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Consoles, handhelds & home computers 1972 - 2005

From Atari to Sega, from Apple to Nintendo DS: The illustrated history of **500 machines**, **600 pictures**, history & technical data

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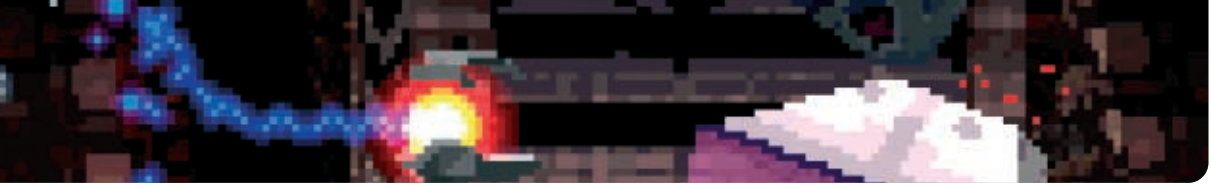


Bandai Wonderswan
Tare Panda no Gunpey
Edition (Japan, 2001)

The Tramiel clan extended the Atari range with a `Jackintosh´. Despite similar technology, the 520 ST and its variants couldn't match the audio and visuals of Commodore's Amiga.

French adventure artists dropped 8-Bit in favor of the ST: Future Wars by newcomers Delphine.

Atari ST

USA, 1985

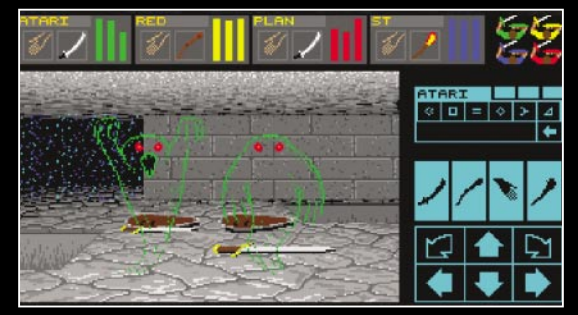
Units sold:	6 Million
Number of games:	1,000
Game storage:	Disk
Games developed until:	1994
	★★★★★

Musicians and DTP artists bought their Atari ST with the 12" monitor SM 146 and got a small, but crisp picture.

In 1984, while devising its 16-Bit computer range, Atari invested in the Amiga company, owned by ex-employee Jay Miner. However, a bullish negotiating-style drove the hardware team to competitor Commodore, which promptly swallowed Amiga and released a computer of the same name simultaneously to the Atari ST.

Miner's graphics chips were missing from the ST, but other than that it was similar to the Amiga: Both machines used a Motorola 68000 CPU, 3.5" disks and a mouse as input device, and both enticed punters with a graphical user interface. GEM was the name given to Atari's GUI with its small drive and drawer symbols accompanied by the `Tramiel Operating System´ (TOS). The Atari ST was cheaper than other 16-Bit machines and was supported by many games manufacturers. 1987 turned out to be its most successful year: In the US, the real-time RPG **Dungeon Master** was released, along with Dan `Choplifter´ Gorlins' **Typhoon Thompson** and **Midi Maze** which networked 16 computers anticipating the deathmatches of the '90s. After that, the scene shifted to Europe. Prominent programmers like the Bitmap Brothers (**Speedball, Cadaver**), Eric Chahi (**Another World**), the adventure specialists Magnetic Scrolls as well as 3D pioneers Paul Woakes (**Damocles**) and Jez San (**Starglider**) supported the platform right into the '90s. Germany was another stronghold for Atari, where Thalion developed mainly for the ST, releasing huge RPGs (**Dragonflight**) and fast action games (**Wings of Death**).

By 1990, the Amiga overtook the Atari as a graphics and games machine, but due to its MIDI port, the ST remained the first choice for professional musicians. Similarly, small DTP offices used it as an affordable alternative to Macs. The final variant was the 68030-driven Falcon in 1992.



Dungeon Master was a revolution. If you didn't own an ST, you had to wait ages for a conversion of this realtime expedition.

