2000 wound down, and again I quote from my old Internet newsletter:

"I think it was ODCM (Official Dreamcast Magazine) who recently noted that Sega's new mascot should be Samba the monkey. After thinking about it for a while, I kinda agree with them. Samba just dances right along with that stupid yet infectious grin on his face, without a care in the world, not really aware of what's going on around him but not giving a flying, er, flip either. All he knows how to do is dance, and he does it very well, so that's all he does in the face of trouble – dance. Kinda like Sega. All they know how to do is video games, and they do them very well, so they plow merrily along, seemingly oblivious to what's happening to their markets."

The wake-up-call would come far sooner than Sega dared hope; and when it did, it came as a direct assault on its projected year 2000 profit margins, from which it would never recover.

Galleon

The pirates strike back

The one marketing front on which Sega was still nervously chewing its nails was Dreamcast software. Why? Software piracy. So far, Sega had been incredibly lucky in that no one had been able to pirate Dreamcast games. The custom GD-ROM format Sega employed for Dreamcast software thwarted efforts by the best Asian software houses to duplicate it in a cost-effective manner. Despite rumors of pirated Dreamcast games showing up in all of the usual places (Hong Kong, Malaysia, Taiwan, etc.), few had actually seen, let alone bought, a Dreamcast bootleg. The GD-ROM format required specially modified CD-R/RW drives to duplicate, and would not play in a standard CD-ROM drive. Sega thus enjoyed 100% of the profits from Dreamcast software sales – low as they were – for the simple reason that piracy was practically non-existent. Sega was so confident that the status quo would hold that future software sales predictions didn't take piracy into account, as Sega had managed to prevent Dreamcast bootlegs from being released for nearly two years now. It was an unprecedented accomplishment in recent video game history: Piracy of PlayStation CD-ROMs, and so-called "mod chips" enabling their use on stock consoles was rampant and had been for years. Even so,

and despite their best efforts, the sands of Sega's hourglass were about to run out. Ironically enough, it was none other than Sega of Japan who had made Dreamcast piracy not only possible, but an inevitable reality.

Let's back up a bit, to mid-1998. Sega of Japan's R&D divisions were finishing up their work on the Dreamcast. Incorporated into its system firmware is the ability to read a select variety of disc formats, in addition to the proprietary GD-ROM format used for Dreamcast games. One of these, designated MIL-CD, is designed as an "enhanced audiovisual format" which would allow the streaming of both compact disc digital audio (CDDA) and playback of full-motion video (FMV) on Dreamcast hardware. This is known in digital audiophile terms as 'mixed-mode playback,' as both CDDA (standard CD audio tracks) and FMV (usually in the data track) are present on the disc. The chief problem in developing the format was that the Dreamcast's proprietary disc loading routines had to be bypassed in order to make it work. In other words – and this is important – Dreamcast had to be able to recognize and read a compact disc in normal mixed-mode CD-ROM format. These MIL-CD routines were something no one outside of Sega and its licensed developers were supposed to know about. And as no one else – in theory – would ever find out about them, Sega failed to include any kind of protection against the MIL-CD routines being used for "unauthorized purposes." Thus Sega set itself up for what eventually happened, two years later. After all, it was only a matter of time before a sufficiently skilled console hacker would uncover those hidden MIL-CD routines – and figure out a way to use them. Once they figured out how to enable MIL-CD read mode, making a stock Dreamcast read normal mixed-mode CD-ROMs instead of proprietary GD-ROMs, well then... As the saying goes, "Bar the door, Sally!"

The first public indication that hackers were closing in on cracking open the Dreamcast's secrets was on June 19, 2000, when RealWorld Technology released the Dreamcast Debug Developer. It was a wonderful piece of reverse engineering, and gave this team of German hackers everything they needed to crack the console's firmware. It was a pure hardware hack – interfaced to a

Wintel-based PC or high-end Amiga computer running appropriate host software – but it was still quite an accomplishment, and worked as advertised. Those who saw the Dreamcast Debug Developer in action were suitably impressed, rightly guessing that it wouldn't be long before a Dreamcast hacking scene developed.

In fact, it was already underway. Early iterations of the Dreamcast Debug Developer had already been available to interested parties for at least three months before that. It was back in April of 2000 that a German hacker using the handle 'Skywalker' released what became known as the *A.E.G. Demo*, demonstrated to the public at the annual "demo scene" meet at the Mekka & Symposium 2000 in Bad Fallingbostel, Germany. These hacker demos were designed to showcase as much of a given system's hardware as possible, and were often accompanied by a synthpop or techno soundtrack – also generated on the same hardware. They'd been a part of the European hacker scene since the 8-bit personal computer days of the 1980s. The *A.E.G. Demo* generated immediate interest. It was now possible to hack the Dreamcast; soon enough, it would also be possible to copy and pirate its highly desirable video games. The only limiting factors were how to fit all of the game data from a 1 gigabyte GD-ROM onto a standard 650 MB CD-ROM, and how to enable said copied game to boot on a stock Dreamcast.

The first part was easy enough. Now that the Dreamcast firmware had been cracked, those hidden MIL-CD loading routines could be enabled to allow any stock Dreamcast to read game data and audio from a normal mixed-mode CD-ROM. Sega had even "thoughtfully" left in support for extended-mode 700 MB discs, and the hackers soon discovered it could even read so-called "overburn" discs. These could hold up to 800 MB – extending all the way out to the edge of the disc – but were highly dependent on the quality of media used. Later, as the Dreamcast piracy scene continued to develop, ways were found to reduce the size of game content, by lowering the bitrate of the CDDA audio, or recompressing any FMV cut-scenes at a lower resolution to take up less room. With various solutions to the first challenge found, it was on to the next one:

How to boot a Dreamcast game that's been copied onto CD-ROM?

Utopia boot screen

On June 23, 2000, a different group of German hackers – Team Utopia – stunned the scene by releasing the first ever so-called "DC backup" onto the Internet. It was nothing more than the popular Dreamcast arcade fighting game *Dead or Alive 2*, copied off of a GD-ROM and onto a CD-ROM, but this change in format now allowed the game to be copied and distributed at will. It required a special boot disc for the console, which was also distributed on the Internet alongside the illegal bootleg (and quickly made available for sale by a shadowy Chinese firm named Lik-Sang). Other "Utopia backups" of games like *Soul Calibur* and *Resident Evil CODE: Veronica* followed within days, with both backups and Utopia Boot Disc rapidly spreading across the back corners of the Internet.

Approximately one month later, on July 21, 2000, in a joint press statement with the IDSA's Douglas Lowenstein, Sega of America's Charles Bellfield made a public statement concerning the sudden rise of the Dreamcast piracy scene: more than 60 Internet sites and over 125 online auctions had been shut down due to the presence of illegal DC "Utopia bootlegs." Bellfield also announced that Sega had formed alliances with many leading service providers to ensure

that its intellectual property would continue to be protected under the newly-enacted Digital Millennium Copyright Act of 1998 (DMCA). This marked the first time a U.S. video game vendor had invoked the DMCA to go after Internet piracy. It was a bold move by Sega, who wasted no time in pursuing the swift prosecution of any offenders it could find – but the bootlegs continued. The day after Bellfield made his statements to the press, Dreamcast release group Kalisto unleashed the bootleg version of *World Series Baseball 2K1* on the Internet – intentionally timed to hit the Internet on the same day the game appeared on retail store shelves. By the following week, Sega of Japan had joined the legal battle, working with Japanese law enforcement in cracking down on the hundreds of illegal "ROMz sitez" on the Internet promoting Dreamcast bootlegs. It proved futile, and Dreamcast piracy ran rampant. By end of July, the company was begging anyone who could (or would) provide information regarding the production and distribution of Dreamcast bootlegs to contact them immediately.

ESA, formerly the IDSA

The conflict between Sega and the Dreamcast pirates continued straight through the summer of 2000. On August 1, online retailer Amazon.com earned a ringing endorsement from Sega for thwarting Dreamcast piracy in all forms via its website. Not to be outdone, hackers quickly learned how to circumvent the copy protection that Sega was now encouraging its third-parties to include with their games; Kalisto's "ripped" release of *Toy Story 2* was the first such result from that effort. Two weeks later, Kalisto had heads spinning again,

when it announced it had succeeded in combining both the Utopia Boot Disc's bootloader code and a Dreamcast bootleg onto a single CD-ROM. This left a little less space for the pirated game on the disc, but that was fine – for the pirates – and self-booting Dreamcast bootlegs quickly became the standard format for distribution. Needless to say, Kalisto's opting to use Sega's own *Virtua Fighter 3tb* and *Dynamite Cop* to showcase the accomplishment left the company less than impressed.

Toy Story 2

On August 25, eBay shut down all auctions involving "Dreamcast backups," promising swift legal action against any customer who used its site to deal in the so-called "infringing goods." Kalisto abruptly left the scene one week later, but their shoes were quickly filled by the release group Echelon – and the steady stream of Dreamcast bootlegs available online continued unabated. Echelon made the self-booting tools widely available on the Internet on September 25 and – as if to add insult to injury – leaked and pirated copies of both of Sega's Dreamcast SDKs that had begun making the rounds back in June. No one knew how they had been made available, and no one cared. They represented a prize hard-sought, almost as eagerly as the more popular games. With these tools and the right skills, anyone could rip and hack their

favorite Dreamcast games.

Team Utopia, who started it all, were arrested by German police on July 5, 2000 and charged with multiple counts of copyright violation. Their true identities were eventually discerned because they – somewhat incredibly – included a picture of themselves on the Utopia Boot Disk. Kalisto's abrupt disappearance from the scene in early September was the subject of many rumors, but the one given the most credence on "the scene" at the time was that Sega had learned their true identities and essentially "bought them off." That turned out not to be quite right; instead, they'd turned to pirating PS2 games. Not that it mattered. Echelon and many others sprang up in their wake, and the Dreamcast piracy scene would continue long after the console itself was no more.

Sega's fight against the Dreamcast pirates was a losing battle, the outcome predictable. Every month or two, Sega would succeed in shutting down nearly all of the major Dreamcast bootlegging sites on the Internet. Within a few weeks, new ones would appear, many with the latest releases. Sega could never stop the millions of hits on UseNet, IRC, FTP, FXP, and other Dreamcast pirate sites. For every site or auction Sega and the IDSA managed to shut down, at least three or four more sprang up in their wake. It remained dreadfully easy to find Utopia backups, provided you knew where to look and were willing to endure the hassles and posturing of the many strange denizens inhabiting the darker corners of "the scene." C. H. Phoon, president of Hong Kong's Golden Harvest Studios, described the problem with a metaphor. "Combating piracy is like pushing water uphill. We are talking about piracy in 10 or 12 different countries around the region, all with their own legal systems and interpretations of copyright laws. You can solve a problem in one market and it just moves to another." For their part, the pirates claimed their actions were justified because they'd helped increase Sega's dismal console sales, with some of them claiming as much as a 20% boost. The number sounds ridiculously inflated (11% sounds more reasonable, based on my own independent research at the time), but in the end it really didn't matter. Why?

Because the pirates were hitting Sega in the one spot where profit mattered: Dreamcast software sales.

If you were an Internet-savvy Dreamcast owner in 2000, and knew how and where to get Dreamcast bootlegs, one question was obvious: "Why pay for a game when I can download it for free? Sure, it's illegal, but I've got better ways to spend $50 than on a game I might only play for a few weeks." Many gamers around the world chose to set their morals aside and do just that. Some games, especially out-of-market releases, could not be obtained in any other way save through pricey export shops. Few gamers were willing to pay up to $100 for a game – in a language he or she couldn't read – when it could be downloaded for free off the Internet. It has been estimated by the Dreamcast bootleggers themselves that they averaged between one and three million hits a day on their file servers whenever popular Dreamcast titles, such as *Shenmue, Grandia 2, Resident Evil 2* or the various *Sega Sports* games appeared on the Dreamcast bootleg release schedule. For the most part, the millions of people illegally downloading Dreamcast games from the Internet didn't care that Sega was losing millions in lost software revenue as a result of their actions. In the words of one proud FXPer, "F--K SEGA I'LL LEECH THEM DRY."

Debate rages even today as to how much piracy really impacted the life of the Dreamcast. A common claim among Sega fans, both then and now, is that piracy actually benefitted Sega in the long run, in promoting sales of the console itself. After all, consoles cost a lot more than games. They point to ever-increasing numbers of consoles sold, as dutifully reported by the trades of the day, and also point to the rampant piracy that took place with the original PlayStation and its successors, as well as the console sales figures for them. In truth, this justification does not hold up under scrutiny. Quarterly sales of Dreamcast consoles had actually been trending downward in 2000, and continued to do so until the fourth quarter, where they made a sharp – and entirely expected – upward spike. That spike followed the holiday shopping season, and can hardly be attributed to extra sales due to sudden proliferation

of "Dreamcast backups." If this had been true, that spike would have happened earlier, during the second or third quarters of 2000 – there should have been *two* spikes in Dreamcast sales. In truth, most of the ones who were pirating games already owned a Dreamcast. Only a relative few went out and bought a console "just to play backups" – not enough to make even the slightest dent in downward trending Dreamcast console sales – as the market data shows.

Sega Sports edition Sega Dreamcast

This defense also fails to take into consideration the very nature of the video game market itself. It also completely ignores the poor financial conditions under which Sega was operating at the time. Recall my earlier analogy that video game consoles, regardless of vendor, are sold on the "razor and blades" premise. Console vendors have *always* sold their hardware (the razor) at a loss at launch time, expecting to make it up from the profits on software (the blades) over the long haul. The trick is to maintain high enough prices – and subsequent profits – on that software for long enough that both cancel each other out. Only then are you in the black, and making money on both consoles *and* games sold. Sega never reached that point with the Dreamcast. It should have by January 5, 2000 – according to an analysis from Solomon Smith Barney – but it didn't even come close. The Dreamcast launch had cost Sega $600 million, which meant it was making only about $1 on every console sold –

and then there was that mountain of debt the company was already operating under. The profit margins on Dreamcast games was significantly higher, and *that's* why Sega needed to push the games. It needed to sell every game it could – and maintain the price of the console likewise – for as long as it could, because Dreamcast was still losing money. The Dreamcast piracy scene put a big hole in Sega's profit margins that it simply couldn't afford. Sony could because it had deep enough pockets to afford to deal with the issue; Sega didn't, and never would.

Down to the wire

The final four months of the year 2000 would prove to be the most crucial to the continued future of the Dreamcast. It had failed in Japan. It fared a little better in Europe, but the overall weakness of the 128-bit market there, coupled with Sega's own limited market penetration, meant that European sales hardly made a dent in Sega's massive debts. The only major market left where Sega might be justified in keeping Dreamcast alive a while longer was in North America. Dreamcast had been well received where once the 16-bit Genesis had ruled the roost, and Sega of America's marketing efforts had realized the first of Isao Okawa's restructuring goals: the rebuilding of Sega's public image. Dreamcast – while not as strong a contender as had initially been hoped – was nevertheless making a significant market impact, and seemed to be gaining momentum. One more big push might displace Nintendo from the #2 spot in North America; if so, Dreamcast would have finally turned the corner in the one market that mattered most.

Sega Dreamcast advertisement

This time around, Okawa made sure Sega of Japan didn't leave its American counterpart high and dry, keeping them up to date on developments at Sega corporate, and providing all the technical support the financially ailing company could muster. Thus, Okawa and his staff willingly turned over the future of Dreamcast to Peter Moore and company – just as Nakayama had done with Kalinske back in the Genesis days – and then went back to finalizing their plans for Sega once Dreamcast had been laid to rest. Dreamcast might still fail (and probably would, it was privately conceded), but not from lack of trying. Unlike the Saturn a mere three years earlier, Sega's last home video game console would have everything at its disposal the company could still muster: Cash, support, and full backing from all branches of the company.

Long-held rumors of a significant price drop in the price of the Dreamcast began to gain credence at the beginning of August, backed by reports from U.S. video game magazines and deliberate leaks from Sega of America. Peter Moore himself hinted at a coming price drop several times. It was all part of Sega of America's overall strategy to aggressively advertise Dreamcast like no other Sega console had been marketed since the days of the Genesis. Peter Moore and his staff were taking no chances with the monstrous impact that PS2 would obviously have on Dreamcast sales. They'd spent a lot of time and

effort launching the system, getting the software out the door, putting the Internet strategy in place, and overhauling their marketing strategy. Now it was time to go for broke, pushing Dreamcast as long and hard as they could to as many customers as possible before being overrun by Sony's juggernaut. The PS2 was hitting the United States in November, and eager buyers nationwide were already scrambling for advance orders. GameBusiness magazine hit the nail on the head when they said that the arrival of Sony's newest console had "...a good chance of forever making the Dreamcast a niche – and narrowly appreciated – game console." To that end, Sega of Japan had been working nonstop making sure that Sega of America had enough consoles for its big holiday 2000 marketing push. One encouraging fact was that there were already 2.1 million Dreamcasts sitting in the homes of U.S. gamers by this time. Sega of America had as its stated goal 5 million Dreamcasts sold by March of 2001, with the bulk of those being moved during the highly competitive 2000 holiday shopping season. Now was the time for Moore and company to put the other pieces into place: more high-caliber software, online gameplay realized, and competitive pricing.

House of the Dead 2

Good news came at the end of summer, when Sega of America officially

announced its All-Stars lineup on August 1. Similar to Sony's discount lineup for the venerable PlayStation, it consisted of past hit Dreamcast titles (all of which had turned a profit) selling for "the incredibly low price of $19.99." Having moved 9.1 million Dreamcast games overall in North America meant that Sega of America could ease its pricing a bit on older but still popular titles. The first six games in the Greatest Hits lineup made quite an impression on the cost-conscious gamer: *Crazy Taxi, House of the Dead 2, NBA 2K, NFL 2K, Sega Bass Fishing* and – of course – *Sonic Adventure*. The Dreamcast All-Stars officially began shipping on August 22, and U.S. gamers jumped on it with such fervor that soon *Crazy Taxi* and *Sonic Adventure* were once again competing on the various top software charts. Moore and his staff also had waiting in the wings the console's third and grandest generation of video game software: *18-Wheeler: American Pro Trucker... Capcom vs. SNK... Dino Crisis... Half-Life... Jet Set Radio... Metropolis Street Racer... NFL 2K1 and NBA 2K1... Red Dog... Resident Evil 2... Resident Evil 3... Quake 3: Arena... Samba de Amigo... Sega GT... Super Runabout: San Francisco Edition... Test Drive: LeMans... Unreal Tournament...* and many more. It was an even more diverse software lineup than had been offered during the previous holiday season, and Dreamcast fans were practically drooling in anticipation.

Grandia 2

One game that even caused gamers outside the Sega community to sit up and take notice was Game Arts' *Grandia 2*, the sequel to what is considered to be the finest old-school RPG ever to grace the ill-fated Sega Saturn. The original game had never been released on a Sega platform outside of Japan, and many gamers (rightly or wrongly) felt this as one of the reasons why Saturn had failed. Sega was not about to repeat this mistake a second time. North American and European gamers had finally gotten a chance to see the original *Grandia* once it had been ported to the PlayStation, and couldn't wait to see a full-blown über-RPG in all of its 128-bit glory. Even RPG fans that didn't own Dreamcasts were watching for this one, if only to see the shape of "real" next-gen RPGs to come. Anticipation was high, the graphics were impressive, and UbiSoft had outbid Working Designs (!) for U.S. distribution rights. In the words of one reviewer, "The word has come down from on high. *Grandia 2* kicks ass." It would eventually take its place among the hallowed halls of Dreamcast software as the best third-party RPG ever created for the platform, and one of the greatest examples of the genre of all time.

Shenmue

Hyped even more than *Grandia 2* was Sega's own RPG, *Shenmue*. Created by Yu Suzuki (the man behind the *Virtua Fighter* franchise) and

originally conceived for the Saturn, *Shenmue* was designed to be the video game industry's first truly immersive 3D RPG. You would become part of the game's virtual world, with the freedom and ability to go and explore wherever you wanted. The game's script and plot was intended to adapt to when and where you were in its virtual world, and its non-playable characters (NPCs) would change and adjust accordingly. The idea had been kicking around the video game industry for quite some years, with Kenji Eno's *D2* (another Dreamcast title) being but the latest attempt. But *Shenmue* took the concept to such a realistic level that the game was often compared to "living a movie." The plot was standard martial arts fare: A young man's father (who happens to be a martial arts master) is killed by an old foe, setting the son on a long and event-filled quest for revenge. It was the graphics and immersive gameplay that wowed both reviewers and fans like. The Japanese original was scheduled for release in October, with a dubbed English-language version promised for November.

A third major RPG was also scheduled to grace the Dreamcast in the U.S. in the fourth quarter of 2000. *Skies of Arcadia* was the English-language port o f *Eternal Arcadia*, which had done about as well back in Japan as a Dreamcast RPG could, given the market. Created by the same team behind the revered *Phantasy Star* series on the Genesis, it told the swashbuckling tale of the air pirate Vyse, and his adventures in the sort of retro-punk fantasy environment long favored by Japanese manga, anime, and video games. Such fare had also earned a following in the West; the fact the *Phantasy Star* team had been involved in its creation had many a Sega RPG fan salivating in anticipation.

Moving on to other genres, there was one other Dreamcast game scheduled for release at this time that deserves special mention. One of the most anticipated Dreamcast games in the fourth quarter of 2000 was the port of Valve's *Half-Life*, the first-person shooter that had set new standards for the genre when first released. Originally created using the *Quake II* game engine, the Dreamcast version was described as being an "enhanced port" that would

take full advantage of the console's graphic processing power – for a new and more realistic look that was simply unavailable to PC-based 3D accelerator cards when it was originally released. Another intriguing feature being added to the Dreamcast port was an all-new campaign called *Blue Shift*, in which players took on the role of one of the "Barneys" – the game's security guards, who had long been the subject of jokes among *Half-Life* fans due to the way they were used in the original game. There were even rumors that the PC game's Internet play would survive the porting process. Two other hard-hitting FPSs were headed to Dreamcast that year – ports of both *Quake 3: Arena* and *Unreal Tournament* were already nearing completion – but *Half-Life* was by far the most anticipated of them.

Skies of Arcadia

Dreamcast's list of games in fourth-quarter 2000 was impressive by any measure. "Sega fans can look forward to the best software lineup the video game industry has seen in years," noted SegaWeb's John Benn, and he was right. No other console at the time offered both the scope and overall excellence Sega was offering Dreamcast at the end of that year. The first generation of Dreamcast software had been good, the second outstanding, but the third promised to be simply phenomenal. Best of all, this generation

included the much-hyped – yet still-largely-unavailable – online gameplay capabilities that had been advertised ever since the console had launched a year before. The games were waiting in the wings – now where was SegaNet?