New wine in old bottles: The last ST compatible was called Falcon and was audio-visually more powerful than its predecessors, though it wasn't a success.

Variants and successors

520ST	**1985**	The 512 K ST first shipped with a monochrome monitor, an external power supply as well as TOS on disk. It was replaced by the 260ST and 520ST+ (1 MB) and was also available as STm (with TV modulator) and STf (internal floppy drive).
260ST	**1986**	This short-lived 520ST twin (also with 512 K, external floppy) was shipped only in Europe.
1040ST	**1986**	A 1 MB computer with TOS in ROM and internal power supply. An `m´ in the name stands for TV modulator; `f´ for a sideward floppy drive.
Mega ST	**1987**	A desktop PC with separate keyboard, integrated floppy, up to 4 MB memory as standard and two new chips for graphics acceleration. Professional add-ons were hard-drive and removable media with up to 60 MB as well as a DTP-suitable 19" monitor.
1040STe	**1989**	The 520ST successor was enhanced in terms of graphics (4,096 colour palette, hardware scrolling, Blitter) and memory, shipping with 1 to 4 MB, in the UK and France along with 512 MB RAM as 520STE. Apart from two ordinary 9-pin ports Atari used its own 12-pin controller ports.
STacy	**1989**	The laptop with monochrome LCD, mini-trackball, 4 MB RAM and 40 MB hard-drive was replaced in the early '90s by a lighter, just as unsuccessful ST-Book (no LCD backlight, no floppy).
Atari TT	**1990**	A compatible successor with new 68030 CPU (2 MB RAM, up to 8 MB on top of the TT's RAM) and better graphic modes: 320x480 in 256 of 4096 colours, 640x480 in 16 colours and a monochrome mode in 1280x960 pixels. It was replaced by the Falcon.
Mega STe	**1991**	Mega-ST successor with separate keyboard, a CPU clocked at 16 MHz, cache and an optional co-processor.
Falcon	**1992**	A keyboard computer with integrated floppy, 68030 CPU as well as a programmable DSP, 4 to 14 MB RAM and a graphics resolution of 640x480 pixels in 16-Bit colours.

In the UK, most games were developed for both ST and Amiga: A cheering Speedball 2 player from 1990.

Trendsetter Sega commenced the age of 16-Bit consoles, becoming popular in western markets. Supporting the console were almost 1,000 games, add-ons for all purposes and tastes, as well as several upgrades.

Sega Mega Drive

Japan, 1988

Units sold:	30 Million
Number of games:	850
Game storage:	Cartridge, CD
Games developed until:	1997

★★★★★

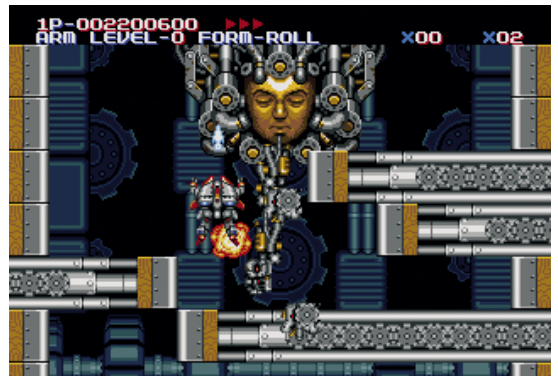
Japanese games manufacturer Sega had always come in second – producing accomplished technology and brilliant arcade and console games, but lacking the worldwide success of Nintendo. In joining the 16-Bit fray, Sega finally sought to capture the market from its rival: As the successor to the Master System, the Mega Drive was released in Japan in 1988, arriving in Europe two years later.

American and European gamers welcomed the new hardware: The console was technically similar to the successful Amiga and ST home computers, but graphically superior and thanks to proven and well documented chips, pretty easy to code for.