Full-scale beta testing of SegaNet commenced on August 8, 2000. This was another of Okawa's dreams realized, and in the one market that mattered most. His enthusiasm for online gameplay was shared by eager Internet-savvy console gamers across the United States, who had long envied their PC counterparts busily fragging each other in multiplayer first-person shooters, or engaging in EA Sports' various Internet-enabled multiplayer sports sims. Now it was their turn, and Sega was the one company making that dream a reality. Not only that, but ports of many of those same great games were coming to Dreamcast, too! On August 21, as the result of a special drawing, 100 lucky Dreamcast owners got the fledgling SegaNet all to themselves for a full week of non-stop user testing. More tweaking followed, and then testing resumed with both Sega personnel and that same 100 gamers breaking in Dreamcast's new lineup of SegaNet-ready software. The final testing cycle wrapped up on September 6, 2000, having earned rave reviews from participants and onlookers alike. Long delayed and decidedly overdue, Dreamcast's online gameplay network was finally realized the following day. It was a good thing, too; console sales had already picked up dramatically.

Reactions to SegaNet were mixed. Most fans who joined and used the service enjoyed it. "There's just something about four guys huddled around a TV screen screaming all manner of obscenities at each other that makes console gaming so much fun," commented SegaWeb's Gavin Frankle. Joe Funk, editor-in-chief of *Electronic Gaming Monthly*, was more specific. "Sega has done a commendable and historically significant job in getting the first real, far-reaching online console experience up and running, and their football game (*NFL 2K1*) is a good place to start... Overall, the interface is fast and easy to use and while there may have been a few minor glitches at launch, SegaNet has been pretty smooth so far." Within a month, Sega of America would report a 92% increase in Dreamcast console sales – a rise that was in part attributed

to the success of SegaNet. The service was not without its detractors, and many industry pundits felt that SegaNet was just too soon. "Game companies providing content and hardware for broadband connections are building on foundations that don't exist yet," said *NextGen*'s Tom Chick. "Their predictions that broadband is just around the corner are equal parts wishful thinking and proselytizing." Sega's Charles Belfield remained unperturbed. "If my competitors continue to alienate their consumers, [then] I'm really happy... Until broadband becomes mainstream, which many analysts say is five years away, at least, we've got to think primarily about our narrowband customers." That is exactly what Sega had done, and if the start had been a bit rocky, there were few complaints now. That was music to Okawa's ears, and he addressed SegaNet's detractors near the end of the year. "Although the network business is often said to be unprofitable, we need to accumulate the know-how now. It would be too late to decide to enter the market in the future." Once again, Sega was first in a new field of endeavor, and those gamers who were willing to join them were grateful.

NFL 2K1

Back in the real world, storm clouds were gathering on the horizon. On August 12, Wal-Mart (the world's #1 discount store chain at the time) dropped

the price of the Dreamcast to $150 nationwide due to "sluggish console sales." To say the folks at Sega of America were pissed is putting it mildly. There were two reasons for their muted yet obvious irritation at the move: First, Wal-Mart's stated reason came as bad press at a critical time, just as Sega of America was ramping up its marketing campaign for the holidays. Second, it was too early. A price drop was definitely in the works, but it was supposed to come later – and in accordance with Sega's carefully laid plans, which had just gone out the window. Being the leading retailer in the business meant that others would naturally follow in Wal-Mart's wake, and that's just what happened. J.C. Penny and Target followed Wal-Mart's lead a week later – even though by that time Sega had talked Wal-Mart into restoring the price back to $200. It went back down again soon enough; it was an open secret that a $50 price drop was coming, and soon. "Sega's denials... are looking sillier and sillier," noted SegaWeb's Scott Twining.

Officially, the first permanent drop in the price of the Dreamcast took place on August 17, 2000 in Australia, where the system had sold so poorly that Sega had no choice but to begin unloading it as fast as possible. While they were at it, Sega also finally rid itself of Australian distributor OziSoft and the poor performance it had consistently displayed Down Under in both marketing and supporting the Dreamcast. Eight days later, reports leaked from Sega of Europe indicated that an official $50 price drop was imminent both there and across the Atlantic. Thus it came as no surprise at all that on the very last day of the month, Sega of America officially dropped the price of the Dreamcast base system in North America to $150 – tailing American retailers by two weeks. Sega of Europe did the same the following day. This price drop was the other major factor in the doubling of Dreamcast sales noted earlier. SegaNet had been an intriguing proposition, to be sure, but the fact that the first next-gen console on the market was cheaper than ever was most alluring to consumers.

Despite the retailing setback, Peter Moore was quite proud of what his company had to offer to its Dreamcast customers for the coming holiday

shopping season, making this statement on August 31, 2000:

"We are confident that our combination of great hardware, unsurpassed title lineup and access to online console gaming will prove irresistible to consumers – especially those who may be frustrated by the high price point and lack of availability of other game systems this fall. Sega is in a great position now to extend to a much wider audience, and continue to be an innovative and dynamic force in the video game industry."

Moore remained optimistic in the face of the long odds Sega faced. "[As] much as 70 percent of the business is still ahead of us in the next ninety days or so. We may have an install base of somewhere in the region of 3.75 to 4 million [consoles] by January 1st [of 2001]." To everyone at Sega of America, there seemed good reason to believe it. The hardware was available, the software was ready to ship, Internet gameplay support was finally in place, and the price was just right. The time had come for Sega of America to unleash its last little surprise on an unsuspecting North American public.

September 7, 2000 will be a day long-remembered by Sega fans around the world – only not for the reason you might think. Yes, it was the day Sega of America officially kicked off its holiday 2000 marketing campaign. Yes, it was the day SegaNet finally launched, introducing thousands of console gamers across the United States to the wonders of online gameplay. Yes, it as the day that *Unreal Tournament* was officially confirmed for Dreamcast, and that *NFL 2K1* was released, with many of its buyers firing up its online gameplay features almost as soon as they got the game home. All those things were fine and good, but not the reason why this day is remembered. September 7, 2000 was the day Peter Moore brought back the Sega Scream.

Earlier that summer, Moore had contacted the advertising agency Foote, Cone, and Belding about the possibility of reviving Sega's trademark advertising campaign from its glory days in the 1990s. "It was always in my plans to bring back the Sega Scream," Moore noted later. He had never forgotten the impact that the original Sega Scream ad campaign had made on

him back in his early days as an executive, and it was (by his own admission) with the echoes of that scream still ringing in his mind that he joined Sega's ranks back in 1999. "That enthralled me," Moore recalled, "from the simple fact that the way a name of a brand is said evokes an experience, evokes a mentality, and that was exciting." He knew that gamers had long associated Sega's image with that Sega Scream, and for him bringing it back had always been a matter of timing – and the launch of SegaNet seemed the perfect opportunity. His staff at Sega of America was delighted by the news; "When are you going to bring back the Sega Scream?" had been the number-one question from many a nagging Sega gamer. Sega of America was listening, and long-suffering Sega fans now had a high-placed friend with the full support and blessing of his superiors in Japan to answer that question.

Unreal Tournament

The first three spots in the new Sega Scream campaign were unveiled to the public during the 2000 MTV Music Video Awards – the same network where the original Sega Scream debuted. They were designed to promote the next generation of online-capable Dreamcast games, with two 30-second spots specifically promoting the release of *NFL 2K1* and one 60-second spot promoting the entire lineup. All three featured Sega's traditional screwball advertising humor, and all three were well received. The word-of-mouth was quick, and digital copies of the new Sega Scream ads appeared on the

Internet within minutes of their debut. Sega quickly farmed out the ads to other broadcast and cable networks, dutifully running *NFL 2K1* ads during NFL games whenever possible. To demonstrate just how faithfully Moore's staff recreated the zany spirit for which long-suffering Sega fans had yearned, consider the script from the original 60-second "Civil War," performed by none other than Seaman, Sega's virtual pet. It was an apt choice for Sega's new commercial; only a screwball character like Seaman could headline a screwball commercial like this one, and get away with it.

NBA 2K1

"It's evening in America, and across this great land young men and women are coming together through the power of the Internet with one common goal – to whoop each other's bootys. Sega Dreamcast games are now online, unleashing the ultimate horror – your fellow Americans. Jack into SegaNet through your Dreamcast console and join your countrymen in the virtual arena. Play NFL 2K1 and cream four meatheads you've never even met. Play NBA 2K1 and school some farmboy without suffering the scent of livestock. Or, play Quake 3 and waste some Jersey punk from the sanctity of your own home. And so, America, SegaNet is born – and suddenly we are one proud nation, indivisible, united in the pursuit – of whooping booty. SEGA!"

The reaction of long-suffering gamers was immediate and to the point. To quote Electronic Gaming Monthly magazine, "All we can say is it's about frickin' time, Sega!"

It was now down-to-the-wire time for Sega of America. Everything was in place, and they'd hit the ground running with everything they had. The entire future of Dreamcast was riding on Peter Moore and company. Most video game industry analysts were predicting that Sony would wind up dominating the 128-bit market with a whopping 70-75% market share by the end of 2001. If Dreamcast failed to take the #2 spot away from the aging N64 in North America by the end of the year, it was all over. Sega might not ever overcome such a formidable opponent as Sony, but it had a decent chance of keeping its little white wonder console competitive in North America for a little while longer, earning another year on the market. It was going to be interesting to see who'd cross the finish line – Sega's next-gen graphical prowess, or Nintendo's legendary "inventory management" tactics? Only time and market share would tell. As for Sega of America, it felt it was ready to meet the challenge it faced in the weeks to come. All eyes were now focused on Peter Moore and his staff, who struggled to keep the dream alive as the 2000 holiday season began to take shape.

Things are looking good

As the fourth quarter of 2000 began, Sega was sitting in the proverbial catbird's seat with Dreamcast. While the sales numbers still weren't there, the hype and attention were, with Sega hoping that both of those would help generate those numbers it so desperately needed. *NFL 2K1* Dreamcast was still holding on tenaciously to the number one spot in the NPD TRST Top 25 Video Games Chart, with EA Sports' *Madden NFL 2001* in second place. Sony fans, eagerly awaiting the release of their console, were also screaming at EA over publicized delays with the PS2 port of *Madden*. No wonder *NFL 2K1* was doing so well; it provided console gamers not only a next-gen experience, but network play – and it did it *now*. Sega fans would lose their grin once the

regular PlayStation version of *Madden* swept the charts (which many frustrated PS2 owners would resort to buying later in the year, adding to its sales), but it was sweet while it lasted.

Jet Set Radio

Sega of America also enjoyed free publicity in the form of attacks on its new game *Jet Set Radio* by some of the more conservatively-minded politicians of the country. The city of Milwaukee, Wisconsin put in a formal request to Sega asking them to cancel the game, condemning its purportedly positive depiction of "tagging" (spray-painting public buildings and markers). Never mind that the game opened with a disclaimer warning players against such behavior in real life! Sega's response was what one might expect. "We have no plans to stop [it]," stated Sega company spokeswoman Gwendolyn Marker. "It's a fantasy. It celebrates graffiti as art." In October, San Francisco Mayor Willie Brown worked unsuccessfully to ban a *Jet Set Radio* "Graffiti Is Art" promotion that happened to coincide with a city-sponsored effort at cleaning up the real thing a few blocks away. His efforts to get Sega's permits for the event revoked proved unsuccessful; the event was in lawful compliance and the Sega had provided large canvases on which the "taggers" could do their work. "It's about trying to gain respect for the graffiti art community." stated Sega

spokeswoman Heather Hawkins. "So when the artists come down [to the event], we're reminding them, 'Hey, all eyes are on you now. This is your chance to show these people that you're artists.'"

By the time October rolled around, the fortunes of the Dreamcast were looking fairly bright. Market research data collected by the firm PC Data showed that Dreamcast console sales had climbed a whopping 156.5% over the months of August and September, attributing it to two primary factors: The price cut to $150, and the successful launch of SegaNet – which would have over 100,000 users by the end of the month. These had caused Sega's market share to inch up to 16.4%. Sega's share of total market revenue had increased to 39.7%, second only to Sony's 42.3%, and at the expense of Nintendo, which had dropped to 20.8%. Sega was still in third place overall, behind Nintendo's 36.4% market share and Sony's 47%, but the Dreamcast was definitely trending upward. "It is a sign that Sega's net-oriented strategy is beginning to pay off," said *The Register's* Tony Smith, and he was right. Even the prestigious *Wall Street Journal* was inclined to run a story on the subject. It reported that Sega had to increase production of Dreamcast consoles in order to meet the sudden surge in demand, and predicted that Sega would upset Sony in the coming holiday shopping season. Heady words indeed, coming from one of America's foremost newspapers!

Record of Lodoss War

While the limelight was focused on American shores, Sega of Europe was not about to be outdone. Forty-nine titles were announced for the 2000 holiday season. Europe would also be first to receive two anticipated titles: The fantasy RPG *Record of Lodoss War: The Advent of Kardis*, and a Dreamcast port of *Dino Crisis. Space Channel 5* was released on October 6, officially marking Sega of Europe's 100th release in the U.K. By October 25, Sega of Europe's CEO J.F. Cecillion reported that his company had met all of its sales targets for the year. Over one million Dreamcast consoles and over 2.5 million software titles had sold in Europe, and over 400,000 gamers had signed up for Dreamarena, Europe's version of SegaNet.

"These results pay credit to everyone who has helped make Dreamcast such a success. The ongoing support of the development community means gamers can look forward to some stunning new games over the next few months and beyond. Our timing is perfect – we have a stack of top-quality games and new peripherals launching in the next two months. Sega is poised to take advantage of short supply by the competition. Retailers can be confident that they will have plenty of Dreamcasts and top quality titles for customers throughout the Christmas sales period."

This press release came at a key moment in the history of the Dreamcast. Using these numbers and those supplied by Sega of America and Sega of Europe, the Dreamcast had already sold a total of five million consoles worldwide. Only one year into its projected market cycle, it had already sold half as many consoles as the total number of Saturns sold during that console's entire lifetime – and its numbers appeared to be trending up.

Even in Japan, where Dreamcast sales had been weak for a while, there were still signs of life. Sega of Japan announced a Dreamcast port of its popular Model 3 arcade racing game *Daytona USA*, which had been previously ported to the Saturn and proven one of its more popular titles. On October 2, 2000, a public preview of the Dreamcast port of *Sakura Taisen 3* played to a packed house at Sega's Joypolis entertainment complex in Tokyo. SegaWeb's

John Crystal commented on the event. "*Sakura Taisen 3* may be the last real opportunity to ignite the sagging fortunes of the Japanese Dreamcast and finally produce the first real next-generation success story." It would prove to be an opportunity missed; the game was officially delayed until "Fall of 2001." The Dreamcast port of the original game did become available a few weeks later, however, along with a pack-in demo of the new game, helping assuage bad feelings somewhat. Later in the month, Sega of Japan also announced its Dreamcast Collection of reduced price games, similar to Sega of America's All-Stars lineup announced earlier that summer. The mid-year sales figures for Grandia 2 were in, and to no one's surprise it was the #1 best-selling Dreamcast game in all of Japan for the first half of 2000 (although it placed only 31st in the cross-platform listings). Even in Japan, there was still life in Sega's little console, but the sands of time were running fast. And in America, they were about to start running down.

The bomb is dropped

On October 26, 2000, I went to my local Best Buy to purchase a second Dreamcast for my young nephew, so he would stop monopolizing mine. I almost didn't make it through the door due to the mob scene outside. As it turned out, I had completely forgotten about the U.S. PlayStation 2 launch. Inside was a scene I'd not experienced since my teenage days as a Wal-Mart sales clerk – when I was given the unenviable job of trying to bring the last shipment of Cabbage Patch dolls out of the back and onto the sales floor. I never made it past the storeroom doors. They were all snatched off of my hand truck as soon as I appeared - and that's just what I saw happening in Best Buy nearly two decades later.

It was the same all over the United States. American consumer Sam Jacir had an experience not altogether unlike mine. "Ravers were dancing to the music outside their cars as they waited. More and more people filed in to get tickets. The raffle began and there must have been at least 1,000 people there. An hour later and [after only] 30 PS2s had gone, I stood there in

disbelief. I didn't get one." Things were no better up north. "I had to visit close to 15 stores in search of various items, including controllers, and memory cards, and have now been up for 38 consecutive hours," reported Canadian consumer Michael Chorney. Many retail locations advertising the console reported hundreds of prospective buyers lining up the previous evening and waiting through the night. Some eager buyers were waiting up to two days before the launch, camping outside store doors with tacit acceptance from the retailers. Some locations reported fistfights and even other forms of violence overnight, but in most places the crowds calmly awaited the following morning.

The limited supply of just 500,000 consoles nationwide sold out in all retail and online locations in a matter of minutes. Almost all, save in a few isolated locations, went either to pre-order customers or were awarded via impromptu raffle sessions. Almost immediately, many of the lucky few who had one were offering them for sale for "only" $600, and the price was even higher online. By the end of the day, auctions for brand new PS2s listing as high as $2000 had appeared on eBay. The whole affair made the Japanese launch look like a Sunday picnic in comparison. Even Internet software pirates got into the act, with betas and test copies of several PS2 launch games available "in the usual places" two full weeks before the system launch. The only problem is that there were hardly any consoles available on which to play them.

There was a reason for such a dramatic shortage of PS2s during the U.S. launch. Sony had originally planned to ship one million units – confident that all would sell – but issues with production back in September had forced it halve that number. It was Ken Kutaragi himself who ordered the hold-up – reportedly for quality control issues – presumably fearing a repeat of the Japanese launch and subsequent "DVD lockout bug." Sony flatly denied this, claiming it was nothing more than a "component shortage," and the problem was eventually traced to a retooling issue at one of Sony's affiliated production sites in Nagasaki. Three days after launch, Sony tried to reassure its U.S. customers by saying it would ship 1.3 million consoles by the end of the year, but few believed them. The chronic shortage meant that many retailers either hoarded

what systems they eventually got, or forced customers to pre-order them as part of a package deal, requiring them to buy two or more games with it – all because so many people only wanted the console in order to resell it at a steep mark-up.
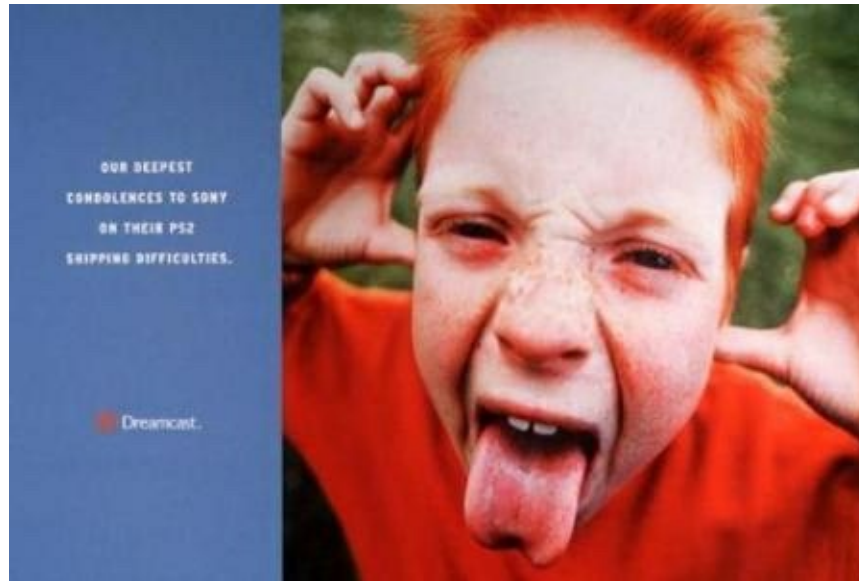
Sega Dreamcast advertisement

Things got even worse the following month. "Credible sources" were whispering that Sony would not be able to make a second shipment of consoles on November 1 as announced because its "chip shortage is even more severe than expected." Finally, on November 3, Sony was forced to admit to its frustrated customers that it was out of consoles, and that there would probably be no more available until March of 2001 – "at the earliest." Furthermore, it would be unable to offer exchanges to those experiencing the same defective DVD door problems that had occurred in Japan until February of 2001. By now, demand for the PS2s was so great that some retail outlets reported break-ins and thefts of display units, or out of storerooms before they could even be put out for sale.

Over in Europe, it looked like Sony's next-gen console might not even launch at all. The European Commission, which regulated trade in the Common Market nations, had ruled against Sony on a request that the PlayStation 2 be classified as a computer and not a "mere" video game system because of its

capabilities. Due to this, Sony would have to pay a 2.2% import duty on each and every console it sent there. Kutaragi was furious, and much noise was made about suing the EC over the matter, but a solution was soon found. Each PS2 destined for Europe shipped with a CD-ROM copy of YA-BASIC – thus earning Sony the desired "computer" classification needed to avoid import duties. This didn't save Sony from its own manufacturing woes, however, and it fell 35,000 units short of the initial order of 200,000 consoles it was supposed to ship – not to mention a total lack of external hard drives or modems for them.

PlayStation 2 was the "must-buy" item of the year, but you'd have been hard pressed to find it anywhere at its suggested $300 retail price early in that holiday season. Sony would take a pretty big bath over its U.S. launch debacle – but unlike Sega, it had the financial resources to wait out and weather such a calamity. What proved to be a major headache to Sony was music to Sega's ears, though. They played the event for all it was worth, adding to it a dash of classic Sega 'dissin'. Billboards were put up, newspaper and magazine ads were placed in the major industry trades, and a tractor-trailer rig was sent to cruise around near Sony's American headquarters, all bearing the same image: A red-haired, freckle-faced kid wearing a snide, preschool expression of "Nyah, nyah!" The text of the ad was to the point: "Our deepest condolences to Sony on their PS2 shipping difficulties." Having anticipated the situation, Sega of America made sure all of its supporting vendors and retail locations were fully stocked with Sega consoles and games. Moore was betting that many frustrated consumers would turn to the Dreamcast out of sheer frustration or desperation, and he wanted the product to be there if and when that happened. "This is a huge window of opportunity for Sega," commented analyst Billy Pidgeon of Jupiter Media Metric. "I wouldn't say this is good for Dreamcast. This is *great* for Dreamcast." Conservative financial publication *Forbes* agreed, noting, "Sony is giving its rival Sega a lovely holiday gift, while offering lumps of coal to its investors and game developers... PlayStation 2 was expected to pull software sales out of a slump, but now Sony is asking

investors to wait even longer. Sony would have preferred to enter the U.S. with a splash, not a trickle."

Ken Kutaragi

Fading momentum

Even though things in America looked like they were finally going Sega's way, the reality wasn't quite so rosy. On October 27, 2000, Sega officially conceded that it would post its fourth straight yearly loss in a row. The initial estimate was a net loss of ¥22.1 billion ($204.2 million), as opposed to the ¥1.5 billion ($13.6 million) in profit that it had originally anticipated earlier in the year. Two reasons were cited by CEO Isao Okawa: The hemorrhaging of funds caused by developing and marketing the Dreamcast, and the fact that it had been forced to cut the price of the console sooner than desired. The only part of Sega still making money was SegaNet; however, those profits were tiny compared to the massive deficits faced in all other divisions. Sega's corporate stock, already low in value, took a beating on the Tokyo Stock Exchange when the news was made public, falling to a "measly" ¥807 (about

$8) a share. That same day, a Reuters report on Sega's failing financial fortunes revealed that the company had definite plans to sell Sega titles on non-Sega systems. Sega's Hideki Sato in part confirmed the report for Reuters by revealing that Sega was already in talks with "a few foreign firms" over porting plans. Three days later, in a public press conference, Hideki Sato took over as Sega of Japan's new chief operating officer. Isao Okawa, the man who had done his best to rescue Sega from its own evils, had fallen victim to cancer and could no longer continue to run the company. Sega had lost its firm hand at the helm. The following day, Sega's stock slipped again to ¥711 a share. Okawa's condition aside, the markets had simply lost confidence in Sega. "It is impossible to predict when its share price will stop falling if Sega plans to expand sales of unprofitable Dreamcast consoles." said analyst Takashi Oya of the Japanese branch of Deutsch Securities Ltd. "The firm needs to pull out of the business soon, even if it might incur a temporary loss." This was immediately countered by the ailing Okawa, who released a statement saying that "...we have enough cash flow to live without any problem for a couple of years." Still, skepticism over Sega's future remained. The same day, Sega closed the doors of its historic arcade division for good; and with that, an era came to an end.

At that same press conference, Sega of Japan vice-president Shouichi Yamazaki confirmed that Sega was in fact already developing for other vendor's consoles, with projects already underway for Nintendo's GameBoy Color and Sony's PSOne in an effort to boost software sales. By undertaking such a move, Sega hoped to boost its share in the overall console software market by as much as 25%. Yamazaki was quick to reassure Dreamcast customers, noting that some "two dozen exclusive titles" were slated for released in Japan in 2001. He also predicted a ¥20 billion ($183 million) profit for Sega in fiscal year 2002, which would end the company's four-year losing streak. Sega of America promptly denied that Sega would be developing for any gaming platforms other than its own, but nobody was listening. Once again, the old rumors of the "death of the Dreamcast" returned, this time with

meat on their bones.

Things only went from bad to worse the following week. A small number of PS2s had "mysteriously" appeared at a number of retail outlets. They disappeared nearly as fast as the word went out, and there was a small-scale repeat of the initial launch ruckus. By cutting every corner it could, Sony had managed to come up with more consoles just in time for Christmas. Prospective customers ran right by the full store shelves of Dreamcast consoles and games, demanding PS2s. There weren't nearly enough to meet the demand, of course, and all were sold out within three days – but by now, customers "knew" there would be more. Not in time for Christmas, maybe – unless you were incredibly lucky or willing to pay out the nose – but there would be more. Most were willing to wait, walking right past Moore's Dreamcast stockpiles for a second time without even a glance.

That's not to say the Dreamcast didn't sell over the 2000 Christmas season. In fact, sales of both consoles and software met Sega of America's expectations. SegaNet and the new software lineup contributed greatly to this success, and if one or two people here and there were buying Dreamcasts to play "backups" downloaded from the Internet – well, no one acted like they noticed. Yet the damage had been done. PlayStation 2 was "here." NOW. The Dreamcast may have been a great opening act, but Sony's was the real show. A lot of that perception was only Sony hype, of course, but many consumers bought it into it. Those who didn't were too few to save the ailing Sega.

The final blow to the Dreamcast would be dealt by Nintendo. Released just in time for Christmas, Rare's *Conker's Bad Fur Day* was the last big hit for the Nintendo 64. It had as much sass and attitude as Sega at its best, and managed to pull most of the Nintendo faithful back to the aging cart-based console. While it didn't do as well as it might have in the N64's heyday, it was enough. Before its release, video game market reports showed that Sega had pulled even with Nintendo in market share and would probably pass them in a few weeks. With *Conker*, Nintendo retook the lead, and never lost it.

End-of-line

In mid-November of 2000 – even after Sony had delivered an unexpected second shipment of PS2s – Sega still had a chance of meeting its goals. Sega of America had just passed the six million mark of Dreamcast consoles sold worldwide, and was pulling even with Nintendo in terms of market share. The trend continued up until December 9, when Sega reached its high-water market share mark of 27%. Sega Net had 157,000 subscribers, and growing. Dreamcast was outselling PS2 by a 2-to-1 ratio in both consoles *and* games. All across America, thousands of gamers were "kicking booty," looking at each other with crazed eyes, then twisting their heads into a crazy half-tilt and yelling, "SEGA!" at the top of their lungs. Even as they scrambled and connived to scam one of Sony's new consoles for themselves, gamers had to pause and give the Dreamcast its due. Peter Moore and his staff were rightly proud of all they'd done to market the Dreamcast and make it compete as best they could. They did the best they possibly could, given what they had to work with and the market conditions. Sadly, it wasn't enough. "Dreamcast is a fabulous product," said Perrin Kaplan, executive vice president of Nintendo sales and marketing and one of its few employees to admit admiration for Sega's console. "It just hasn't caught on. Everybody I talked to loves it. It just hasn't caught on to the mass consumer, and that's unfortunate." That 2-to-1 ratio over PS2 was a telling indicator, given how few of Sony's consoles were available during the holiday 2000 shopping season... You didn't have to sell much to outsell something that was in such short supply. As for the pundits? "Sega… is fading into irrelevance," claimed the *San Jose Mercury News*.

Conker's Bad Fur Day

On December 14, 2000, Sega of Europe CEO J.F. Cecillion resigned his job – effective December 31 – leaving president Kazutoshi Miyake to run the company's day-to-day affairs. Cecillion's stated reason for leaving was "...to pursue other interests in the entertainment and technology industry," according to Daily Radar. "The departure was described as amicable." Cecillion had this to say on the matter:

"I have enjoyed my time at Sega and worked with an exceptional team. I want to thank all the employees for their dedication which ensured that we, as a team, met the ambitious targets that we set for the company. I know that the next phase of Dreamcast's life will be exciting and I wish everyone at Sega much success."

On December 27, 2000, the *New York Times* reported that Sega would suffer a net loss of $357.4 million for the year, and that it ranked only 13th in overall software sales – all despite a thriving arcade game business. This caused such a rush to dump Sega stock on the Tokyo Stock Exchange that trading in them had to be suspended for a day. At the same time, rumors were sounded that Nintendo was looking to buy Sega. Both companies vehemently denied this, which probably had a lot to do with Sega stock stabilizing the next

day (once trading in it had resumed) and even rose 10.5% in value by day's end.
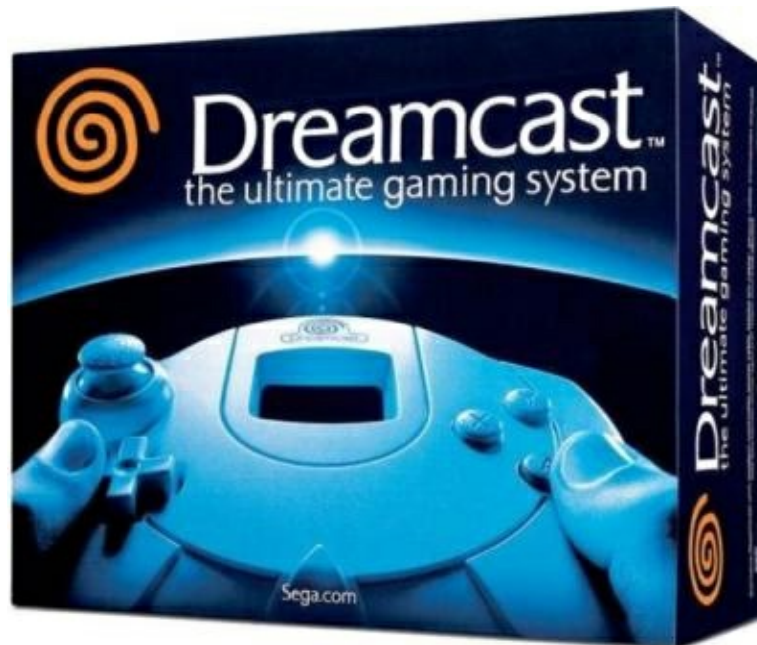
Dreamcast box

Two days later, Sega's parent company CRI/CSK called a special press conference. Company vice-chairman Kazuhiko Nishi, a close friend to Isao Okawa, made two announcements. First, Dreamcast would be Sega's last foray into the home video game console market, with no successor planned. Second, Sega was withdrawing from the gaming hardware business. Period. "It will be a slow and honorable process," Nishi intoned in measured Japanese. The move surprised no one; in fact, many had been advocating it for months. "The cost of maintaining their hardware business just doesn't make sense anymore," stated the editors of the *Wall Street Journal,* a sentiment echoed by most industry watchers who'd seen Sega's death spiral unfold. I was among them, and expressed my own thoughts in a newsletter:

"I've sensed this was coming for some time, but everybody thought I was crazy. Bottom line – you don't run multi-million dollar deficits for four straight years in a row and expect to stay in business for long without drastic changes unless you're the government. Sega's got to lighten the load if they are to

survive, and it looks like the Dreamcast may be thrown overboard along with Sega's arcade hardware manufacturing division."

The start of 2001 found another familiar face leaving the company. Shoichiro Irimajiri, the irrepressible pitch-man who had been one of the key players behind the Dreamcast launch in 1999, resigned on January 2, officially leaving the company at the end of the month. No reason was ever given, but it was widely felt to be yet another "face-saving" move. Not even the impending release of the Dreamcast broadband adapter could brighten the gloom descending over the Sega faithful. More bad news came two days later, when the final sales figures for the 2000 holiday season were presented. Dreamcast had lost the race, finishing third in the U.S. with a 21.4% market share. Nintendo had just barely edged them out – by a mere 0.1% share – while Sony was well ahead of them both with a combined 57.1% share (34.7% for PlayStation and PSOne, and 22.4% for PS2). Point-oh-one percent. It was the tiniest of margins – the lowest of hurdles – and yet the Dreamcast failed to clear it. Later that month, the Associated Press reported that the Dreamcast had sold only 4.5 million consoles in the U.S., instead of five million as reported earlier, and that it would not reach its March 31, 2001 goal of 7.5 million consoles sold worldwide. The race was over. Dreamcast had lost. Its days on the console market were numbered. By the end of the month, rumors ran rampant that the Dreamcast would be marked down to only $100 "fairly soon." As with Saturn before, it was no long a question of *if*. It was merely a question of *when*.

The only light amidst the darkening gloom came from Europe. According to official ChartTrack sales figures, Dreamcast had been the number one console in England over the holidays, beating out Sony's venerable PlayStation by a 2% margin, and royally trouncing all other comers. It was yet another eerie parallel to the glory days of the Genesis: Dreamcast had won the last battle, but lost the war.

Hideki Sato

The axe fell on the evening of January 29, 2001, in a special press conference held by Sega CEO Hideki Sato and assistant Satoshi Kayami. They confirmed the rumored $100 price drop of the Dreamcast console, stating that the intention was to clear out back inventory as quickly as possible. Sega would continue on in the arcade business for the time being, and would continue to support the Dreamcast through the following year, but it was out of the console business for good. It was also revealed that former CEO Isao Okawa, who was too ill to attend the conference, had donated some ¥85 billion ($730 million) of his own personal fortune "to ensure Sega's survival for the foreseeable future." It was an incredible gift by any measure, and would wipe out Sega's current debts – and then some. While it wouldn't pay off everything, Okawa's gift would put Sega back on enough of a financial footing to carry through with its newfound plan to get out of the hardware business, and concentrate on a new purpose – one that hearkened back to its origins. Sega would no longer focus on being a vertically oriented, in-house gaming

company. It was returning to its roots as a content provider, making games for other companies' hardware. The term used was "platform agnostic," as a Sega of America spokeswoman explained to American reporters:

"Being platform agnostic means that we will have the opportunity to look at all platforms to determine which one will be the best fit for our content, both from a development/technical side and a demographic one – meaning we won't have to determine the feature set of a title by the constraints of any particular system."

Sega's announcement was welcomed by almost everyone within the industry. "Most business decisions of this magnitude aren't made for such personal reasons," noted Daily Radar's Garrett Kenyon. "They are made based on numbers..."

"Sega did the addition – and the numbers weren't there. Should it then have continued production of a failing system, risking the future of the company and all its employees to make a few whiny gamers happy? This is business, people, and things don't work that way. Perhaps this adamant loyalty of Sega fans will also serve to teach a valuable lesson to the games industry: that the key to capturing gamer loyalty lies simply in creating good games and not in a piece of hardware. If the best-selling games on the GameCube, Xbox and PS2 turn out to be Sega games, then we might end up having the last laugh after all."

Sega of America's Peter Moore said essentially the same thing in his own public statement on March 31, 2001.

"Without a doubt, everybody within the industry agrees it's the games that matter. In this hits-driven business, the best content will win. The opportunity is here for Sega, and Sega's games to be the differentiating factor between these next generation systems. With the hardware game becoming increasingly competitive, especially for companies like Sega whose pockets are not as deep as our competitors, we've chosen to place our bets on our

software, our heritage, and our proven track record. They always say you make money on the blades, not the razors."

He later added, when asked, "Effective April 1, 2001, Sega is out of the hardware business."

"Had the Dreamcast been more successful, Sega would either still be in the hole or have posted a modest profit, both of which would not have put them in a position to compete with the massive attention that the big three are currently receiving, nor would they be able to compete with the billions being spent on development and marketing. Switching gears then would mean losing a year of development time on the new systems, failing to capitalize on the launch attention, and falling behind competitively. It would have been a disaster for the company the likes of which even the Saturn could not compete with."

- Ben Caton, SegaWeb (08/07/2001)

Sega of Japan offices

It had been a close call - almost too close. Per Sega's own numbers, it would likely have run completely out of money by June 2001 had it not stopped Dreamcast production. They came *that* close to succeeding with the console, but only at the risk of coming *that* close to total bankruptcy. Okawa had

pushed his gamble to the very brink, risking his company's total ruin, for the sake of the Sega customer base. He had done it because he was *not* going to make the same mistake as Hayao Nakayama. He had *not* put all of his eggs in one basket. Remember, Okawa's gamble had been two-pronged, with both a short-term and a long-term goal. The short-term goal had been the Dreamcast. That part of the gamble had now failed. Whether it had failed or not was beside the point, however. Okawa's true intent had been to rebuild the loyalty of Sega customers past, present, and future. The Dreamcast and how the loyal Sega fanbase took to it - market success or not - was the key to realizing this, and thus making Okawa's ultimate long-team goal possible. That was making Sega financially profitable once again. It was Sega's customer loyalty that Nakayama had destroyed with his Saturn gamble, and thus set Sega on the road to financial ruin. It took yet another gamble by Okawa to set it right. Yes, the Dreamcast was dead and Sega was now out of the hardware business, but thanks to Okawa's longer vision he had won back the Sega fanbase. Sega could - and would - begin anew. Sega would survive, thanks to Isao Okawa's gamble.

:As for the future, who knows? To go from being THE heavyweight in the industry a decade ago to a third-party developer in 2001 would seem to be a major blow to Sega's stature and prestige. But it's also possible that the shift in focus is the right move at the right time ... Sega, unlike many of its devoted loyalists, has come to realize that games, not the machines themselves, are the key to electronic entertainment. Its hopes rest on the plan that it can deliver its brand of games and entertainment cross-platform and maintain a level of quality that has won the respect and loyalty of millions of gamers."

- Matt Pusateri, Core Magazine (02/05/2001)

Epilogue

"Now that the yoke of hardware losses is lifted from Sega's shoulders, it is good to remember that despite a few disappointing games, Sega MADE

money on their software sales on the DC last year; they simply lost too much money on hardware. They can turn a profit selling games to us DC owners now that they are not losing money on hardware ... The Sega Dreamcast is set to go out as the brightest falling star the industry has ever seen."

The story of Sega does not end with the death of the Dreamcast, nor does that of the console itself. The simple fact of the matter was that almost everybody wanted Sega's games but not their hardware. They wanted to have Sega's games on their *own* hardware, or to be able to play Sega's games on their *favorite* hardware. The Dreamcast had to die and Sega's arcade legacy along with it in order to make that happen. Thus, Sega did what it had to do to survive. It jettisoned the Dreamcast, it jettisoned its arcade hardware division, and it jettisoned anything else it could in order to lighten the financial load. All that was left to it was its ability to make some of the best video games around, yet that was exactly what was being demanded of it. It was the kind of challenge to which this new Sega, this leaner and meaner "content provider" Sega, could quickly rise. So it did. Thanks to those necessary actions Sega *did* survive, and would go on to make the kind of games both vendors and gamers expected from it for whatever platforms were out there. As for the Dreamcast itself, Sega let it coast off the scene with what momentum it had been given by Peter Moore and Sega of America. There were still a lot of unsold consoles, but Sega wasn't going to have to make any more - and THAT would make a major difference on its bottom line right away. Dreamcast would go on to spend another year or so on the U.S. market, with many (but not all) of the games that had already been in the development pipeline getting released before the final curtain fell. To its credit, Sega continued to support Dreamcast all through that year and even beyond. It is difficult to imagine the Sega of the troubled days of Saturn behaving in that fashion. That is part of the legacy that Isao Okawa bequeathed both to Sega employees and loyal fans alike.

A lot has been said by others and elsewhere of that final year of the Dreamcast in the U.S. video game market ... of all the games that *did* come

out … of the significant ones that *didn't* … of Sega's continued support right up to the end, and even long after … of the vendors and competitors who praised it then and even now … of the great respect that Dreamcast continued to enjoy among gamers, and *still* enjoys … and finally of the homebrew community, who took Sega's development tools along with those of the pirates and many cooked up on their own, and *continued making software for the system*. Even today, Dreamcast is considered not only one of the best video game consoles of its generation but among the best of all time. That's quite a legacy for a system that some might be tempted to call a failure. Gavin Frankle, writing for SegaWeb, put it this way:

"At the end of its three year lifespan, the Dreamcast will be remembered as the little off-white box that could; and yet, if people weren't so damn stubborn, the system would live long past those three years, and it wouldn't be the little off-white box that could, it would be the little off-white box that did."

Sega still had several years to go after the demise of the Dreamcast before it returned to profitability; nonetheless, Sega's new CEO Hideki Sato had taken Rosen's advice to heart:

"I have been advocating the idea that Sega should become a content provider, providing software for all existing systems and systems to come … I've been advocating this for more than seven years now and always felt it was a bit of a folly for [today's Sega] to be limiting their potential to Sega hardware …. Unfortunately, it took the situation that they are going through today to make them realize that they had to make a change."

As Sato would put it, "We must return to the starting point and make a thorough assessment of what users want." He already knew what that was even as he said the words - Sega games on everybody else's hardware. For over a half-year now, various in-house teams had been looking at the competitors' systems and developing for them. When the time came for Sega

to switch gears and change the road it was taking, it was ready to roll - and it would do so with a speed that would surprise those who had not been paying attention to its internal moves the year before.

There is also the ironic postscript provided by the software pirates - the very same people who had helped drive the nails into Dreamcast's coffin. They stepped up to the plate in the following years and rescued many of the games that had been cancelled due to its death - including the complete port of *Half-Life*, which perhaps was the biggest of them all - and others that either got stuck in their own markets or didn't make it out the door for various reasons. Many games that would not have been released because of that were thus saved, and can be enjoyed today by Dreamcast fans young and old. Also, as I noted before, those tools and techniques they developed to pirate those games proved extremely useful to the homebrew community that developed after, and many continue to be used today. It is a contradictory part to have played, to be sure, but it just proves the old adage that it is possible to find some good even in a bad situation. It is the one concession I will grant the Dreamcast software pirates, and I suggest they take it. It doesn't outweigh their responsibility for the system's demise, not by a long shot. At the least, though, it can be considered their own twisted form of penance.

Former Sega chairman Isao Okawa died of a heart attack on 15 March 2001. It had been his desire to save Sega from its own failings that had allowed the Dreamcast to live. It was his choice of personnel that had given it the best chance it could have had, given what it faced and Sega's mountain of debt. It was he who gave the go-ahead for Sega to start divesting itself and go back to being a multi-platform vendor even as the Dreamcast was fighting for its life. It was he who made the call when it couldn't stay in the market any longer. In the end, it was his gift of a major chunk of his own personal fortune that helped give Sega its new start on life. He literally helped Sega save face in the grand Oriental tradition, rebuilding its badly damaged reputation with gamers and restoring its respect within the video game industry. The new Sega that eventually arose from the ashes of the old owes a lot to him, and

they will be the first to tell you so.

Sega Seal of Quality

The Last Runner

It was already beginning to get dark at the Mexico City Olympic Stadium. It was no less a challenge back in 1968 than it is today, and the grueling pace of the marathon had taken its toll on the contestants. Many were being helped away to the first aid stations. The race had already been won over an hour ago and those spectators who remained were getting ready to leave. Suddenly, without warning, police sirens rang out and the stadium gates reopened. A single runner wearing the national colors of Tanzania staggered inside, limping badly but eyes firmly fixed ahead. He had torn both his knee and ankle in a bad fall earlier in the marathon, yet he had insisted upon resuming the race once his wounds had been dressed. The awed spectators watched as the injured runner, his leg bloodied and swollen, trailing part of a rough bandage behind him, resolutely made his way across the finish line and then collapsed in agony. The crowd came to its feet and roared. He had been one of the first to start the race, yet John Stephen Akhwari of Tanzania was the last man across the line. As he was being carried off the field admist the cheers of the throng, a

documentary filmmaker named Bud Greenspan came up to Akhwari and said, "Why didn't you quit? Why did you continue the race after you were so badly injured?" Akhwari's reply is the stuff of Olympic legend. "I do not think you understand," he gasped to Greenspan. "My country did not send me 7,000 miles to start this race. My country sent me 7,000 miles to finish."

So it was with Sega. First out of the gate in the 128-bit next-gen way, first to fall, injured and bleeding, yet staggering on. It had but one goal in mind: to return to profitability and resume its place as one of the premier companies of the worldwide video game industry. It had to make many drastic changes and alter its entire focus in order to stay alive and continue doing what it did best - pumping out many of the best video games in the business to grace any platform. It did not finish the race as it started, yet it was determined not to fall by the wayside. It would eventually return to profitability by going back to its roots as a content provider, selling its wares for a variety of platforms as it once had. Thus, Sega was able to remain with us -- and we can but hope that it always will.