Early releases like **Altered Beast** had good visuals, but were a let-down gameplay-wise. Thereafter new cartridges went to prove both the hardware's capabilities, as well as the creativity and talent of Sega's developers: The RPG **Phantasy Star II**, the Capcom conversion **Ghouls 'n Ghosts** and – a year after the launch – the excellent action skirmish **Revenge of Shinobi**. But in spite of Sega's internal development teams programming full steam ahead, the large third-

The peaceful dolphin Ecco was brought to life by Novotrade in Hungary, later known as Appaloosa.

Sega itself created the best cartridges: Advanced Military Commander even supported the Mega Drive modem.

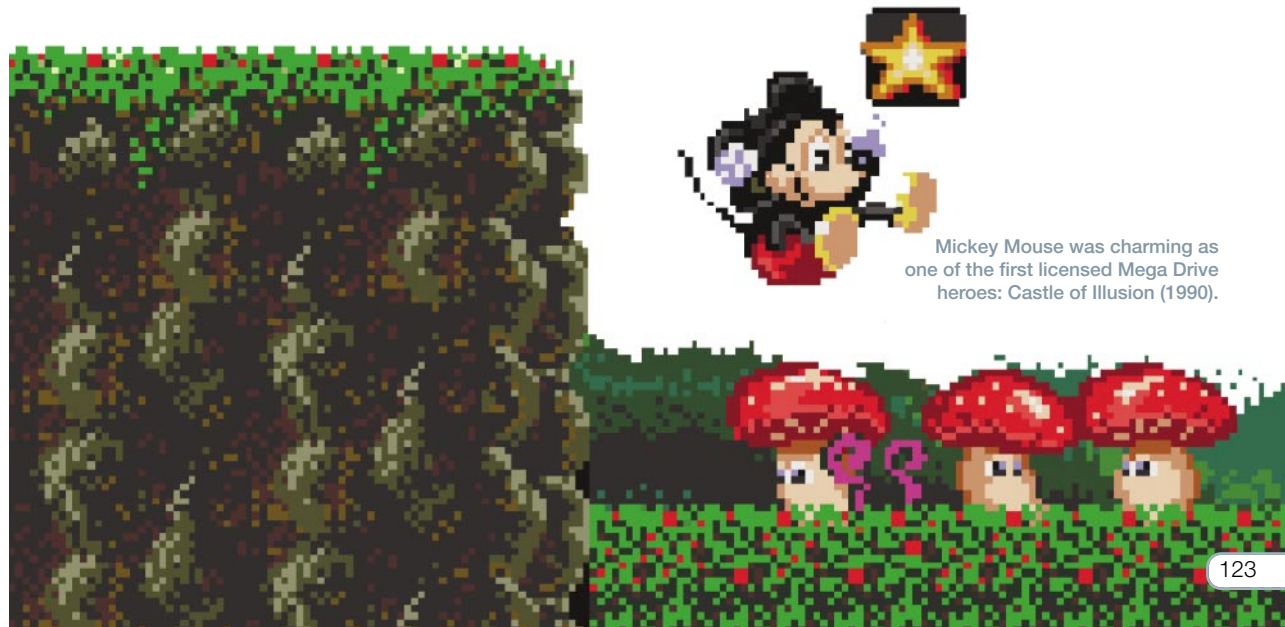


This is excellent vertical action: Musha Aleste was coded by Compile for Sega and published in late 1990.

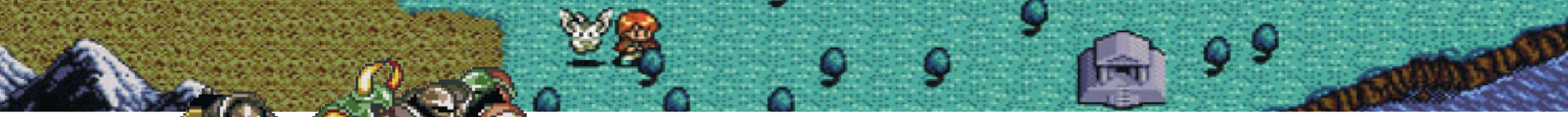
parties held back in order to avoid complications with Nintendo. Square, Enix and Konami ignored Sega; Capcom preferred to sell licences instead of developing and publishing Sega software under its own logo.