Dreamcast Factoids

• Despite poor sales overall, the number of high-quality titles for the Dreamcast led PC Magazine to name it "the greatest console of all time."

• The Dreamcast was made victim of various third-party modifications throughout and after its life. One of the most famous, the Treamcast, combined a modified Dreamcast with a fold-down screen. A number of other portable Dreamcasts exist in the hacking community, although no commercial models have ever been released.

• Since its discontinuation in 2001, the Dreamcast has received at least one new title each year leading up to the 2013 release of Sturmwind, an original shoot 'em up game by Duranik. There have been over 100 new Dreamcast titles since 2002.

• Much like the consoles that succeeded it, the Dreamcast had a variety of peripherals that expanded upon the initial capabilities of the console. These include a full keyboard and mouse, motion-controlled maracas and fishing pole, a camera, rumble-pack, and the VMU.

• While never ultimately commercially successful, the Dreamcast is home to the most expensive-to-produce games made to date. Shenmue and Shenmue 2 cost more than $70 million at the time; Sega would have needed to sell two copies of each game for each Dreamcast sold, just to break even.

• The Dreamcast was the first Windows-based gaming console. Built around Microsoft's Windows CE, the DirectX-compatible Dreamcast was in many ways similar to the Xbox. This made programing games much easier than previous consoles (such as the Saturn), and made many PC ports possible.

• In 2010, Sega announced that many Dreamcast games would be released on Xbox Live Arcade and PlayStation Network. The first four titles were *Crazy Taxi*, *Sega Bass Fishing, Sonic Adventure* and *Space Channel 5 Part 2*.

- The famous Dreamcast swirl logo was different in every region. An orange swirl was used in Japan, while Europe's and North America's were blue and red, respectively.

A Tale of Two Companies

Sega Europe

Preface

Tracing the history of gaming in Europe is a herculean task. Unlike the other two major markets, where a single marketing strategy informs an entire territory, such an approach in Europe is useless. Having dozens of countries and unique markets makes it difficult to document all that happened, especially in the 70s, 80s and in some parts of the 90s. While in other territories one can interview David Rosen or Tom Kalinske as to their motivations, in Europe there is always the question: who do we contact? In some cases, Sega's main distributing companies didn't even exist for at least 20 years, the key players are unknown, or sadly no longer among us. Although we are fortunate enough to have recovered information from some countries (such as the UK), in others, only snippets of the whole history remain.

The history of Sega in Europe is therefore assembled from an assortment of small bits of information discovered in old magazines, sales reports, and documented interviews, woven together in order to create an overall picture of what happened in the Old World.

A distinct market

By the mid-80s, Nintendo owned a sizable chunk of the Japanese and North American markets. Even Nintendo chairman Howard Lincoln recognized in later years that the first true competition the company faced came from the Master System. Nevertheless, Sega never presented a real threat to Nintendo's NES dominance. In Japan, Rosen even admitted that two years of Nintendo had made the difference, while in the US the story was more or less the same. What, however, about Europe?

The European market of the 80s was quite different from the others. Rather

than driving a console-driven market, Europeans generally preferred computers as their primary system for games. The video game crash had taken its indirect toll, and the primary console market (U.S.) had stopped exporting to other territories. Although there were some European consoles at the beginning of the decade, none proved to be significantly popular. On top of that, breakthroughs in technology and production resulted in microcomputers could be easily produced en masse and at lower costs. Soon enough, the mass media was broadcasting news segments about how computers would change the world. Bit by bit, parents all across Europe, began buying computers for their kids – after all, people without access to computer technology would be left behind, went the thinking. And as it turned out, this wasn't so far from the truth.

Soon market demand had grown so much that companies like Sinclair, Acron, Dragon, Commodore, Amstrad and Atari Corp found their footing. After all those computers ended up in consumers' houses, however, their applications were few. What could you use it for, besides typing out text or using it like a fancy calculator? The answer presented itself soon enough: Games – not just playing them, but producing them. At the time, it was inexpensive to develop games and easy to distribute them, and by early 1983

there were over 300 game development companies in the UK alone, and growing.

Europe was a very particular market, indeed. Several countries occupying a small piece of territory meant that cultural, social, economic and political differences made marketing and distribution highly subjective. Not only did games and manuals need to be translated, not all titles were made available in every country or at the same price. When the first Japanese imports arrived in some European markets, it was soon discovered that simply putting consoles on shelves and running some reasonable marketing campaigns wouldn't be sufficient. First a battle had to be waged for the hearts and souls of the home computer enthusiasts.

A different approach

When Sega and Nintendo first began to consider the European market, they took different approaches. Although Nintendo had already sold some Game & Watch electronic games in some territories (mainly Scandinavian countries, parts of France and neighboring countries) at the beginning of the 80s, distributing the Famicom/NES would have to be different. After negotiations in 1986, Nintendo signed a partnership with Mattel. The American toy giant became the official distributor in key European countries (essentially France, Italy and the UK). When the NES first appeared, however, no one was impressed. The price and overall quality of the console itself weren't especially attractive, nor were the terms extended to developers. Geoff Brown, President of US Gold, was one of those who doubted the console's market appeal. In an interview given to Micro Hobby magazine (issue 185, February, 1989), he mentioned some of the system's flaws, sharing an opinion that wasn't so different from others' in the development community; "Consoles will not succeed in the European market, they have three big problems. One, they cannot be pirated; two, the software is too expensive and three, the system is too weak. They are systems for bars, not for the home… We already have a Nintendo system in Europe, and it's called [Sinclair's] Spectrum."

Scandinavian Master System advertisement

Overall, early NES distribution and reception in Europe was patchy, at best. Dissatisfied with the results, Nintendo revoked the license from Mattel in 1989, and hired Luther de Gale as their European front man. However, the experienced ex-head of Konami UK later admitted to the press that – by the end of the decade – the home computer market was still stronger than consoles', and that Nintendo had failed to win over consumers. Sega opted to take a different approach. At the North American CES of 1986, the company held a presentation for its new console. The main objective was to introduce the Sega Master System (SMS) into the US and Europe markets simultaneously. This meant that – unlike other territories – the SMS would be available in Europe at almost the same time as the NES. Several European companies returned home from the event with signed agreements to start distributing the system in their respective territories.

Spanish Master System advertisement

In West Germany, the first appointed distributor was Ariolasoft, a small software house with an existing distribution model. By the end of 1986, the company started their campaign for the SMS, and some German magazines had received the console and some of its games for the very first time. A little further to the south, in Italy, a small company called Melchioni had already distributed the Sega SC-3000 up until around 1985. By the end of 1987, however, the SMS was being distributed not by Melchioni, but by NBC Italia. One year later, Sega – unsatisfied with the weak results – revoked that license. The next year a company called Giochi Preziosi took on the job, utilizing more aggressive marketing campaigns than their predecessor, and even hiring Inter FC football/soccer goalkeeper Walter Zenga as their spokesman. By Christmas of 1989, the SMS was outselling the NES.

French Master System advertisement

Across the Iberian Peninsula, Spain was another of the very first countries to receive the SMS. Although they got started after Germany and Italy, their distribution preceded that of France and the UK. By 1987, Proein was responsible for distributing the system, but lost the license shortly after, with Erbe Software taking over the following year. Like others, Erbe had started out as a small development studio; but as the industry progressed, they refocused on the distribution of software. Having the SMS license was a big win for the company, and soon enough their marketing muscle began to yield acceptable results. In France, a small company called ITMC released the SC-3000 to some parts of the territory until 1985. The following year, a different company – Master Games Systemé France – distributed the SMS without Sega of Japan's official authorization. It's believed that no more than a couple of hundred units were sold during this period.

In Northern Europe and in Scandinavian countries, several companies distributed the system. In Sweden, Dennis Bergström AB kicked off campaigns

in 1987 before being replaced in 1990 by Brio AB. Throughout the first half of the 80s, Digital Systems distributed the Sega SC-3000 in Finland, although their numbers were largely irrelevant. Later, in 1987, Sanura Suomi began distributing the SMS and its games, with some Finnish magazines confirming that the company had attended CES 1986, and returned with an SMS license agreement. PCI-Data AB replaced them around 1990; however, they went bankrupt shortly after, and Brio AB returned to manage distribution in Finland the following year. Rather uniquely, in central Europe, a single company in 1987 held the license rights for three countries. Atoll was the official Sega distributor for Belgium, Netherlands and Luxemburg (aka Benelux). Although these companies' early efforts contributed to Sega invading Nintendo's position in the continent, the most successful breach took place in the UK, all thanks to a company called Mastertronic.

Mastertronic

Mastertronic was founded in 1983 by Frank Herman, Alan Sharam and Martin Alper. Unlike many other companies in the UK, their main concern wasn't developing games, but rather publishing them at competitive prices.

After a few years the company enjoyed a strong position in the marketplace, and in early 1987, Herman noticed that the console market – while big in other territories – didn't have nearly the same impact in Europe. Studying the market, Herman soon discovered that while Nintendo already had a distributor in Europe (Mattel), their main competitor didn't. Quickly, Mastertronic gathered a Sega official distribution license for one year.

Martin Corrall was appointed manager for the section responsible for Sega products, and his strategy was quite simple: keep the price of the SMS cheap (£99.95), so that the return cash flow would come from the games (£25 per title, on average). At the time, a NES was priced at £150, and games were £70. Home computer prices ran between £99 and £450, while games were on average £15 (full price), with budget re-releases to be found for as low as

£1.99. Thus, Master System and its games offered the best average prices between Nintendo and home computers. Notable Master System cartridge titles included *Fantasy Zone* and *Choplifter*, while *Hang-On* and *Transbot* were the system's Sega Card sellers. All of these games cost £19.95 per unit.

Unlike the NES – which was being distributed by a toy company – the SMS had the backing of a company that knew the video game market. In less than one year, all the materials sent by Sega to Mastertronic were sold out – including 30,000 consoles, and nearly 100,000 games – for a total of at least £5 million worth of stock. In 1988, Sega renewed their official license with Mastertronic, and also granted distribution rights in France, ending their arrangement with the struggling German company Ariolasoft as well. Soon after, Mastertronic was running the German and French territories, too.

From here on, the success of the console was proven to be solid, with peripherals like the Light Phaser gun and 3D glasses (used for playing games like *Zaxxon 3D*) accompanying new games. The next step was to get software support from UK development houses. But there was one big challenge: The main console market had imploded in the US just a few years before, and European industry reps weren't convinced that the console market was a good thing.

In the autumn of 1987, *The Game Machines* magazine rounded up a few developers and asked their opinion about the upcoming console market. Representatives from Telecomsoft, Gremlin, Ocean, Elite and US Gold shared the same opinion: They didn't believe in it. US Gold's Geoff Brown even said, "it's in the interest of the UK software industry not to support the consoles," while David Ward of Ocean mentioned that "we do develop Nintendo software but only for the USA and Japan… I see them [consoles] as more of an alternative to a BMX than the home computers."

Nevertheless, in 1988, console sales were still stable – even without their support. In that same year, the Virgin Group purchased Mastertronic, renaming it to Virgin Mastertronic. Their main objective was to secure Sega franchising and become the main European distributor of the brand. One of their very first

moves was to hand over distribution of Sega products in that territory to their French subsidiary, Virgin Loisirs.

"Virgin bought Mastertronic and wanted to have that as part of their portfolio, and because Frank Herman came with the Mastertronic name, they had good contacts with Sega, and Virgin Mastertronic became the vehicle for it"

- Andy Payne (CEO, Mastertronic)

By 1989, it was obvious that company's budget computer games were largely irrelevant, and that Sega's products were the future. Even home computers were starting to lose some ground to the consoles, spurring Virgin Mastertronic to try and to secure licenses for other countries. One of the very first of these was in Spain. After meetings in 1989, Virgin Mastertronic reached an agreement with Erbe Software to become the official Sega representative in Spain.

Virgin / Sega advertisement

In 1991, Sega decided they were ready to take care of their own business, purchasing the Virgin Mastertronic division of the Virgin Group outright. Sega renamed the company Sega of Europe, but retained most of the team; Frank Herman was appointed Deputy Managing Director, and Alan Sharam named Managing Director of Sega UK. Later on, Nick Alexander would be appointed as CEO. Over in France, Virgin Loisirs became Sega France, while Sega's arcade division was given to another company called Amiro. And with that, Sega turned its attention to the rest of Europe.

Although Sega was a powerhouse, it still lacked the capital to reach all of the Europe. Therefore, a special agreement was arranged: in countries where Sega still lacked official representatives, licenses would be handed out to companies that demonstrated an interest in its products. In Portugal, the license was given to Ecofilmes (1991), in Greece to Zegetron (1992), and in Sweden, to Brio AB – who were later appointed as official distributors to Norway, in 1995. Nearby, in Finland, PCI-Data had gone bankrupt in 1990, leaving PlayMix to take over the license. Soon enough, many of these distributors created the Sega official fan club with regional costumer support lines and exclusive perks for members, and released or sponsored officially branded magazines.

Meanwhile, a new version of the console was released in several countries. The Sega Master System II was a smaller, slicker, lower-priced version of the original console, dropping the Sega Cards slot, reset button and expansion port while adding a version of *Alex Kidd in Miracle World* or *Sonic the Hedgehog* stored in the ROM. While the US version was mostly grey, this edition was black.

In the following years, the SMS was considered in several countries as a low budget alternative to its 16-bit counterparts; by the mid-90s, it had gained a respectable customer base. According to Sega France (in Kahn, Alain; Richard, Oliver, "*Les Chroniques de Player One*," 2010, Pika), the Master System sold 450,000 units in 1991, and 304,000 the following year. By 1993, the numbers had decreased drastically, with only 83,000 units sold –

presumably due to the growing popularity of the Mega Drive and Nintendo's Game Boy. And in 1996, Sega finally retired the console in Europe – exactly one decade after its launch.

A European Master System

Unlike its performance in other territories, the Sega Master System became the overall number one third-generation console in Europe. And of course, no console can prevail without games. In the US and Japan support for the system had dropped off quickly, due largely to the exclusive contract agreements Nintendo forced its developers to sign. Sega was left with fewer options than ever to support their new console, with almost all of the SMS's games coming from Sega itself, or a handful of partners (such as Westone and its *Wonder Boy* series). In the end, the total library for the Master System in Japan – and especially in the US – was extremely limited, with only about 100 games published in all.

European Master System game set

In Europe, however, it was a different story. Although European developers had been slow to embrace the console market, that market had proven itself

beyond a doubt by the early 90s. Soon enough, US Gold, Codemasters, Ocean, DoMark, Flying Edge, Infogrames and others began to consider consoles seriously.

"It's possible that some of the companies that are currently working with Sega (circa 1992), will stop supporting the Master System. But, to balance that, we are going to get European developers, so that we can guarantee that the Master System will continue in the next years."

- Nick Alexander (Sega of Europe)

Most of the early games for the Master System weren't original efforts, but remakes of their respective developers' hits for home computers, such as *Kick Off, Zool* and *Speedball*. Others were ports of popular arcade titles such as *Paperboy, R-Type* and *T2: The Arcade Game*. More than 100 games like these were released. As the years passed, the SMS also received unique adaptations initially developed for superior systems. TecMagik brought *Populous* and *Shadow of the Beast* to the system, while DoMark ported *Formula 1* and *Desert Strike: Return to the Gulf*. Sega contributed by releasing games that were based on their 16-bit console hits, such as *Shadow Dancer: The Secret of Shinobi, Streets of Rage* and *Sonic the Hedgehog 2*. Naturally, there were also some games exclusive to Europe. Some of these include *The Lucky Dime Caper Starring Donald Duck, Power Strike II*, and *Master of Darkness*, as well as games bearing popular European characters such as Asterix and The Strumphs.

In the mid-90s, a curious bunch of games was released by Portugal's official distributor, Ecofilmes, in an agreement with their Brazilian counterpart, Tec Toy. The two countries share a unique bond, so it was no surprise that the two official Sega representatives agreed on a collection of games, largely exclusive to Portugal. By 1995, 16 games were released for the Sega Master System, alongside a console called Master System III. All 16 are easy to spot, as the covers were mostly purple and in some cases bore box cover art different from the original (*My Hero* is a good example). These games – known as the

"Master System Portuguese Purple" releases – were almost all remakes of popular titles from other consoles, with one major exception. Based on a popular comic book character, *Sapo Xulé: SOS Lagoa Proibida* was an exclusive game for South American audiences. The game itself was actually the Japanese title *Astro Warrior*, with programmers changing the character and background sprites to fit the Brazilian character's universe. In 1995, thanks to the agreement between Tec Toy and Ecofilmes, *Sapo Xulé: SOS Lagoa Proibida* was also released in Europe.

Officially, support for Master System lasted until 1996, concluding with *Les Schtroumpfs Autour du Monde* from French developer Infogrames. In the end, the official list of PAL games released for the SMS included a total of 269 games.

Populous

A firm foothold

In the early 90s, Sega had already established a decent presence in Europe. The Master System was generally outselling the NES, and the Sega name was gaining recognition among gaming aficionados. Their success wasn't assured – home computers still proved to be tough competition. Commodore

and Atari's 16-bit computers were still big names in games in Europe, leaving consoles as an alternative. Electronic Arts' 1991 fiscal report stated that 35% of their worldwide income profit came from Europe and its home computer market. In some territories (Switzerland, some Scandinavian countries and others) the SMS was lagging behind the NES. Generally, though, Sega was crushing the competition in the European console market – not only Nintendo, but also exclusive European consoles such as the Amstrad GX-4000 and Commodore GS64, which suffered due to mismanaged marketing efforts.

Virgin / Sega advertisement

Meanwhile, in Japan, 1988 saw the release Sega's newest console, the Sega Mega Drive (MD), which launched in the US one-year later bearing the Sega Genesis name. In Europe, Sega was able to preserve the Mega Drive name. It was also reported that Sega was planning to release the system at almost the same time in Europe and US (repeating the strategy used with the SMS). However, production was delayed due to manufacturing issues, and the official release for Europe came only in the last months of 1990. At this time, Sega distribution in Europe still wasn't entirely well organized. Virgin Mastertronic was enjoying good results in UK – and decent ones in France and Germany – but the distributor partnerships with other countries were a bit of a

mixed bag. All too often countries changed distributors, and only a few not controlled by Virgin Mastertronic achieved decent results (such was the case with Italy and Giochi Preziosi).

Sega advertisement

In 1990, Virgin Mastertronic attempted to grow its influence in Europe, negotiating with its Spanish counterpart to reclaim Erbe Software's distribution license. During this period, Sega of Japan also decided to move more decisively in Europe, reclaiming from Virgin Mastertronic the official license. Negotiations began between the two companies soon enough, but it was only in 1991 that Sega officially opened Sega of Europe to oversee its entire European operation.

By then, Virgin Mastertronic had already officially announced the Sega Mega Drive in September of 1990, at the European Consumer Electronics Show (CES). Shortly after, the system was available in major department stores such as Rumbelow's and Dixon's, reaching France and Germany later in

the year. The official price was £189.99, which included a console bundled with *Altered Beast*. As with the other territories, initial launch titles were heavily focused on arcade ports, such as *Ghouls 'n Ghosts* and *Golden Axe*. An exclusive pack for European audiences was made available later on, including *Columns, Italia 90* and *Super Hang-On*. The Mega Drive was no instant success. In March of 1991, Virgin Mastertronic reported having sold a mere 60,000 consoles in the UK, according to EIU's 1991 Retail Business: Market Report. Similar to how things happened in the US, the system only really started to gain momentum with the arrival of *Sonic the Hedgehog*.

"Sonic was a phenomenon. It was iconic and, in my opinion, was the main reason for Sega's success against Nintendo in this period."

\- Mike Brogan (Development Director, Sega of Europe)

In the same way that Nintendo's Mario became a symbol for the gaming community in the US, in Europe those shoes were filled by Sonic (before that, most Europeans would likely select Dizzy from *Dizzy Adventures* or Willy of *Manic Miner* as being best representative of games in the 80s). Mimicking their counterparts, Sega of Europe made sure that Sonic's popularity extended into several other strategic markets. All kind of merchandising bearing the hedgehog's likeness started to appear: clothes, shoes, cookies, pens, dishes, books, kiddy rides… Sonic was everywhere, and on his way to becoming a phenomenon.

Sega's market position was growing alongside its mascot's. In the UK alone several publications sprang up over the years dedicated solely to Sega's products, including Sega Visions, Sega Power, Mega Tech, Sega Force, Mean Machines Sega, Sega Magazine, Sega Pro, Mega Drive Advanced Gaming, Mega, Mega Action, Mega Power. Needless to say, Sega's position in UK was very strong, indeed.

Sega España team

In Spain, after revoking Virgin Mastertronic's license, Sega of Europe opened a new division called Sega España. Soon after, marketing campaigns for Sega's system were seeing good results in the region, and the company's popularity grew, too.

Sega advertisement

"In (Spain) the handheld market without any doubt belongs to Nintendo and their Game Boy, but, in the home consoles, Sega and Mega Drive dominate

the entire market."

- Paco Pastor (Sega España)

Over the following years, Sega worked with its European partners to invest in events, TV shows and contests all across the continent, contributing to the overall awareness of consoles, and taking home computers' place at the forefront of video games.

"My relationship with Sega of Europe was good, but with the Japanese it wasn't so good. But at least during the Mega Drive period I did manage to convince them to create Mega Packs of the console. It was such a hit that we exported the concept to other markets."

- Paco Pastor

In the meantime, Nintendo also opened European headquarters in order to supervise operations across the continent, choosing Germany as its base of operations. Backed by a strong marketing push, Nintendo managed to create a stronghold in Germany and France. In 1992, the Super Nintendo was released across Europe, but – as with the NES – the results didn't reflect what was happening in the Japan and the US. The only foothold Nintendo really held in Europe overall was due to the popularity of its Game Boy handheld. Nevertheless, Sega France reported selling 162,000 Mega Drives in 1991; 475,000 units in 1992, 358,000 units in 1993, and in 1994 an impressive 995,000 consoles.

In 1993, Wired magazine reported that 66% of the video gaming market in Europe was dominated by Sega, with the UK, Italy, Spain, Portugal, Greece and some Scandinavian countries at the forefront. Nintendo's numbers in these territories, on the other hand, ran between 10% and 30%.

Changing times

It was in 1992 that home computers really began to lose ground to consoles. Popular systems from Atari and Commodore had already been

losing ground to IBM PC clones around the world; soon enough, their last stronghold in Europe crumbled, too. With the IBM PC as the new standard, and the downfall of microcomputers, consoles began to be seriously considered as an acceptable alternative for playing games. Development teams were also more receptive to publishing games on Sega's systems. After all, the Mega Drive used the very popular Motorola 68000 microprocessor, which many developers were already familiar with (both the Atari ST and Commodore Amiga 500 used the same processor).

Global Gladiators

In no time, European studios such as Infogrames, Virgin Interactive and Sensible Software were porting older hit titles to both the Mega Drive and the Master System; some studios, such as Codemasters and Virgin Interactive were developing games for both at the same time. *Micro Machines* and *Global Gladiators* are good examples of this period.

Flashback

"Well, in a way, Mastertronic was partly responsible for the console boom – we made Sega a success in Europe and we were the company which became Sega Europe, the HQ of Sega's UK and European operations"

- Anthony Guter (Mastertronic)

As development studios' concerns were assuaged, they started creating original games on the machine. The success of the Mega Drive was closely linked to these developers; Sega needed them, and also needed to start considering other markets. Having earned more maneuverability in Europe, Sega went searching for developers willing to sign exclusive contracts. One of the most famous of these was Hungarian developer Novotrade International, who created the environmentally-themed *Ecco the Dolphin.*

In France, Delphine Software employee Paul Cuisset commented on how gaming culture was changing. His game *Flashback* (1992) was developed first for the Mega Drive, and only later ported to home computers – until then, most games came to computers first, and were only afterwards ported to consoles.

"The Mega Drive became our main platform. And yes, the Amiga version was the first to hit the shelves, but it was a port of the Mega Drive version.

The main platform was the Mega Drive."

- Paul Cuisset

Delphine Software even managed to convince Sega to produce cartridges with bigger ROM sizes. At the time, a Mega Drive cartridge would hold up to 16 mega-bits, but *Flashback* needed more. So Delphine developed a 24 mega-bit cartridge and sold the project to Sega. Both parties won in the end, with Sega benefitting from new technology, and Delphine getting more space for *Flashback*.

In the UK, Codemasters also developed specific cartridge hardware for Sega; its J-Cart (1994) was a special ROM cartridge with two additional gamepad ports, enabling up to four people to play. To prove their point, Codemasters developed a series of games – including three *Micro Machines* titles, two *Pete Sampras Tennis* games and *Super Skidmarks* – to demonstrate the technology. Sega, meanwhile, had released a peripheral of its own, which enabled Master System games to be played on the Mega Drive. By helping seduce developers into creating games for Sega's consoles, the Sega Master System Converter indirectly grew support for the system and its games.

"The Master System and Mega Drive were successful products and trailblazed the way for consoles, probably more so than Nintendo in the UK, and almost blueprinted the way that Sony came and did a really good job with PlayStation."

- Andy Payne

By the mid-90s, Sega had in some parts of Europe become synonymous with "video games". Elsewhere, however, Nintendo still enjoyed greater sales. Belgium newspaper Le Soir reported in September of 1993 video game console sales for the first half of the year: For Sega, Mega Drive sold 83,139 units, Master System had 318,310 units, and the Game Gear 39,616 units. Nintendo in the same period sold 50,131 units of its SNES, 178,616 of its NES, and 318,616 Game Boys. Atari's Lynx trailed last, selling 20,227 units. The

report concludes with a study conducted by GFK, in which video games were voted as the most desired toy among kids.

In France, in 1995, a sales report prepared by Daniel Kaplan and Hervé Leduc ("La télématique française en marche vers les autoroutes de l'information") mentioned that the console market was growing fast and overselling home computers; "this year our figures estimate that the console market represents a number closer to seven million; 2.3 million of NES, two million of Game Boy, 700,000 Master System, 300,000 Game Gear units, one million Mega Drive units and 100,00 shared results between Atari and Amstrad home computers or Neo Geo consoles." One thing was for sure: Sega was indeed helping to change the games market in Europe.

Is that a TV in your hand?

Atari Lynx

By the end of the 80s, video games were enjoying phenomenal results all over the world. Over in the US, with the memory of Atari's mistakes still lingering, many didn't think the console market could last. In Japan, meanwhile, Nintendo prepared to release another breakthrough system. 1989 saw the launch of the Game Boy, followed shortly after by the Atari Lynx. Sega's Game Gear released in Japan 1990, followed by concurrent launches in the US and Europe the following year, with Sega of Europe running the show. The system came bundled with *Columns*, and launched at a price of £99. As the two units shared many of the same components, Game Gear was marketed to

developers as a "portable Master System" – in other words, games could be easily ported from the console to the handheld. With Sega's third generation console was still going strong in Europe, many development studios were seduced into supporting Sega's new portable system.

By 1992, several titles were available for Game Gear; some were ports of arcades hits or popular home computer games, while others were prepared at the same time for all three of Sega's systems. Sega also released two peripherals – the Sega TV Tuner and the Master Gear Converter – in hopes of helping drive sales. The intention with the former was to provide an affordable alternative to portable televisions, thereby broadening the system's appeal. The latter made the Game Gear compatible with SMS cartridges, immediately expanding its library of games – a very important feature in Europe. Unlike other territories, support in Europe for the Master System was still strong; Sega could not only sell old stock, but also even sustain interest in SMS cartridges.

Game Gear advertisement

As for the competition, although the Lynx had launched in Europe, it posed no threat. The American handheld enjoyed an initially warm reception – due to lingering fondness for the Atari ST – but interest soon subsided, redirected at Sega and Nintendo's portables. As in the US and Japan, the Game Gear's biggest competition came in the form of the Game Boy. Nintendo's handheld hit Europe in the early 90s, and its success mimicked that of other territories. Once established, Nintendo of Europe enjoyed some autonomy from their Japanese counterparts, and devised a series of strategies for the entire continent. Their Trojan horse wouldn't be the NES (that battle was pretty much over), but the Game Boy. In France alone, the first sales projections pointed to 500,000 Game Boys sold in 1991 (the handheld's debut year). Instead, Nintendo went on to sell a staggering 1.4 million units, making the Game Boy the first console to oversell a Sega system in Europe, and even helping lift sales of the NES along the way. Nintendo hired local agencies to create their marketing campaigns, and special merchandising was developed for its offices all across Europe. By 1992, Europeans had snatched up six million Game Boys.

Sega of Europe soldiered on, and in 1996 the Game Gear's last games were released. Having sold over three million hardware units, the handheld was discontinued in the same year as the Master System. Overall, the system enjoyed decent results in Europe, with an impressive library of almost 200 dedicated PAL games – factor in the SMS converter, and that number gets even higher. Although it didn't enjoy the same level of success as the Mega Drive and Master System, Game Gear would be the stiffest competition the Game Boy ever faced.

The CD Revolution

Over the years, CD drive technology was quickly becoming more and more widespread; naturally, the video gaming industry took note. By the early 90s, European home computer enthusiasts were becoming familiar with an assortment of systems using this new breakthrough, some exclusive to the

territory. In 1991, Dutch company Philips released the CD-i, while Commodore launched its Commodore CD-TV, followed by the Commodore Amiga CD32, and the 3DO Company's partners produced multiple versions of the 3DO. And, at the Tokyo Toy Show, Sega demonstrated its CD drive peripheral for the Mega Drive.

Philips CD-i 910

In early April of 1993, the Sega Mega CD was released in the UK. The unit cost £269.99, and came bundled with *Sol-Feace/Cobra Command* and *Sega Classics Arcade Collection* (in some other countries only one of these two titles was included). Mimicking the Mega Drive's launch, the Sega Mega CD encountered several delays and manufacturing issues. By the end of the year, there were few units available in Europe; in some countries, such as Spain and Portugal, this first model didn't ever arrive, at all. Sega of Japan later revealed that Europe had received 70,000 units, and practically sold out of all of them.

Surprisingly enough, a second, lower-priced version dubbed Sega Mega CD II arrived just a few months later, typically bundled with *Road Avenger*. And again, both Spain and Portugal received this version months before the redesigned Mega Drive II. This was a major mishap; although the Mega CD II was also compatible with the original Mega Drive, it was specifically redesigned to fit the Mega Drive II. Compatibility with the original Mega Drive was a bit messy, as it needed extra parts to be added during assembly. According to some UK magazines, a small percentage of Mega Drive users

actually picked up the peripheral. Most of the games weren't very impressive, and many were simply ports of already available titles. Furthermore, the disasters of the Commodore and Philips systems had made Europeans wary of CD-based games.

European development support was quite modest, especially when compared with other Sega systems. Most European studios played it safe, focusing on porting titles instead of creating Mega CD-exclusive games. DoMark preferred to be on the publishing side, and teamed up with other companies to port games over to the system; their partnership with Bullfrog resulted in Mega CD versions of *Theme Park* and *Syndicate*. Psygnosis chose a similar strategy, and in 1993 and 1994 they published several games, including *Shadow of the Beast II; Puggsy* and *Microcosm*. With regards to European exclusives, Dephine Software offered up *Heart of the Alien*, the official sequel to the popular *Another World*.

Curiously enough, Sega helped Sony get into the gaming market, by introducing new studio Sony Imagesoft to European developers. Sega's goal was to garner support for the Mega CD from a company that had contributed to the creation of CD technology. Some strategic partnerships in Europe resulted, with Sega publishing *Sensible Soccer* in cooperation with Sensible Software.

"I know it sounds strange today, but Sony back in those days didn't have a clue how to do video games. Not a clue… Olaf Olafsson was head of Sony Entertainment, they didn't know how to do video games and so he asked us at Sega to help him. Since we needed [Mega CD] third-party support, of course we helped Sony. We lent them the people, the technology, we literally taught them to program video games."

- Tom Kalinske (President, Sega of America)

Perhaps the most representative European company was Core Design, which developed nearly ten games for the system. Some were ports of popular games – including *Chuck Rock II, Wolfchild, BC Racers*, and *Jaguar XJ220* –

while others, such as *Wonderdog* and *Battlecorps*, were system exclusives.

Without a doubt, the one game that had everyone talking about the Mega CD wasn't European. As in the US, *Night Trap* quickly turned heads – although not always for the right reasons. Whatever the cause, the furor helped raise awareness and drive sales of the system.

"Night Trap got Sega an awful lot of publicity. Questions were even raised in the UK Parliament about its suitability. This came at a time when Sega was capitalizing on its image as an edgy company with attitude, and this only served to reinforce that image."

- Mike Brogan
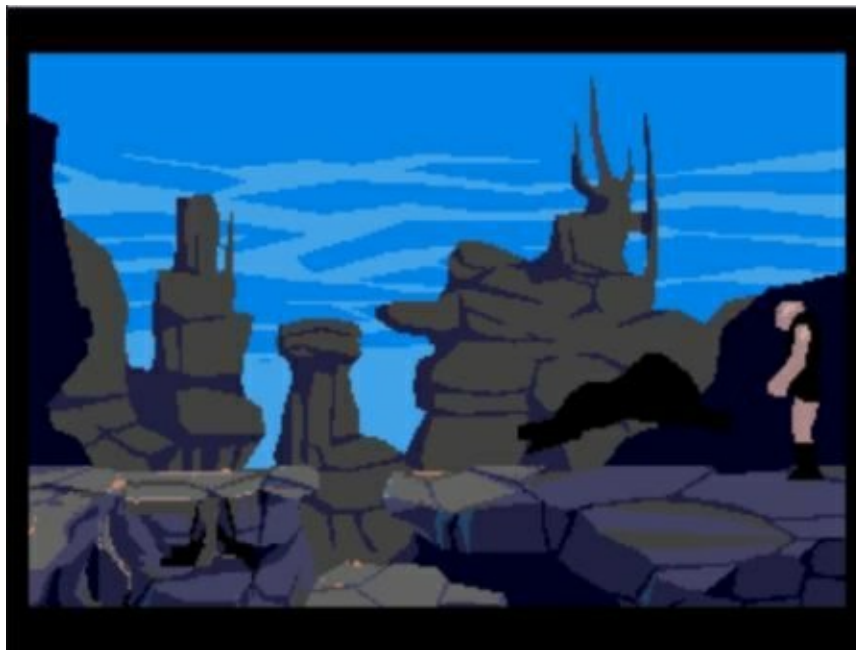
Heart of the Alien

By 1994, the Sega Mega CD was all but forgotten alongside so many other CD-based systems. The lack of attractive software and saturation of "interactive movies" had taken its toll, with very few games exploring the system's potential. Less than two years after release – and despite Sega's having created games compatible between the Mega CD and their new Sega 32X peripheral –the system was still considered a novelty. Its final games were released the following year, mostly just out of contractual obligation.

"The Mega CD could have been a huge success… It was a "Home Entertainment Center", besides playing its own video games, it could also be used for audio CDs… If the price was a little bit lower, together with a price reduction of the Mega Drive games, it could have become a success. I did manage to convince Nick Alexander (Sega of Europe), and he gave me authorization to travel to Japan, to explain this strategy to Nakayama. Unfortunately, my persuasion wasn't good enough. "

- Paco Pastor

Billboard magazine reported in June of 1994 that worldwide sales of the Sega Mega CD had reached one million – a record at the time for CD-based consoles. Of those, Europe contributed only 170,000 units, with the UK at the forefront, followed by France. Demand in Germany was low, and at the Nuremberg Toy Fair of that year, Sega of Europe reported that sales of the (more expensive) Multi-Mega were far outstripping orders for the Mega-CD. The Mega CD proved Sega of Europe's least supported system, with a library of less than 100 titles.

"They thought we were crazy…"

Following the Mega CD's disappointing results, Sega continued to find ways to expand the Mega Drive's life span. In the mid-nineties, fifth generation consoles – including the Atari Jaguar, 3DO, and Amiga CD32 – were starting to appear, and Sega needed to start thinking about the future. In the meantime, they produced a new peripheral for the Mega Drive.

Surprisingly, the Sega 32X would be made available almost simultaneously in Japan, the US and Europe, where it launched as the Sega Mega Drive 32X, and priced at £169.99 (in the UK). The initial reception was superb, and weeks after its general release, some countries reported being out of stock. There was a demand for new titles, but there were too few options on the market, or even chances that they would ever exist.

"January 1994; Saturn was due to hit the streets within a year,

development kits were scarce in Europe and still in the early phases, and support from Sega was very limited, so timescales for developers were ludicrously tight. Then suddenly we dropped 32X on them with even tighter timescales. They thought we were crazy – and we were!"

- Mike Brogan

Many of the developers that signed early contracts for 32X games either canceled them – planning to take those projects over to the Sega's upcoming fifth generation console – or simply rushed them to market. By 1995, fewer than 50 games were available for the 32X, including two European exclusives: *Fifa Soccer' 96* and UK-based Frontier Developments' *DarXide*. The latter was one of a handful of games produced in Europe; other examples include Core Design's Mega CD game *BC Racers* – ported by US Gold – and Novotrade's *Kolibri*.

Kolibri

"Sega users might have switched camps after the experience of 32X or the Mega CD. Nobody gave us credit for at least trying to broaden the games market, they unfortunately came at a "boom-and-bust" period… For our sins, we didn't support it as much as we should have done, and with that started a bit of distrust."

In a desperate bid to move more units, Sega of Europe offered £50 discount vouchers with every 32X, but it was too little, too late. By the end of 1995, the 32X was selling even less than the Mega CD, making it Sega's worst-selling system in Europe.

Education for all

Another Sega system launched in Europe at about the same time as the Sega 32X. The Sega Pico was a very basic console aimed at young children between two and eight years old. In other words, a Trojan horse intended to put the Sega brand before young audiences. The console was released in all key European markets, earning acclaim from the European edutainment community, and even praised by some education professionals. Unfortunately, support from developers wasn't so strong, and once again, most of the Pico's titles came from Sega's subsidiaries.

One of the key issues was language. Having the game support multiple languages was a big expense for companies. A Mega Drive title could have multiple languages built into the game's ROM, but the Sega Pico used book-shaped cartridges with turnable pages – more like a toy – driving production costs up. Regardless, Sega's subsidiary Novotrade created games for both Europe and North America, including *Tails and the Music Maker, A Year at Pooh Corner* and *Smart Alex and Smart Alice: Curious Kids*. The only confirmed European exclusive was *Professor Pico and the Paintbox Puzzle*, released in 1995. In the end, fewer than 20 games were released before the system was discontinued in late 1997.

"Pirates" with an edgy attitude

By the early nineties, it was becoming clear that a bulk of the European market belonged to three countries. As much as 50% of Nintendo and Sega's European operation profits came from France, Germany and the UK.

Secondary markets included Italy, some Scandinavian countries and the Iberian Peninsula. Austria, Benelux, Denmark and Greece were considered the third. As is the case even today, Eastern European countries were not considered priorities. Naturally, it was during this period that Sega began to focus its efforts on the UK and France, followed by Italy, Spain and Portugal. Sega of Europe had grown rapidly, climaxing in 1993; naturally, such quick growth came with consequences.

"After the Olympics in Barcelona, in the next year [1993] we had a critical period of restructuration that lasted 2 years. Not only in Spain, but also in the rest of Europe. The company was making adjustments and reducing the titles launch. One of the toughest periods I came across. "

- Paco Pastor

"Sega Europe's development division grew from about eight people to approximately 80 in this period. It was an exciting time, but in retrospect we were too ambitious. Around half of those numbers were software engineers, graphic artists and musicians, because we tried to start an internal development team from scratch. That was a mistake. We should have relied more heavily on third party developers. Managing a staff of that size was a challenge."

- Mike Brogan

Many of Sega's third market operations weren't presenting compelling arguments as to their value, so it came as no surprise that Sega decided in 1996 to close down operations in Austria, Belgium, Denmark and Switzerland. The distribution of Sega products continued in these countries, with other companies – such as Koch Media – granted distribution licenses by Sega. With this strategy, Sega of Europe hoped to concentrate more of its efforts on the remaining markets, as they prepared to push future systems and games.

Marketing for video games in Europe had grown over these years, with Sega and its partners contributing to overall awareness of video games. At the

end of the 70s, a few magazines about computer hardware started to appear, some even including sections devoted to video games. Over the next decade, magazines, TV shows and other forms of media dedicated to the industry began to appear throughout Europe.

Canal Pirata Sega

By the end of the 80s and into the 90s, Sega and Nintendo unveiled increasingly professional ad campaigns in Europe; but unlike what was happening in the US, negative ads were uncommon. Instead, many campaigns focused on celebrating the systems capabilities and games. As the early 90s continued, Sega of Europe and its partners took a different approach, opting for edgier, faster-paced commercials in the vein of the "Nintedon't" campaigns in US. One notable example appeared in the UK: *Sega Pirate Channel* was a fictional unlicensed TV network that interrupted ersatz commercials to talk about Sega's latest games. A similar campaign appeared in Spain, dubbed *Canal Pirata Sega*. Both campaigns featured a skull in the logo, which became an unofficial secondary mascot for Sega in Europe. Perhaps in paying a little homage to the European pirate community, Sega was helping create a more rebellious image.

Naturally, different slogans were used to pitch Sega products, depending on

the country. The UK had "To be this good takes AGES! To be this good takes SEGA!" In France, it was "Sega c'est plus fort que toi" ("Sega is stronger than you"), which was mimicked by Portugal's "Sega é mais forte que tu." Spain also used a variation on this, "La ley del Más Furete" ("The law of the strongest") and before that, "Uma nueva dimension en videojuegos" ("A new dimension in video games"). In some countries the old Master System slogan "Do me a favor… Plug me into a Sega" was also carried on into Mega Drive campaigns. And in some territories, advertisements and commercials from elsewhere in Europe or even the US were simply overdubbed and/or subtitled.

In the mid-nineties, Sega launched a revolutionary project to enable downloading through cable TV and onto the console. It was called Sega Channel. In Europe only a few countries carried the service: naturally, the UK was at the forefront of this campaign, which launched in 1996, courtesy of Flextech PLC for a £10 monthly fee. In Germany it was offered by the Deutsche Telekom at a cost of DM28 a month. Later on, it was offered in the Netherlands at a cost of DFl 20/month; and finally, in France, it was Multithematiques S.A. that broadcast the channel.

"Tele-Communications International has established successful partnerships around the world… We have plans to commence distribution arrangements in Western Europe immediately, with other ventures, like Flextech PLC in the U.K. and Multithematiques S.A. in France… We look forward to working with them to bring Sega Channel into homes in overseas markets."

- Nick Fiore (VP and Managing Director International, Sega Channel)

In the roughly three years that the service was available, around 50 games were offered. Curiously, some of the games made available were NTSC, and based on North America ESRB rating system. The channel also announced upcoming game releases, showed trailers and broadcast some news related to Sega operations.

In an effort to diversify Sega's product line and appeal to Europe's computer

enthusiasts, an agreement was signed between Sega of Europe and UK-based computer company Amstrad. In 1993, Amstrad released a hybrid system – half Mega Drive, half PC – onto the European market. The Amstrad Mega PC was essentially an IBM-compatible system, with a Mega Drive ISA card and some less-than-high-end components. Released at a price of £999, it included a white/beige Mega Drive controller, an Amstrad joystick, keyboard, mouse and monitor with internal speakers. Marketed as a business computer with "fun" capabilities, the reception was modest at best. The price was considered too high, and some components – such as the Intel 80386SX processor – were almost outdated at the time. It was cheaper to buy a more up-to-date IBM PC clone and standalone Mega Drive separately. Amstrad soon reduced the price to £599, and released a new version with an 80486 processor – the results proved no more popular than its predecessors. These systems show Sega of Europe's insights as it tried to diversify its products, and its market position was so strong that a computer company would be compelled to make such a hybrid.

In the end, all these campaigns made their mark. Sega sold nearly seven million Mega Drive units in Europe, alongside 543 PAL games, becoming Sega's best-selling console in the territory.

Amstrad Mega PC

Sega World

Without a doubt, 1993 was Sega of Europe's best year yet. In order to build up the Sega brand, theme parks dedicated to Sega products were built in the UK.

"In Europe Sega has to work very hard in the consumer market. We will take this idea as far as it will go. It will have a synergy effect. We're providing the thrills and enjoyment people can't get at home."