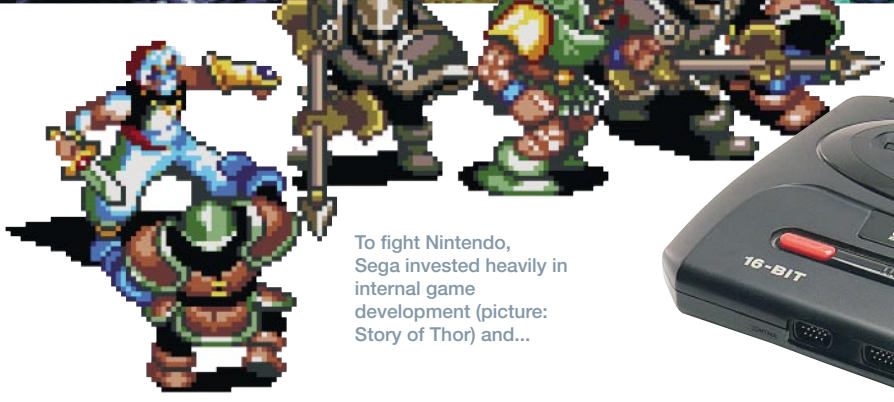
In the west, the machine was much more welcome, as developers thirsted for an alternative to Nintendo's licence-dictatorship. At first, Atari ST and Amiga games were converted, followed by original Mega Drive game concepts. In the UK Virgin supported Sega with games and hardware distribution, in the US Electronic Arts immediately stood by Sega. Nearly all EA Sports series started out on the Mega Drive, while computer-hits like **Populous**, **Budokan** and **Starflight** were converted, the action-adventure **Immortal** even with enhanced graphics. From 1992 on, the Mega Drive became the most popular platform amongst western developers.

Sega countered the introduction of the Super Nintendo with a CD-ROM upgrade: The Mega CD introduced a second 68000 chip, and was placed under the actual console, merging with it to become more powerful than any hardware. However, as few Mega Drive users bought the upgrade, the market remained too small to attract a



Mickey Mouse was charming as one of the first licensed Mega Drive heroes: Castle of Illusion (1990).





To fight Nintendo, Sega invested heavily in internal game development (picture: Story of Thor) and...

...manufactured the flat Mega Drive 2 (sparing minor details like the volume control) as well as a cheaper Mega CD device.

Core proved their competence and squeezed the most out of the complicated Mega CD setup: Thunderhawk

major commitment by the software companies; developers rarely utilized the CD capacity or the power of the second CPU. Just a few months after release (12.12.1991 in Japan), the CD system was perceived to be dead whilst Nintendo's new cartridge machine the Super Famicom replaced the market-leading NES.

In the west, Sega closed in on their arch-rival selling 12 million consoles before the end of 1993 in the US alone, where

A glimpse into the future: The polygon background in Silpheed streamed from CD. Smaller vehicles were rendered in realtime.

In 1993, Japanese developer Treasure unleashed a late sprite- and pixel-feast starring the Gunstar Heroes.

the console was released as the Genesis, and where the industry veteran Tom Kalinske was in charge. According to US magazine 'Wired', Sega's market share of 45% overtook Nintendo's 44%; in Europe as many as 66% of gamers played with the Mega Drive. With **Sonic the Hedgehog**, Sega provided their console with a mascot that was more modern and swaggering than Mario. Now, Acclaim and Konami, previously exclusive Nintendo partners, joined Sega's bandwagon.

'Sega's Plan for World Domination' declared Wired as it put the blue hedgehog on its cover and quoted EA's Bing Gordon: *'The Genesis has an older custom base than Nintendo. And that's the growth market for the back half of the '90s.'*

Gordon was eventually to be proved right, but it wasn't Sega that tapped into this adult market of gamers, but Sony. Following the introduction of the Mega CD, the Sonic-

Unreliable ports, area-coded lock out and dependence on a second mains outlet limited the Mega CD's use. The picture shows the Japanese, first variant; the Mega CD II was shipped world wide in a new look.