- Yasuo Tazoe (Director, Sega's development division)

The first park opened in Bournemouth in July of 1993, dubbed Sega World, although later renamed to Sega Park. Unsurprisingly, the focus was on Sega's arcade machines and memorabilia. In London, in September of 1996, Sega World London opened up in Piccadilly Trocadero with a big serving of Sonic.
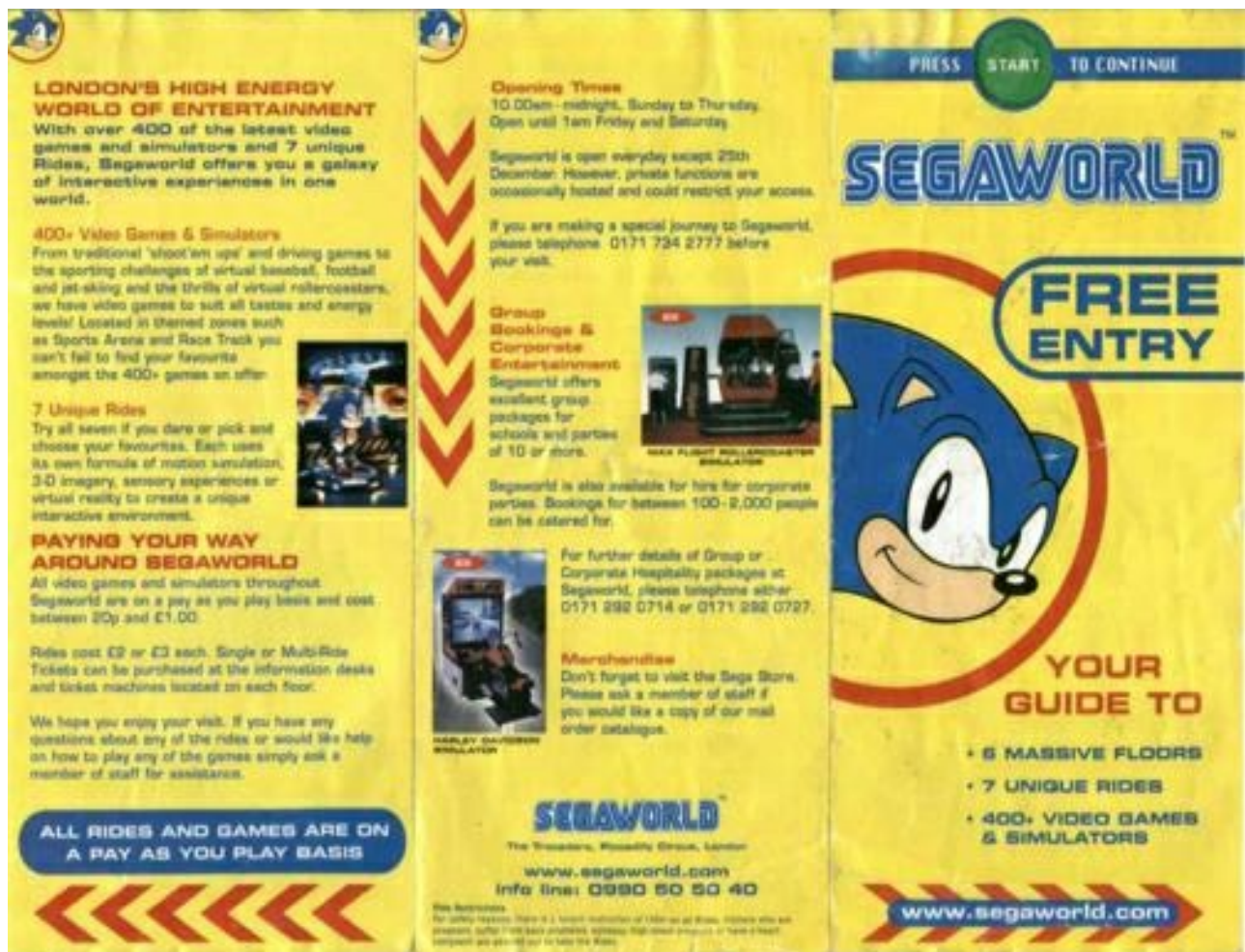
Sega World brochure

"It will be a vehicle for Sega itself. Both consumer and coin-operated launches will take place here. The Sega Saturn and game peripherals will be also available in the on-site store."

- Peter Searle (Development Director, Sega Amusements Europe Ltd.)

As The New York Times reported, "Sega World, which opened last weekend, occupies 110,000 square feet (10,200 square meters) on seven floors in the Trocadero entertainment center in Piccadilly Circus. It is said to be the largest indoor theme park in the world, dwarfing Sega's two existing theme parks in Japan. The company invested 8 billion yen ($73.1 million) in this European flagship operation." It closed down at the end of the decade.

Reaching Saturn

By the mid-nineties, Nintendo's biggest seller in Europe was the Game Boy, which – besides selling at an astonishing number – helped NES sales and later on, created awareness of the SNES. However, neither of these consoles proved as popular as their Sega counterparts. Nintendo even attempted to control the European market, creating price-fixing strategies, preventing high-priced exports originating from low-priced countries. In 2002, an investigation conducted by the EU concluded that during 1991-1998, "prices in the UK were cheaper by 65% when compared with the Germany and Netherlands markets…traders that allowed exports to occur were punished by being given smaller shipments or by boycott altogether." Nintendo ended up paying a €168.843 million fine, the fifth-largest amount ever imposed for anti-trust infringement at the time.

With the exception of its Game Boy, Nintendo really didn't pose much of a threat to Sega's dominance. But another Japanese company was about to enter the market. By 1994, the Sony PlayStation was already out in Japan, and scheduled to hit Europe the next year. But – unlike Nintendo – Sony was backing it with a big budget marketing campaign.

The 3D paradigm

Up to this point, developers had been creating sprites in games for over ten years. In 1994, some 3D games made for consoles, such as *Starwing* and *Virtua Racing*, sold in respectful numbers. Innovative as they were, though, they didn't send the game industry diving into this new trend. Even the Sega Saturn was being designed as a 2D machine. Regarding the widespread implementation of 3D, the gaming industry was divided. Today it seems only logical that CDs and 3D would be a perfect marriage. But in the first half of the nineties, the technology was expensive, the few 3D graphics cards that existed didn't attract big audiences, and even *DOOM* – an evangelist for the 3D gaming experience – used sprites. Sony may have been planning a 3D-based console, but interest from the gaming community was low.

Tomb Raider

"When we did Fade to Black *we had to create a whole new engine, and we had a lot of technical problems because we were learning how to place the camera, how to control the character. It was really something that we had no experience of. It was a very interesting experience, but also a frustrating one."*

- Paul Cuisset

The game that changed it all was Sega's *Virtua Fighter*, which soon caused developers to acknowledge the benefits of 3D. One of the early European studios to succeed in 3D was UK-based Core Design, one of Sega's more reliable allies. Core developed games for the Master System, Mega Drive, Mega CD, Game Gear and 32X, making Sega a lot of money, and boosting Sega's market position. In the mid-90s, the studio began work on a new project that forever changed the industry. That game was *Tomb Raider*.

"Sega had been very good to me. They had transformed my company and I had made a lot of money out of Sega. I felt I could give something back to Sega by giving them a three-month exclusive and hope it would help them with their sales… But, when Sony came out with all guns blasting, they ripped

Sega apart. Everyone saw how great Tomb Raider was in the Saturn and was waiting for it to come on the PlayStation and when it did, its hardware sales went through the roof!"

<div align="right">- Heath Smith (Founder, Core Design)</div>

The timing couldn't have been more perfect. With the "girl power" movement gaining memento in the UK, female audiences were pleased to finally have a strong heroine in video games (even if the character's design still squarely targeted teenaged boys). Soon enough, *Tomb Raider* became one of the early frontend titles for the fifth generation, and for a while, a system seller for Sega Saturn. The game's leading lady, Lara Croft, became a strong symbol of what European game developers could bring to the industry.

Saturn rising

By 1995, Sega Saturn was unleashed into almost every territory in Europe. The early reception was as expected; the system was soon out of stock. Several marketing slogans were used. In the UK it was "Welcome to the real world" and "The game is never over." On the Iberian Peninsula, it was "Dangerous real." And in France the taglines "De-program-yourself" and "We are not on the same planet" were used. The Saturn was being publicized as something out of the normal world – a new dimension in gaming. During this period, Sony had been tapping into its big marketing budget, and had already managed to create some buzz over the PlayStation. The N64, on the other hand, was far away; other systems were either considered not to be a top priority for gamers (Neo Geo CD) or dismissed outright (3DO, Atari Jaguar).

Atari Jaguar

In the early days of the Saturn, perfect conversions of popular Sega games such as *Daytona USA, Virtua Cop* and *Virtua Fighter* made ideal calling cards for anyone interested in the new console. European support also started to appear, but most of the titles were only scheduled to arrive in 1996, while others were rushed to market and with good reason soon forgotten.

"One of the things we learned since the launch of the Saturn is that we've let some people down with the quality of our titles. Looking back to things like Virtual Hydlide *and* Mansion of Hidden Souls*, there were a few titles that perhaps we wouldn't have wanted."*

- Andy Mee

During the 1995 Christmas season, the Mega Drive continued to outsell the Sega Saturn. Unlike things over in Japan, the 16-bit console was still appreciated in Europe, and still enjoyed community and developer support - in fact, the Mega Drive wasn't discontinued until 1998. So, for some time, the Mega Drive was the Saturn's biggest competitor. Naturally, it didn't last long.

Sega Power reported in their 1995 December issue that Sega of Europe was still planning to support every console that the company had on the market. In other words: The Master System, Game Gear, Sega Pico, Mega Drive and 32X would live alongside the Sega Saturn. This breadth of products would prove to be a huge financial burden on company's entire European operation.

"Like many other manufactures do with their TV's, we have different

products at different prices in the market… This Christmas we will sell far more Mega Drive than Saturn, and this is likely to be the case for some time to come, as the Mega Drive is an integral part of our plans for the next couple of years."

<div align="right">- Mark Maslowicz (Spokesman, Sega UK)</div>

Although Nintendo had so far been a supporting actor in the European theater, Sony wasn't about to play so nicely. A $2.4 billion worldwide marketing budget ensured that the new console's name was broadcast almost everywhere; thanks to some promising titles, gamers started to take interest. Sony also moved in on developers formerly allied to Sega. In 1993 they purchased Psygnosis, in anticipation of the 1995 introduction of the PlayStation. Others European studios such as Codemasters, Infogrames and Virgin Interactive would also show some early support.

"I think we realize now that there will probably be a greater installed base of PlayStations. But as long as we've gone ahead and met our budgets and targets, which we have done – we said a million units by end of the financial year and we're on target – we have a viable business to go forward."

<div align="right">- Andy Mee</div>

In 1996, Saturn was still selling in decent numbers, but losing ground to the PlayStation at an alarming rate. Furthermore, titles were starting to be canceled or postponed. By the middle of the year it was clear that Sega's market position was collapsing, and the Saturn's high price wasn't helping. The PlayStation was cheaper by about £100, and its games cost less, too. In the UK, the magazine market had started to shift towards PlayStation, and many Sega-centric magazines disappeared. Nevertheless, some soldiered on, some even giving away excellent perks. *Sega Saturn Magazine* packed a *Christmas NiGHTS* CD in its 1996 holiday issue; later they even offered the first complete disk of *Panzer Dragoon Saga* (not to be confused with a demo).

By the next year, the stream of Sega Saturn games arriving in Europe was becoming smaller and smaller. Many of the games that hit big in Japan or the

US would stay there, and multiplatform titles wouldn't get ported to Saturn. Even Core Design, with its historical relationship with, Sega decided not to bring its *Tomb Raider II* to Saturn. Nevertheless, a few notable 2D titles eased the burden. The most popular of these were fighting games such *Street Fighter Alpha 2, Marvel Super Heroes* and *X-Men Children of the Atom*. Together these games helped keep Saturn and Sega's name afloat.

Christmas NiGHTS

At E3 in 1997, Sega officially spoke about its upcoming new generation console, which many developers took as code for "Sega Saturn will be discontinued shortly." A lot of projects were canceled – some by Sega itself – while other developers lost trust in the company altogether, and decided to focus on the PlayStation instead. During the same year, Nintendo released the N64 in Europe. But by this time, it was too little, too late. The PlayStation's two-year advance had given it dominance over the market, and it was digging a progressively bigger gap between its sales and the other systems'. Nintendo, in any case, focused on the next closest target – Sega Saturn – even if it seemed more interested in supporting its new Game Boy Color than the N64.

Guardian Heroes

So it comes as no surprise that during the last months of 1997, and continuing on into 1998, Sega Saturn lost its ground. Even outstanding releases such as *Guardian Heroes* and the *Panzer Dragoon* series weren't up to snuff when compared with the onslaught of games the PlayStation was showing. In autumn of 1998, Sega unleashed their new sixth generation console in Japan: the Dreamcast. Although it was only released in Europe the following year, many previous Sega's enthusiasts had already turned their back on the company. In their eyes, Sony's PlayStation was the impressive new kid in a town the Sega Saturn had already left.

Cheap, easy, popular

Piracy has always been a big issue in Europe, and the Demoscene owes a lot to European hackers in the 80s. Since then, games and other media were increasingly copied without the authorization of their original owners. Piracy wasn't just an annoyance, it was common.

Then consoles appeared, bringing with them better antipiracy protection due cartridges. Until then, computer disks and taped content were fairly easy to duplicate. Consoles such as the Master System, Mega Drive and Game Boy

have contributed indirectly to the downsizing of piracy. But while games couldn't be so easily copied, consoles could. "Famiclones" were arriving by the hundreds in South and Eastern Europe, introducing consoles (and Nintendo games, in particular) to a larger audience. What is curious in all of this is the appearance of two Mega Drives clones, right in front of Sega of Europe's eyes. The first, called Scorpion 16, was even advertised during the TV Show *Bad Influence* in the UK, in 1994. The other, called Mega Games II, was a Sega Mega Drive clone sold in the Iberian Peninsula by Ecofilmes, albeit with Sega of Europe's official blessing.

Mega Game II

By the mid-nineties, multimedia computers equipped with CD-ROM writers were becoming affordable, and soon enough, consoles were also using CDs as their main storage units. This meant that games could be easily copied, and no console benefited more from this than the PlayStation.

"When consoles arrived in Spain, they only got popular later on. One of the key factors was they were impossible to duplicate the game, thus (not easy to copy)."

- Paco Pastor

ELPSA (European Leisure Software Publisher's Association) reported in 2000 that piracy had cost the UK video games industry an estimated £3 billion

in 1999 alone, with PlayStation games at the forefront.

"The way we come to a £3 billion figure is based in the fact that for every legitimate that is sold, there are ten PlayStation titles that are being illegally sold, given away or downloaded."

- Roger Bennet (Director General, ELSPA)

With piracy and the possibility of copying CDs, so grew the popularity of the PlayStation in Europe. The cheapest console also happened to be easier to hack and "acquire games" for, and thus piracy indirectly played a very important role in its popularity and sales.

A stronghold lost

In the second half of the nineties, Sega lost its hard-earned market control. Whatever good will was built up over the previous years soon crumbled, and Sega's Europe's was progressively losing ground. The Mega CD may have been a mixed bag in results, but the 32X was a flat-out flop. Sega of Europe's people tried to warn their Japanese counterparts – a new strategy had to be devised – but their warnings fell on deaf ears. By 1995, when the Saturn arrived, the company's position was already fragile.

"I confess; one of the reasons that made me leave Sega España was the strategy that Sega of Japan was taking for Europe. I didn't think it was the right one."

- Paco Pastor

The generational shift to 3D was also taking its toll. Many companies didn't know how to make the most of the new medium, and the results in some cases were disastrous. At the same time, there was also a merging process going on in Europe; as the video game industry was growing, so too were both profits and ambitions. Companies were buying one another up, in order to gain access to competition's IP. In some cases, developers' labors of love were now the

property of publisher executives. The result was that the original creative forces often didn't agree with new directions taken, and in many cases developers left the companies that they helped to create. As a result, tragically, many promising IPs lost a bit of their soul. Sega of Europe, too, had made some of these same mistakes. In trying to grow too fast, the company ultimately lost control of the market it helped create.

In 1995, Sega of Europe was supporting seven systems at the same time: Master System, Game Gear, Mega Drive, Sega Pico, Mega CD, 32X and the Sega Saturn. Developers had supported the first three of these quite easily; their architecture was similar, and the risks were lesser. However, with the fifth generation, companies not only needed to update themselves, but account for teams that were growing in size and complexity. Furthermore, this time around Sega couldn't rely on developers' already having a background in the new systems' technical issues. What had made the transition easy from home computer to consoles was now proving a problem. Sega needed to provide easy development tools, but the Saturn SDK was complex and not user friendly, and the learning curve too high. The PlayStation's SDK, in comparison, was much more intuitive and easy to program for.

Sega also tried to push the console's multimedia features, releasing the Saturn Video CD Card in Europe. This was a card peripheral that gave the console enhanced video capabilities, and thus, the ability to play movies. However, this was focused mainly in the UK; and few other countries ever saw compatible titles. Very few movies were available in VCD format; Photo CD applications were scarcer, still. On top of that, at a price of £170, the card was expensive, and support was limited, at best. The few Japanese games that were compatible with the peripheral weren't even released in Europe.

Not long after, Sega conducted testing of the Sega Saturn Net Link, a peripheral that enabled users to access the Internet through the console. These tests were conducted in Finland, but the results weren't positive. As the peripheral had already bombed in the US, Sega of Europe opted not to release it.

By early 1996, a quick peek at the console top sales yielded some insights: The most popular games were almost all the arcade conversions from Sega, including *Daytona USA, Sega Rally, Sega Worldwide Soccer, Virtua Cop* and *Virtua Fighter*, with few third party developers' games really helping to push the console. In fact, many of them were rushed projects, and thus had a contrary effect on the console's image, with early games such as *Mansion of the Hidden Souls* and *Robotica* doing its reputation more harm than good. Sega did have decent offerings – *Clockwork Knight, Theme Park,* and *Mortal Kombat 2* were all good games – but they didn't move sales as much as they could. Furthermore, the definitive *Sonic* title was nowhere to be seen; *Sonic 3D, Sonic Jam* and *Sonic R* may have had their appeal, but none was a decisive system seller. Eventually, gamers got tired of waiting, and moved on to other systems.

On July 22, 1997, Marketing Week magazine ran a report titled "SEGA plots attack on game giants," which mentioned that Sega in that year, in the UK alone, had sold 90,000 Sega Saturn units worth £11.7 million. Sony, by contrast, had moved 1.2 million PlayStations (£163 million), while Nintendo had sold 600,000 N64s units (£84 million).

	1996	1997	1998
Sony PlayStation	40.4%	61.2%	69.3%
Nintendo N64	N/A	19.3	24.7
Sega Saturn	11.6	7.5	2.7
Nintendo GameBoy	6.6	3.8	1.5
Nintendo SNES	13.0	2.7	0.8
Sega MegaDrive	23.3	5.1	0.7
Nintendo Colour GameBoy	N/A	N/A	0.2
Others	5.1	0.4	0.1

UK Game Console Market Share

In 1998, Sega of Europe was seeing results best described as merely decent. It seemed that in the fifth generation their biggest achievement had been helping create the blueprint for the PlayStation's success in Europe. Many of Sega's historical accomplishments probably had helped the

competition more than the Saturn, itself. Sega helped birth the video game console market in Europe. It ran edgier marketing campaigns, improved the market position of Europe's third party developers. And, it introduced Sony Imagesoft to European developers. Sega may have planted the tree, but Sony collected the fruit. If PlayStation was big in Europe during the fifth generation, it was mostly on its own merit; but an unofficial debt of gratitude is owed to everything that Sega indirectly did to pave the path.

Sony Imagesoft logo

A new cast

Entering 1998, Sega Europe's operations encountered major turbulence, having clearly lost the advantage it held in the territory. Whatever the Mega Drive, Master System and Game Gear had accomplished, it was fading away at an alarming rate. The company's future in Europe was for the very first time in doubt. By then, everyone knew that Sega was releasing a new console in Japan somewhere at the end of the year; and, as such, the Saturn was headed for retirement. Europeans were divided; some were anxious to see what Sega was preparing, others were suspicious of the company and its plans. After all, the combined disappointments of the Mega CD, 32X and Sega Saturn had taken their toll. In less than five years, Sega had introduced three

systems – on average, releasing a new platform every 18 months. To make things worse, they didn't really meet the expectations. Sega's reputation in Europe was very fragile, indeed.

In spite of this, some stayed true to Sega. The Saturn may have driven away mainstream audiences, but others were still enjoying the console and its games. A niche of Saturn supporters somehow sprang up, helping sustain sales until the end of the year, when Sega of Europe released its official numbers: Roughly 1.5 million Sega Saturn consoles had been sold in the entire territory during 1995-1998.

Preparing for the Dreamcast's debut, Sega of Europe decided on some cosmetic changes, starting with the logo. Instead of an orange spiral logo, the European version was blue; some speculated that Sega of Europe wanted to avoid a probable trademark infringement with German game/DVD publisher Tivola, which also sported an orange spiral as its logo. Using a blue logo also made sense, as Sega had always had an association with the color. This, however, this didn't go well with the other branches. The western marketing plan was to create total awareness of the Dreamcast brand, and even a small change – like the color – could compromise the entire operation.

"It was just indicative of the complete lack of integration there was – the Dreamcast logo was blue in Europe instead of orange, the concept of a globalized brand, just evaded the Japanese completely. And Jean-François, who was the general manager in Europe, went his own way, and had his own positioning."

- Peter Moore (President and COO, Sega of America)

Nevertheless, both western markets were targeted at practically the same time. Sega Dreamcast arrived in North America on the symbolic date of 9-9-1999, and Europe was expected to be 9-23-1999.

A year before, in November of 1998, Sega of Europe had undergone some major changes, with Jean-Francois Cecillon appointed CEO to oversee all of the company's major operations in France, Germany, Spain and the UK. The

press dubbed him "Sega's Napoleon."

"Sega became very strong in the early 90s and I think got carried away a bit. So if we are successful this time, I am determined we will avoid making the same mistakes. There will be no huge increase in headcount and structure. We still have a strong brand as a result of previous advertising. This time I think we will focus the marketing work on the product, not the Sega name."

- Jean-Francois Cecillon (CEO, Sega of Europe)

Cecillon had worked in EMI records in the UK and Ireland, and saw that the music and video game markets were similar. They reached the same audiences, and had to be ready to adjust to change rather quickly. During his first months as CEO, he brought new blood into the marketing department. One of his first moves was to hire Giles Thomas – known for his work at MTV Networks – and make him responsible for advertising, public relationships and marketing across all major European markets. The first priority was damage control. Sega of Europe had been losing market control since 1996, and had been forced to close several offices, including Austria, Benelux, and Switzerland. The Saturn had given a glimpse of Sega's future, and the entirety of its European operations were losing money as a result.

In 1998, early drafts of the Dreamcast marketing campaign were drawn up with the consent of Sega of Japan. It was a go-or-bust moment. By 1999, Sega of Europe announced to BBC News Online that their marketing budget for the console advertising would be £60m for the first year alone. The Dreamcast's launch plans mimicked the past strategy that had worked for the Mega Drive: get to market before the competition, creating a foxhole for the upcoming console war battle. In the eyes of Sega, one of the reasons the Saturn had failed was that it released too close to the PlayStation. If it got onto the market ahead of the competition, the new console would be better positioned to compete. But first of all, audiences needed to be reintroduced to the brand, and – if possible – reminded of how important Sega was to the

video game market.