With adapters for the cart port, the Mega Drive played both, past and future: The Master System Converter for 8-Bit cartridges and cards was released 1992 ...

... four years later, the 32X add-on with its RISC chips appeared. It required its own power supply and had only 40 games.

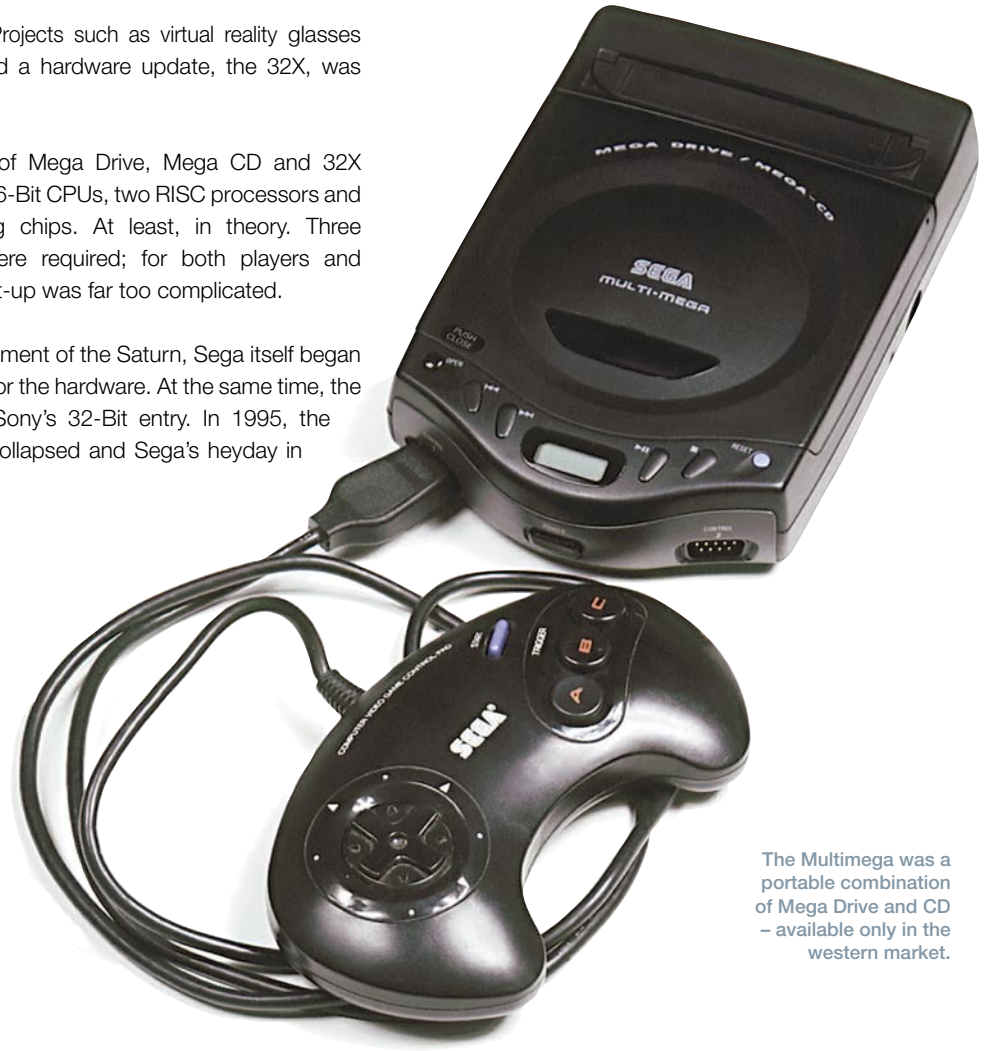
Avoiding any additional cables the Mega Jet was a combination of pad and console, designed for in-flight use.

In America, the Mega Drive was more successful than in Japan. The screenshot shows US hero Vectorman from 1995.

empire fell apart. Projects such as virtual reality glasses were stopped, and a hardware update, the 32X, was released but failed.

The combination of Mega Drive, Mega CD and 32X made use of two 16-Bit CPUs, two RISC processors and various supporting chips. At least, in theory. Three power-supplies were required; for both players and developers, the set-up was far too complicated.

With the announcement of the Saturn, Sega itself began digging the grave for the hardware. At the same time, the industry awaited Sony's 32-Bit entry. In 1995, the cartridge market collapsed and Sega's heyday in the west receded.



The Multimega was a portable combination of Mega Drive and CD – available only in the western market.

Mega Drive variants and successors

Mega Drive	**1988**	Sega's first 16-Bit console was shipped world wide in a similar case, but branded Genesis in the US. Including the Altered Beast cartridge it initially retailed for 21,000 yen and $189 respectively. It was later bundled with Sonic the Hedgehog.
Terradrive	**1991**	Retailing for 148,000 yen this black desktop PC had a Mega Drive built in and hence came with two CPUs (80286, 68000) as well as a Z80A for support, up to 2.5 MB RAM, disk- and hard-drive, additional graphics and sound memory as well as connectors for monitor and TV. The European model was built and sold by Amstrad.
Mega CD	**1991**	The CD-ROM drive expanded the Mega Drive with a second 68000 CPU, which was clocked nearly twice as fast as the console's processor. The add-on sold 2 million units world wide and saw the release of around 80 original games and about the same amount of conversions. The initial retail price in Japan was 49,800 yen.
JVC Wondermega	**1992**	The combination of Mega Drive and Mega CD was sold from April on by JVC for 82,800 yen. Audio controls, Karaoke- and Midi ports made the Wondermega a well-equipped music and games console. The mascot Wonderdog was created by English company Core, the Wondermega however was never released in Europe.
Mega Drive 2	**1993**	World wide case update in combination with a price reduction to 12,800 yen: The second Mega Drive is rounder and smaller than the predecessor but apart from missing headphone jack and volume control technically identical. The Mega CD also got new clothing, turned into a top loading device and shipped as the Mega CD 2 in July 1993.
JVC Wondermega 2	**1993**	The externally revised Wondermega successor was sold for 59,800 yen by JVC (starting July) and was shipped with Midi port and a wireless infrared 6-button controller.
Pioneer MegaLD	**1993**	The Control Pack was available as an add-on for Pioneer's Laser Active disc player. It was pushed into a special slot and contained the complete Mega Drive hardware (chips, joypad and cartridge ports) making the disc player compatible with Sega games as well as interactive Laser Discs like Taito's 3D ride Pyramid Patrol.
Mega Jet	**1994**	This combo consisted of a Mega Drive and 6-button controller (port for second joypad included) and was devised for use on board the JAL and sold in Japan only (starting price: 15,000 yen). With an LC display, the compact system could have been a handheld.
Multimega	**1994**	CD Drive, cartridge port and two CPUs in a Discman-like case: The most powerful and beautiful Mega Drive was available in limited numbers in the west only. The name used in the US was Genesis CDX.
Aiwa CSD-GM1	**1994**	Retailing for 45,000, this ghetto blaster with integrated Mega Drive ran cartridges, Mega- and Audio-CDs as well as CD-G discs and was sold as a Karaoke machine in Japan only.
32X	**1994**	This hardware add-on topped the Mega Drive with two Hitachi SH2 RISC processors, 2 Mbit of main- and video memory respectively, as well as new sound and graphics chips. Sold for 16,800 yen it multiplied the Mega Drive's power, yet only 40 cartridges and CDs supported it.
Nomad	**1995**	Console, joypad and LCD combined. The only true handheld version of the Mega Drive was sold in the US and box-moved just shortly after release. Today, it's a collector's item.
Genesis 3	**1998**	The last Mega Drive was marketed by American distributor Majesco as a very compact cartridge console including the 6-button joypad.