"We are here to launch a brand [Dreamcast] first, a console second. Sega is a very open-minded about the marketing mix. It is looking to do things in an unconventional way."

- Giles Thomas (Sega of Europe, Marketing Director)

In the next months, Sega rolled out its marketing campaign. The brand was heavily marketed at big events, blockbuster movies premieres, in urban centers and shopping malls, and of course, in edgy TV and magazine ads. September of 1999 was drawing closer.

Giles Thomas

Living the dream

With the console already available in Japan, the US and Europe were next in line to enjoy the Dreamcast in 1999. But not everything went smoothly. Sega of Europe commenced its marketing campaigns as early as January of 1999, and the biggest selling point was the console's online capabilities, with advertisements proudly boasting, "Up to six billion players" and "We all play games, why don't we play together." The official European release date for the Dreamcast was just two weeks after it hit in North America. The anticipation for Sega's new console was so intense that on April 16, 1999, BBC New online

reported that "there is a significant number of (grey import) Dreamcast consoles from Japan already in the UK."

"Marketing at Sega in those days was very much more post-development marketing; the traditional idea of marketing as opposed to marketing these days tends to be very involved in product generation. Now when you talk about marketing you're thinking about what kind of products should we build, but then I think it was much more developer-push. So some guy would have some technical idea and then you would push it that way as opposed to getting someone right at the beginning say 'how can we sell this?'"

- Tom Szirtes (Sega of Europe)
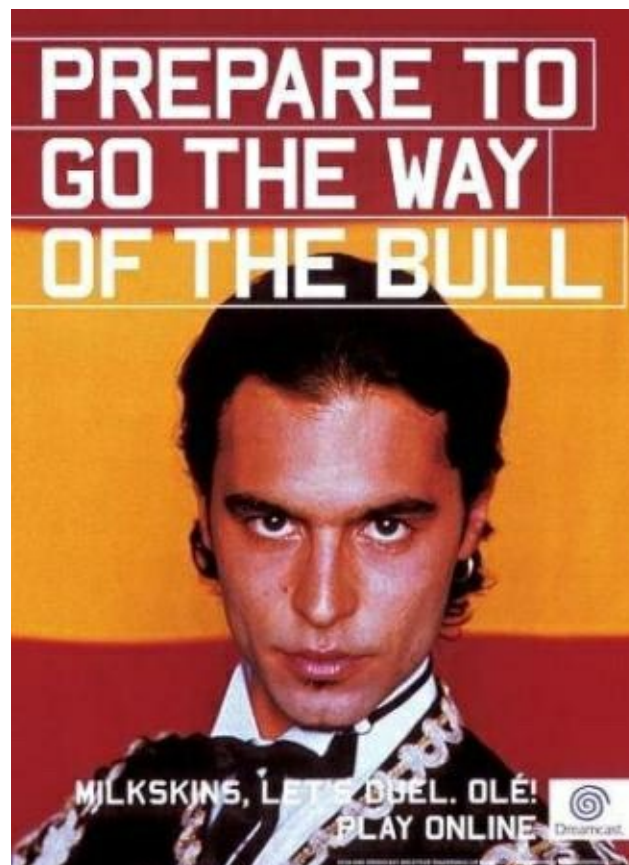
Spanish Sega Dreamcast advertisement

Nevertheless, there were some problems. Sega hadn't learned from the PlayStation's marketing campaigns, and failed to reach out across all of the European markets, focusing instead on the traditional mainstays. For all the others, third-party companies were hired to promote the Dreamcast, and given

modest budgets to work with. As the release date drew nearer, Sega of Japan – aware of the big expectations for Dreamcast in the US – changed its plans. The production run initially intended for Europe was partially diverted to North America, while the rest would not be available on the expected date, due to "technical issues." The original European release was delayed by three weeks at the last minute, to October 14, in an effort to focus on the North American launch. Truth be told, the executives in Japan weren't entirely confident that the upcoming battle could be won in Europe. It was the North American effort that was most important.
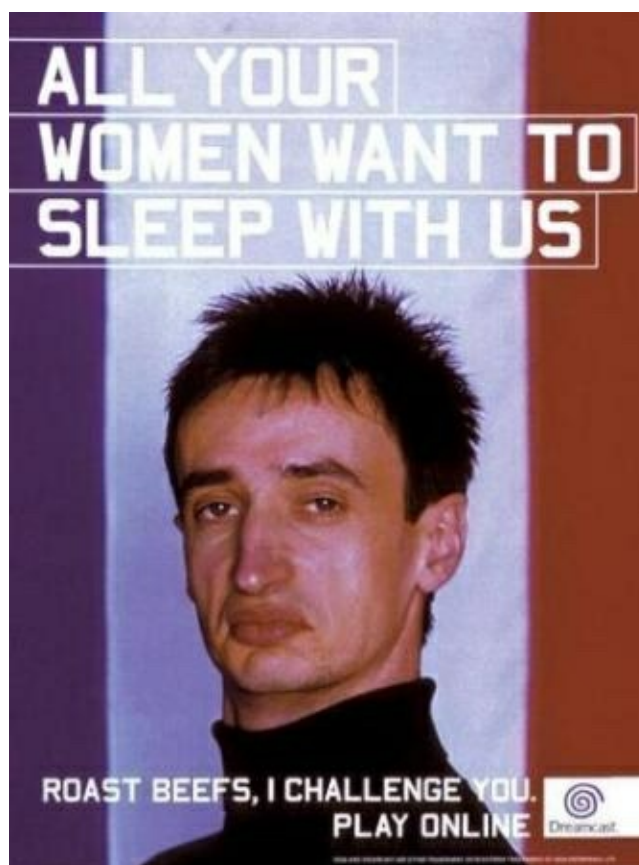
French Sega Dreamcast advertisement

Naturally this didn't go unnoticed among the European gaming communities. All this time, Sega of Europe had been heavily marketing a grand launch, but it came and went. Dreamcast wasn't there – it was a hoax. Once again, Sega had failed to deliver. If anything, it only increased the lack of faith in Sega across the continent. Consumer confidence was reaching an all-time low.

Finally, on October 14, the Dreamcast hit the UK, with the rest of Europe receiving the console that same day, or over the course of the next few months. In the first four days, priced at £199, it sold an astonishing 155,000 units in the UK. The system met a similar reception in other territories, priced in Germany at 499DM, Spain at 39,900 PTS and France at 1,690FR.

"We launched the console on the 14th of October and it's been a phenomenon. Never has a console sold so many units in the launch phase. Our objective was to sell 100,000 Dreamcast units in Spain by the end of the year, and we have already done it."

- Jose Angel Sanchez (Sega España)

There were ten titles initially available in the UK (fewer in some other countries), including *Sonic Adventure, Metropolis Street Racer, Toy Commander, Monaco Grand Prix* and *UEFA Striker*. An additional 20 titles were announced to release in time for the Christmas season. But the competition wasn't sleeping; as soon as the Dreamcast hit stores; Sony and Nintendo planned on dropping their consoles prices (both cost £99 at the time). Even at this time, with the PS2 less than a year away, the original PlayStation was still selling like popcorn – a fact that Sony was more than happy to remind gamers of.

"When you're launching a games console, you need hundreds of millions of dollars to get it off the ground… and so the North American launch was the last best chance – Europe was going to be launching but there wasn't enough there to salvage what was going to be a tough situation with the PS2 looming 12 months out."

- Peter Moore

Expectations ran high. All across Europe, Dreamcast units were selling at an astonishing rate, leaving Sega of Europe confident enough to report that: "European sales would total one million units in the first year and that by Christmas 2000, it's expected to have sold 1.5 million units, together with more

than 100 games. We will have a great advantage." Two months after launch, Sega of Europe released official numbers: More than 500,000 Dreamcast units had been sold across Europe for a retail value of £225,000,000, and over 150,000 Internet registrations had been achieved. With the Christmas season still ahead, Sega seemed to be in a very good position, indeed. Nintendo and Sony seemed rattled, and rapidly changed their console prices for the upcoming holidays, dropping the prices of their consoles to £64 and £80, respectively.

Football marketing

Back in 1998, when talks commenced regarding the Dreamcast's marketing campaigns, one idea gained traction: sponsoring football (soccer) clubs with the Sega brand. As it turns out, this ended up taking a big slice out of that £60 million marketing budget. Football is the biggest sport in Europe, one of the very few that can make towns (or even countries) come to a stop when their favorite club is in a match, or a major European competition going on. Needless to say, the brand exposure is huge across the entire continent, exposure that just might help convince its audience that Sega wasn't just a thing of the past. In the UK, Arsenal FC had just recently concluded a long-term, 18-year relationship with the JVC brand, and was looking for a new main sponsor. At this point, Dreamcast was less than a year away, and the club needed to quickly secure a sponsor in time for the 1999-2000 season, which commenced around July. Arsenal FC is one Europe's top clubs, participating in major continental competitions, making the opportunity for brand awareness very attractive to Sega. In the nearer term, its location, squad profile, and recent performances made the club a desirable "property." On April 22, 1999, an official agreement was announced: Sega and its Dreamcast brand would be the primary sponsor on Arsenal FC's jerseys for the next four years.

Sega Dreamcast Arsenals

"This was an opportunity we could not miss. The chance to be associated with one of the best clubs in the world... The main Arsenal fan profile is for ages 16 - 30, and this matches SEGA Europe's customer base. Together with Arsenal we will launch our new Dreamcast product in the UK and throughout Europe."

- Jean-Francois Cecillon

Sega would soon go on to arrange similar agreements all across Europe: With A.S Saint-Etiene in France, U.C Sampdoria in Italy, and a year later with R.C Deportivo de La Coruña, the Spanish champions in 1999-2000. With the possible exception of this last one, none were of the same high profile as Arsenal FC, but all were expected to drive awareness of the Dreamcast brand in their respective countries.

"We are delighted to have concluded our first French and Italian sponsorship deals for the new Dreamcast console. With the help of these teams, we will launch Dreamcast throughout Europe."

- Jean-Francois Cecillon

Without any doubt the Arsenal sponsorship led the charge in increasing awareness of the Dreamcast. The club that year would be runners-up at the Premier League Championship, and reach the finals of the UEFA cup (Europe's second-to-top competition). But in hindsight this strategy's results probably

weren't as strong as expected. A significant part of the Dreamcast's total European marketing budget was invested in these sponsorships, possibly endangering the greater campaign, as a whole.

Regaining trust

"Sega didn't have lots of money but they spent lots of money to try and promote this. So we got to go on lots of trips, to try and get developers and publishers to use it, then there was the launch parties that I had to go to, then there's the trade shows, etc. etc. So, it was an amazing time to be at Sega because there was always stuff going on and you were involved in a new product."

- Tom Szirtes

Stepping back just a bit, it's no surprise that by 1997, a lot of developers weren't supporting the Saturn – in a way, Sega of Europe had lost its traditional partners. With the announcement of the Dreamcast at the 1997 E3, Sega of Europe needed to secure support for the system, and so the search for developers started. One of those companies was Adeline, a French development studio responsible for titles like *Time Commando* and *Little Big Adventure*, two games made for PCs and the first PlayStation, which sold nearly one million units combined. In 1997, Sega made its move, purchasing the company and renaming it to No Cliché.

J.F. Cecillon

"We were searching for a new worldwide distributor, then we met SEGA (they used to come to us each year in search for new products). They explained to us their new behavior, and Dreamcast's features. We were amazed."

- Frederick Raynal (No Cliché)

By this point, Sega was trying to attract new developers – or regain the trust of past partners. The lessons from the programing nightmare that was the Saturn had been acknowledged, and several developers may have broken ranks along the way, but the Dreamcast was far friendlier to develop for. In Europe at the time, game studios were like mushrooms in a forest – a major advantage for any new console entering this market. With the announcement of the Dreamcast at E3 1997, the system's SDKs began to spread throughout Europe. No Cliché received theirs that September.

"Forget everything about the nightmare of programming the Saturn.

Dreamcast is well thought of, powerful and easy to understand. The system is not far from a programmer's dream, which for me is the most important part of a console success. Just a few things could have been done better, like the VMU which is not very powerful."

<div align="right">

- Frederick Raynal

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The very first title No Cliché produced for Dreamcast was *Toy Commander*, one of the launch titles in Europe.

One of the Dreamcast's major selling points was its Internet capability, a feature that seduced several early developers. And with its game *Worms World Party*, Team 17 became the first European studio to fully explore it. At that point, console online activity had been extremely limited. Although there were some systems with this capability, it was only possible due to peripherals. With the rapid rise of the Internet, having it built-in to the hardware just made sense. When Sega sent Team 17 the Dreamcast SDK, *Worms World Party* – their second title for the console – was designed and programmed to take advantage of the Internet connectivity.

"It's always nice to be the first at anything… getting it to work in the way we wanted was the biggest challenge and actually took up a good chunk of time. Which probably explains why there are so few online games for Dreamcast. Not easy, that's for sure."

<div align="right">

- Debbie Bestwick (Team 17)

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Nevertheless, exploring the Dreamcast's online features wasn't without its problems. The Dreamcast modem was built in an unconventional manner: Processing power was drawn from the console itself. Development couldn't be done in the way it was for standard PCs.

"The 33.6K modem isn't the problem; it's the fact that it's a software modem and not a hardware modem. That's the crux really. Processing power has to be taken away from doing the game to power the modem. 33.6k and 56k would have the same performance really. If it had been a hardware

modem it would have been a lot better, put it that way. The fact that it's a software modem has been 'THE' major development headache of this game."

- Paul Kilburn (Team 17)

This opinion was fairly typical for other developers, too. Thus few games took advantage of the modem, or their online features were crudely implemented. In many cases, the "online experience" was a matter of checking scoreboards or accessing the company site.

Naturally, at the beginning, several development studios weren't much interested in supporting the Dreamcast. Sega's previous system had tarnished the company's good name; trusting it again wasn't going to be easy. One good example was the UK-based Codemasters, the early ally from the Mega Drive times who had even developed the J-Carts cartridge. While the Mega Drive saw 12 games from Codemasters, the Game Gear got only 10, the Master System a mere four, and the Saturn just one: *Jonah Lomu Rugby*. By the time the Dreamcast rolled around, trust had clearly eroded. Although other studios were already praising the new console as being a superb system – and claiming that the nightmare of the Saturn was over – many companies took a "wait and see" approach.

"We evaluate all platforms when we start a project and decide if it's going to work from a commercial and game point of view. Dreamcast was a great piece of hardware, but it was soon obvious that we would lose out financially by devoting a lot of resource for developing it. Sure we could have ported PC titles, but the result would not have met the level of quality we set for ourselves. We tend to wait a little bit until the installed base is better on new consoles, and therefore you can sell enough to make a reasonable return on your investment."

- David Scolari (Codemasters)

This was the situation in Europe. Some studios were praising and developing for the system, taking advantage of its unique features, while others were waiting to see how things shook out. Some teams returned to the Sega

fold; Core Design, for example, returned brought more *Tomb Raider* titles to the Dreamcast. For its part, Sega of Europe decided against supporting an in-house team, as they'd done in the past. This was considered one of the Mega Drive and Saturn mistakes, and had proved to be a big constraint on European operations. Besides, there were plenty of developers on the continent that could be counted on for support.

Codemasters logo

Given the sport's popularity in Europe – and that EA and Konami's popular ISS and FIFA series weren't coming to Dreamcast – Sega poured a lot of resources into getting football titles in the catalog. *Virtua Striker 2* was ported over, and joined by three exclusives: *UEFA Dream Soccer, 90 Minutes* and *Sega Worldwide Soccer 2000: Euro Edition*. Together these games sold over one million units.

"We started research in January [2000] and we spoke to hundreds of people, fans and players, and we came up with a 'best football game in the world' concept. We've given it to our studios in Japan and we're working on it."

- Jean-Francois Cecillon

Many of the games developed in house and released by Sega weren't European, but localized US and Japanese titles, instead. In some cases, the local success of popular hits from other continents was underestimated, with

such games as *Jet Set Radio* and *Skies of Arcadia* arriving in very small shipments. This would prove an indirect loss for the public.

"Sega Europe was small compared to Japan and America. So, the majority of R&D work went on in Japan, and I know that America had one or two. Europe, we were the smallest of those territories. I can't remember the exact size I think we were like six, maybe more people, ten people possible at its peak, so it's wasn't a large thing to organize. We weren't making games, apart from Planet Ring. So, we were mostly support functions and developing our own libraries, so it was quite interesting, we just ended up doing everything else."

- Tom Szirtes

Sega tried to regain the mainstream audience that had shifted to the PlayStation. But in the process, they forgot about the niche of audience that helped keep the Sega name alive, by buying their products or, more indirectly, by supporting the company as a community. These were the Sega devotees, and although some stayed until the end, others felt Sega wasn't taking a path they wanted to follow. Sega lost many faithful followers in its attempt to seduce a more fickle audience. The Dreamcast's future was clearly threatened by whatever Sony released in the next millennium.

End of a dream

In 1999, official sales figures provided by Sega of Japan mentioned that 800,000 Dreamcast units had been sold in Europe – record sales, by all accounts. But the competition was closing in. In the same year, Sony unveiled its PlayStation 2. Two major selling points proved decisive: The console could read DVD movies, and was compatible with the original PlayStation's games. In response, JF Cecillion announced that by Christmas of 2000 the Dreamcast's price would be down to £150. But before that, he reminded the press that Sega was at the forefront of the video games. Case in point: Sega's online gaming service had opened, and now had more than 150,000 UK

subscribers. But the service didn't roll out as smoothly as planned. For some of the European main markets, the UK's provider (ICL and BT) was there by default, due to partnerships overseas; in other countries, there were different requirements for accessing the DreamArena, and therefore distinct prices. Some companies overcharged for the service, making many European players even less inclined to explore it. Some titles, such as *Unreal Tournament*, lost many of their online features after being localized to Dreamcast. Others were completely dismissed, as was the case with *Daytona USA 2001*. Few games lived up to the potential of internet play; two of them – *Toy Racer* and *Worms World Party* – were European-made.

Evil Twin: Cyprien's Chronicles

After an aggressive campaign focusing on the Dreamcast's online features, the public was, to put it mildly, upset with this awkward rollout. Granted, Sega of Japan was trying cut costs in light of the last few years' financial losses, and online servers in Europe weren't a priority. Nevertheless, it was frustrating to have so few online titles to choose from, after that had been promised as one of the system's key features. And as Europe was already treated as a second (or third) priority, any cuts made were all the more severe, leading one unidentified Sega of Europe employee to say the media, "Everyone is worried

about the reaction of the public and if Sega of Japan decides to pull the plug on Europe." The PlayStation 2 hit Europe just in time for the holiday season. Although it had fewer (and often less impressive) games, the system's twin selling points of DVD and backwards compatibility had worked. Soon enough, the PS2 was nowhere to be found. Dreamcast units were still selling, but at a far slower rate than Sony's console.

In early January of 2001, a bomb rocked the gaming world: Sega of Japan announced it was leaving the home gaming hardware business. The Dreamcast was to be discontinued. Needless to say, this was a very chaotic period. Developers with titles scheduled for release in 2001 were perplexed; time, effort, money and marketing had been expended, and now the Dreamcast was gone. Sega of Europe tried to clear everything up: Console support would be available until 2002, so developers contractually obligated to release games in those two years could choose if they wanted to follow through, or not. Many chose to do so; after all, as in the case of *Evil Twin: Cyprien's Chronicles*, the work was practically done. Others cancelled their releases, including the Havas-ported version of *Half-Life* and Pyro Studio's *Commandos 2*. In Europe alone over 50 games were cancelled. Throughout 2001 and into 2002, Dreamcasts continued to be sold at increasingly low prices, either until stock ran out or they were returned to Sega of Europe and its official subsidiaries.

"After Dreamcast was finished, they basically closed all developments in Europe, so they sacked everyone technical… because Dreamcast was gone really all I was doing was trying to acquire development kits for Nintendo and Sony, because you know at that point Sega had gone to being multi-platform."

- Tom Szirtes

The DreamArena service was also discontinued, although Sega still offered support via Dreamkey 3.1, which enabled control over the ISP settings, permitting players to continue to use the browser features (unlike SegaNet, the American equivalent, previous versions of Europe's Dreamkeys didn't permit users to change ISP settings).

Aftermath

Historically speaking, it's curious that it was on its tenth anniversary that Sega of Europe's entire hardware operation was halted. But oh, what a decade it had been. In hindsight, Sega's moves in Europe over the years were full of ups and downs. There's no single root cause, but rather the confluence of several. The entire European operation was for the most part well run. Overall, the Master System was a success, with support for the system running high into the latter half of the nineties (accompanied by decent results from the Game Gear). Mega Drive was, of course, the biggest flagship the company ever had, by far. It was the system that put Sega's name in everyone's mouth, in some countries becoming synonymous with the word "video games." It's also worth noting the European operation's financial achievements, arguably Sega's home entertainment division's first real success overseas. But this, too, was soon forgotten.

Sega Europe offices

There were, of course, some less-than-brilliant moves – like releasing the Saturn shortly after the 32X – but it's important to remember that Sega of Europe was ultimately dependent on Sega of Japan, who devised launch

strategies. Although efforts were made by Sega of Europe to explain how things could be improved in its own territory, most of the times Japan just wasn't listening. Their North American counterparts faced the same issues, and that was the priority market.

In March of 2001, Sega Enterprises released its final numbers: 2.32 million Dreamcasts had been sold – 44% less than official forecasts. With the arrival of Sony's PlayStation 2, Christmas season sales, too, proved far from the mark suggested by early prognostics. The closing down of hardware operations Europe in 2002 marks the conclusion of this story. Jean François Cecillion, the so-called "Napoleon of Sega," departed at this time, and Sega restructured the entire operation to focus on developing and promoting games for other company's consoles.

Sega remains an indelible part of the old continent's video game history. It went from superb, to catastrophic, to superb again and then… It was gone. Sega's time as a hardware company is best summed up by the old saying, "It's better to burn out, than to fade away."

Afterword

It has been well over a decade since I first began gathering the notes for what for me would eventually become this work. At that time, there were already printed histories of both Atari and Nintendo, and the parts each had played in the early and great video game console wars. Nobody had yet told the story of Sega. There were hints of it here and there in the various video game magazines of the day, and a few scattered online summaries (remember, this was the late 1990s), but there was no in-depth history available - either in print or online. My research into other related video game topics at the time had caused me to already begin compiling a mass of notes on the history of selected video games for Sega's early and then-current consoles. I looked them over one day and said to myself, "You know - you've got enough here to write a history of Sega." I suggested the idea to Eidolon (Christian), as a feature for his website, and his response was both immediate and enthusiastic. The rest of the story ... well ... most of you know from there.

I had always regretted not being able to finish the last chapter of the original online version of this work. Reality intervened, to put it mildly. I fell in love, got married, moved, changed jobs, fell out of love, got divorced, changed jobs again, and moved again - all within the space of two years. Those of you who have gone through something similar can relate to what I went through. By the time I was finally able to sort things out, the Dreamcast was dead and I had lost my original momentum and motivation. I felt I had to put the past aside and move on, as I had just done with the ruins of my marriage, and so I did. I went into other writing projects and venues for my work that I had always wanted to try, and thus left "the scene" behind. I never forgot about it, though. I kept all my notes for that last unfinished chapter, and I would occasionally check back in to see how things were going. My new pursuits took up a lot of my time (and still do), but I never forgot the joy of writing "that Sega book." I was also proud of the fact that, even unfinished as it was, it was the first-ever attempt to tell Sega's story. Judging from all the reaction that it has received over the years,

I'm glad I did it. I glad I put it out there in a way that all of you could enjoy, and I'm glad that it has entertained and inspired so many of you as I intended.

Eidolon's Inn logo

I stumbled across David's effort to print my "Sega book" literally out of the blue. I had no idea that anybody wanted to do a printed version of my history of Sega until I saw the early promos for it in the spring of 2013. I got in touch with David right away, of course, and after some initial misunderstandings we sorted things out. As I soon learned, he and his friends were not only among the many who had been inspired by my "Sega book," but had been trying to get in touch with me for over a year. David couldn't because he had no current contact information at that time. It wasn't his fault. I'm a private person by nature - and still am - and as I had mentioned earlier, I had long since moved on to other things. It was lucky for both of us that I found him, I guess ... and as soon as it sank in what he was trying to do, I was both awed and humbled. David and his friends had taken it upon themselves to see that not only my history of Sega got finished, but updated as well. David then asked me if I would be willing to review the updated version, and he also encouraged me to add anything else I thought would be important. Here it was, after all this time - my chance to finish what I had started, almost a decade and a half after I first began to put it together. You don't often get second chances in life. Needless to say, I took it - and all of you can thank David Munoz and his friends for making that happen.

There are, of course, my many detractors - both then and now. I have been accused of engaging in wild speculation and of passing along Internet rumors and legends. Nothing could be farther from the truth. I carefully researched everything that I wrote to the best of my ability using as many sources that I

could lay my hands on at the time. I scoured libraries, made many trips to various video game shops and used book (and magazine) resellers, and also spent many days and even whole weekends chasing down any good source documents that might have been posted on the Internet. Every document that I consulted was listed at the end of each article as it was originally posted at Eidolon's Inn at the time. On top of that, I had the help of some excellent peers among the people who then frequented "the Inn," some of whom were gaming legends and programmers in their own right and had developed for those classic Sega consoles. They helped me with the early drafts of each article (chapters in this printed version), reviewing them and suggesting corrections or revisions based on their own experiences. Also, I got a lucky break and got to talk with some of the actual people who worked with Sega during those days, and their insights proved most informative in areas that were rather cloudy to me at the time. Finally, there was Eidolon (Christian) - whose own insights, constant support, and posting of the original online version of this document helped make it become reality.

Nothing is perfect that has been created by human hands. My original work had a number of mistakes. Some were of the usual variety - spelling, formatting, and so on. Others were me misreading or misinterpreting my source data. Finally, my sources at the time were limited in light of the virtual *mountains* of data that has since become available. Compared to the resources I had back then - and it seemed like a lot at the time - my original research database seems like a small hill. Nevertheless, David and his friends have done a wonderful job of skimming through this new data and updating what I originally wrote. They have brought the story of Sega up to speed for you, and this updated version of my "Sega book" would not have been possible had it not been for them.

Sega's story does not end with this book. It continues even as the company does. While they may no longer be the Sega about which this book was written, its history is still part of the legacy of the current Sega. The old Sega had to die in order that the current Sega could live. That is why it did what it

had to do in order to survive. It downsized drastically and went back to its roots, as company founder David Rosen had said it should. It got out of the console business for good. It got out of the arcade business for good. Instead of making games for one console or arcade hardware spec, it began making them for everybody and for multiple specs, as it had once done in its early days. Instead of running in the red for years on end, it became profitable once again. The mighty mega-corporate Sega who once fought on even terms with Nintendo in the great console wars may be long gone, but Sega the gaming company is still with us. It is not dead, nor is its past legacy and history forgotten. That legendary past continues to serve both as inspiration and object lesson not only for the Sega of today, but also for current and future players in the video game industry. You and I can but hope that it will continue to do so in the years to come.

- Sam Pettus, aka "The Scribe"

Bonus Content:

Insider Stories

Interview One:

1. What is your name and how long have you been developing video games?

Hi! My name is Zebastian (Zebbe) and I've worked at WaterMelon since early 2008. WaterMelon is the first video game company I've worked for.

2. What consoles do you have experience developing games for?

Only one so far, Sega Mega Drive (or Genesis).

3. What was your normal position during development?

I was mostly a designer and writer. I designed some maps, most items, attacks/spells, the difficulty balancing a bit, chests etc. A big job was the NPC script, it took a few months. I wrote many other texts as well, for the manual for example. I did some very basic scripting for placing objects on maps.

4. Have you developed any games that I might have heard of?

Yes, Pier Solar and the Great Architects, without doubt the most successful retro homebrew game ever! It is only released for Mega Drive right now, but ports to other systems are coming soon.

5. What software would you say you are most proud of?

Pier Solar!

6. What game systems do you currently develop for?

Sega Mega Drive. I will also probably help out a bit with the porting of Pier Solar to other systems and maybe also our Super Nintendo game.

7. In regards to Sega, when did you start working with their hardware?

In 2008, although I'm not really a "hardware guy" to say so (not a programmer for example).

8. Was working on Sega hardware always a dream of yours or were you a victim of circumstance?

I've always thought about that, but cannot remembering dreaming about making Sega games when I was little. I was invited to WaterMelon and said yes, and now I realize it's the best decision I've ever made.

9. What is your top three Sega systems in order of preference? Why?

Sega Mega Drive (incl. Mega-CD and 32X) at the top spot because it has so many great games, excellent sound chip, a powerful processor for action-packed games and the 6 button pad is perfect for your hands. Second spot goes to Sega Master System, lots of great games there as well and to me the system has a good charm to it, which is very hard to define. Maybe it's those vibrant colours and almost always "happy-sounding" melodies. Although I never liked 3D as much as 2D, third spot goes to Saturn and Dreamcast which both has quite a few excellent games, even though I never had either system. I didn't like the Game Gear too much because handhelds aren't my thing and the screen is so blurry.

10. How does developing for a retro system, like the Genesis/MD, compare to developing for something more recent, such as PC or Android/iOS?

You have much more limitations to think about. But getting the most out of those limitations is part of the fun, and the better you do the more impressed the audience is going to get. For modern systems, you really need to be innovative or have a huge team to stand out. It's better for a small company like ours to start with the Mega Drive, really.

11. Do you currently still do code work for Sega hardware?

I never coded :).

12. What would you say to people who believe "better graphics make

better games"?

Try Chrono Trigger and then Chrono Cross and you'll change your mind for sure!

13. Do you believe that new gameplay experiences can still be created on "outdated" hardware?

Yes, I do. While I cannot be specific, outdated hardware is so much cheaper today so it's possible to bring new ideas to old consoles just if you have the skill and perhaps the money.

14. Do you have any Sega projects currently in development?

Yes, I do. It's a secret Mega Drive/Genesis project.

a. Why did you choose to develop on that system?

I wanted to continue with Mega Drive development and this was a good chance.

b. Do you think you'll have to limit the game in any way on that system as opposed to a more recent system?

No, except maybe colours. The game will be as we intend it to be, and sometimes you don't need more than 16 bits to achieve what you want to do.

15. Are there any upcoming retro Sega console games coming out, other than your own, that you are excited for?

Yes, I'm looking forward to see Project MD and Affinity:Sorrow for Mega Drive released. My friend, who also is with WaterMelon, is working on a Master System game called Radical Rat. But it will take time.

16. Retro games on new consoles are making a comeback. Have you considered porting your Sega titles to a newer system?

We already are! See above.

17. Do you prefer retro games over newer games?

Oh yes. I don't like 3D and the music of newer games very much. The simpler

gameplay is funnier too.

18. What is your opinion of the video game market now and how has it changed from what it used to be when Sega was still a player?

I don't know too much about it, as my latest system is PlayStation 2 and I haven't played the newer consoles very much. I don't care much about it so I don't follow it nor play its games very much.

19. Do gamers today want different things out of their games than they used to?

Yes. People always want innovations, whether it's games, other culture, politics or science.

20. What is your favorite classic Sega title?

Phantasy Star IV.

21. What is your favorite classic Sega title that most people haven't played?

Alien Soldier.

22. What classic Sega series should make a comeback?

Probably none, as Sega would most likely hand it off to a third party house which won't know at all what they will be doing.

23. Out of all the now-gone Sega consoles and handhelds, which one do you think is most relevant today?

Dreamcast and Mega Drive. Dreamcast because it has so many homebrews and never dies. Mega Drive because it sold most of all and is most remembered.

24. Should Sega make new hardware? Why?

Only if they can come with something really, really innovative and make a niche market of its own. It has no chance to compete with the big three right now. I would actually love to see Sega (and other developers as well) go back to their

old consoles and support them. I'd like the retro market to grow and be acknowledged by the big companies. It's a fool's dream, I know...

25. Anything you want to say to Sega fans?

Our love for Sega's consoles will keep them alive forever!

Interview Two:

1. What is your name and how long have you been developing video games?

My name is Daniel but usually I am called with my nick: Chui. I was interested about game programming since mid-80s when my parents bought me a ZX-Spectrum 8-bit machine, after I continued the programming on Atari ST and Commodore Amiga age when I was a teenager and more seriously with PC and GNU/Linux in university time.

2. What consoles do you have experience developing games for?

Mainly the Dreamcast console. It is a fantastic machine that I love it. I have worked on open source emulators during last 10 years: chui.dcemu.co.uk

I never was a hardcore console gamer because always had a computer at home and I was more interested about programming games than play games, but I bought a Dreamcast console when I began the job because I wanted disconnect easily with the arcade games. I played a lot in that time but quickly I was caught with coding Dreamcast. I don't know the reason exactly but I continue love it.

3. What was your normal position during development?

I am a pure programmer guy interested about the low level programing, maybe this is the main reason I have worked on emulators. A game needs much work on things like graphics design and music compose while a emulator can be done only for a small programming group and allows play a thousands of games. I always love the emulators because allows me play old games that never can play it at the past and it is very interesting how do it from the point of view a coder.

4. Have you developed any games that I might have heard of?

Right now I am focused on Pier Solar HD. At the past I did some known emulators like NEO4ALL or UAE4ALL. Also I've participated on other project

like a rewritten Gens or MAME4ALL for handheld consoles.

5. What software would you say you are most proud of?

UAE4ALL was my emulator more hard. There was a lot of people that said me that it was impossible to emulate the Commodore Amiga under Dreamcast. But without a doubt, Pier Solar HD is the project I have worked with more illusion ever.

6. What game systems do you currently develop for?

I am developing Pier Solar HD for Dreamcast, Wii U, Ouya and others new platforms.

7. In regards to Sega, when did you start working with their hardware?

My first contact with Sega hardware was a Master System emulator for GP32 handheld console and the Dreamcast as non-emulated platform.

8. Was working on Sega hardware always a dream of yours or were you a victim of circumstance?

A dream without a doubt.

9. What is your top three Sega systems in order of preference? Why?

First the Dreamcast, It's really my obsession. Second Genesis/Mega Drive, I can never forget the first time that I saw it running. And Master System because was the dreamed console that I can't have it.

10. How does developing for a retro system, like the Genesis/MD, compare to developing for something more recent, such as PC or Android/iOS?

The lack of resources. For example, work with only 64KBytes of RAM it is too hard sometimes. But it's magical work on it.

11. Do you currently still do code work for Sega hardware?

a. If so, why do you still develop games for a "dead" console?

I don't know really because it's a bit masochism. Maybe only it's because I can

and I love it.

12. What would you say to people who believe "better graphics make better games"?

There are people for all and that must be respected but I think that there are progressively more people that don't need better graphics for having fun, for example the successful cases of indies/small games like Angry Birds. Simply I say that the most important is to have fun, a bored hyper-realist game is a very expensive fault.

13. Do you believe that new gameplay experiences can still be created on "outdated" hardware?

Why not if it is possible do it? If a game is good is independent of the platform. But it's true that a game for the new platforms can be played for more people.

14. Do you have any Sega projects currently in development?

a. Why did you choose to develop on that system?

b. Do you think you'll have to limit the game in any way on that system as opposed to a more recent system?

I am working on Pier Solar HD for Dreamcast because I love the machine and the project itself. It's inevitable to adjust it to Dreamcast specs but the game will be the same.

15. Are there any upcoming retro Sega console games coming out, other than your own, that you are excited for?

Sturmwind for example.

16. Retro games on new consoles are making a comeback. Have you considered porting your Sega titles to a newer system?

Pier Solar HD is really this. We want that this awesome game can be played for people that haven't a Mega Drive/Genesis console at present.

17. Do you prefer retro games over newer games?

I like both but I prefer new games for old machines because it's a miracle.

18. What is your opinion of the video game market now and how has it changed from what it used to be when Sega was still a player?

I think that the main problem is that now it needs a lot of people during much time for doing a game. The risk is high so there are less margin for innovation. But the indie scene is a breath of fresh air. I am amazed by the success of much cases.

19. Do gamers today want different things out of their games than they used to?

There are a lot of kind of gamers, much of them only want the same games with better graphics and more options but each time there are more people want other experiences. Also there are a lot of people that it isn't a hardcore gamer and only want have fun. I think that these are the big majority. The goal only is have fun.

20. What is your favorite classic Sega title?

Can be Dreamcast too? Then Phantasy Star Online.

21. What is your favorite classic Sega title that most people haven't played?

Speedball 2.

22. What classic Sega series should make a comeback?

I really don't know, I think that classic series has been good exploited.

23. Out of all the now-gone Sega consoles and handhelds, which one do you think is most relevant today?

The Dreamcast, it's a myth but I can't be impartial here.

24. Should Sega make new hardware? Why?

I don't think Sega will make a new hardware at the short term but who knows, coming soon could have been a high growing market of cheap Android gaming

machines like Ouya and Sega gets on the bandwagon.

25. The DC is fondly remembered as a console that died too soon. Why is the DC still relevant today?

Because it was the end in my opinion. The most games of new century was updates. At least before the arrival of Wii or the indie scene.

26. Compared to other consoles of the time, what was developing for the DC like?

I love arcade games, NAOMI conversions was awesome.

27. The DC used the GD-ROM instead of the DVD. Do you feel that this decision limited what games for the system could do?

Maybe but I think that Dreamcast was wiped out for PlayStation tsunami. The Playstation-1 connected with the most people and bought the Playstation-2 because they wanted the same with better graphics.

28. What would we have seen from the DC if Sega hadn't pulled the plug?

Good question. Who knows? Maybe only the same games that Sega did for other platforms.

29. What do you think of people still developing new titles for the DC with a physical release? How different is it than developing something for an active platform?

I think that always is a challenge, the main difference is the available resources: machine specs, documentation, support, people that know how programming for this machine...

30. Anything you want to say to Sega fans?

Enjoy and continue to dream on.

Interview Three:

1. What is your name and how long have you been developing video games?

My name is Gwénaël Godde aka "Fonzie", I've been working at WM. Before had done a very few homebrew games for Sega Genesis/Mega Drive and computer.

2. What consoles do you have experience developing games for?

Sega Genesis / Mega Drive / 32x / Sega CD of course. Modern platforms too, but I don't know how their hardware really works.

3. What was your normal position during development?

Anything art and programming. It can help doing art with tight specifications when you know programming, the opposite too!

4. Have you developed any games that I might have heard of?

Pier Solar, too!

5. What software would you say you are most proud of?

Maybe our current projects, one is still a secret, the other is ProjectY.

6. What game systems do you currently develop for?

Mega Drive and modern platforms.

7. In regards to Sega, when did you start working with their hardware?

Back in 2004 I think. It's the first hardware I've been working with, aside from computer.

8. Was working on Sega hardware always a dream of yours or were you a victim of circumstance?

Yes of course, was a dream, and it's very rewarding I think to work with old school systems as any mistake or bad practice is fatal due to very little memory and CPU use!

9. What is your top three Sega systems in order of preference? Why?

Mega Drive, Dreamcast, Saturn. I got a Mega Drive first, then my brother got a Dreamcast.

10. How does developing for a retro system, like the Genesis/MD, compare to developing for something more recent, such as PC or Android/iOS?

Technical limitations is part of the fun of retro system, also you're dealing directly with the hardware, without any library or OS. On contrary, developing on modern platform is more about making your game totally platform-independent so it's easier to port. It's lot less fun if you ask me, but it's a matter of taste I guess.

11. Do you currently still do code work for Sega hardware?

Yes, for Mega Drive!

12. What would you say to people who believe "better graphics make better games"?

It's all about the experience, a game could be a black square moving on white screen and be fun... good luck but yeah, it's possible. One sure thing however, is that graphics sells... Else there wouldn't be any graphically advanced game. But overall game programming complexity didn't evolve much between 90s and nowadays game, it's just hidden behind complex graphics.

13. Do you believe that new gameplay experiences can still be created on "outdated" hardware?

Yes, I think so. Sometime it's just that the genre has faded away and need a good revamp. Like ProjectY.

14. Do you have any Sega projects currently in development?

Yes, ProjectY, Pier Solar Dreamcast and another thing we can't tell yet.

15. Are there any upcoming retro Sega console games coming out, other than your own, that you are excited for?

There are a few homebrew games that may be released sooner or later. Sadly sometime people give up before completion or their interest span... There could have been a dozen of games released since, but we saw none so far. WM always encourage people & help them to release their game on physical format/old systems. But many homebrew developers are very afraid of seeing their work stolen by "evil" companies and don't want to sign any contract with anyone thus fail to release anything, we saw that a lot.

16. Retro games on new consoles are making a comeback. Have you considered porting your Sega titles to a newer system?

Pier Solar HD is one of those. We don't plan to port every game because playing an old school game on their original console is a big part of the experience.

17. Do you prefer retro games over newer games?

Both is ok. But when you're making games as a job, day and night. You don't play video games much anymore. It's like people who work at candy factory, they don't eat candy.

18. What is your opinion of the video game market now and how has it changed from what it used to be when Sega was still a player?

It's migrating to free to play / cheap games. Apple has big responsibility in that. I can't tell if it's good or bad, but surely buying & playing a game is soon more like eating at McDonald's than anything else.

19. Do gamers today want different things out of their games than they used to?

I think it's same, just that there are lot more different and more casual gamers.

20. What is your favorite classic Sega title?

Sonic 3 or was it...

21. What is your favorite classic Sega title that most people haven't played?

Golden Axe 3

22. What classic Sega series should make a comeback?

Like Zebbe says, probably none. I don't think Sega was doing any "classic" release back in the 90s & 2000s, they kept pushing new ideas & title all the time.

23. Out of all the now-gone Sega consoles and handhelds, which one do you think is most relevant today?

If relevant in term of "impact" on people's mind, probably the Mega Drive. If more relevant in term of variety, and 2D at its best, Saturn.

24. Should Sega make new hardware?

It would be very hard for them to sell anything decent. Making modern games cost a lot, then need to sell a lot, then must do something mainstream, then no need Sega to do something mainstream.

25. Anything you want to say to Sega fans?

If people want new games on their fav systems, they must really show their interest and avoid "wait & see" status! Even if it's hard! Then we will always answer "Yes" to any challenge & keep our fav systems alive with fresh games!

Player Testimonial: Mohammed Al-Adsani

If I am not mistaken, the first video gaming console I played when I was a kid was the SEGA Genesis. I still remember playing these cool games such as *Donald Duck, Desert Strike, Jungle Strike, Urban Strike, Streets of Rage II,* and *Sonic the Hedgehog* 1, 2 and 3. Back then, games were simple, entertaining, and short. Memory cards did not exist back at the time. All you had to do in some of these games such as *Desert Strike* was to memorize the code you were given at the end of the stage. In other games such as *Sonic*, you could use the game codes (which can be now found on www.gamefaqs.com) to select any stage you wanted to play. Back then it was as simple as that while remaining entertaining as well.

Few years later (after the PlayStation 1 and Nintendo 64 were introduced in the market) the Dreamcast suddenly appeared, revealing so much advanced technology at the time, from special memory cards, to graphics, to video games, and so on. I mean, I don't recall any other gaming console which offered V.M.Us (Visual Memory Units) where you could actually carry it with you and raise your Chao in it while you are on the move! In addition, graphics were extremely fabulous at the time, and a perfect example of that would be a very famous video game which I'm confident that most (if not all) of you have already played it. Yup! You guessed it right folks! I was talking about the famous *Sonic Adventure* game. Take a look at the environment in that game from the sea, to the sand, grass, sky, and so on. The graphics were so splendid and there were many excellent games designed for the SEGA Dreamcast including *Aero Wings, Power Stone, Shenmue, Sonic Adventure, Sonic Shuffle, Toy Commander, Resident Evil: CODE Veronica* , and *Virtua Tennis*.

I was unaware of the SEGA Game Gear until one of my relatives told me about it and sold me her Game Gear along with its games. I played the Game Gear with games such as *Sonic the Hedgehog* and *Asterix*. Although the idea of playing *Sonic the Hedgehog* (and I was disappointed that the version of the

Game Gear was different than the version of the Genesis) on the move was cool, however, I was extremely disappointed that the batteries on the Game Gear did not last that long for me to enjoy it and then suddenly the power goes off in the middle of the game (I think the batteries give you like 6 or 8 hours of game play then you need to replace them completely.) To me, playing on the Game Gear was very expensive since changing batteries every 6 to 8 hours of game play was not that cheap. SEGA should have installed rechargeable batteries in the Game Gear but then again, maybe that technology did not exist back then when the Game Gear was introduced to the market? I'm not really sure since I was young back then.

Until today sometimes I play some of the Genesis games such as *Sonic the Hedgehog* and *Desert Strike* on my Gameboy Advance. Although a Dreamcast 2 would be nice from SEGA, however, I would not purchase it since games today are not as simple as they were back in the 1990s, so even if SEGA releases a new gaming console, I probably will not buy it. I personally believe that today's games are based on graphics more than game play, which in my personal opinion ruins the game entirely. What's the purpose of a nice graphics with terrible game play? I might as well watch a Blu-ray movie if graphics were more important to me than the actual game and how it's played.

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