

A BRIEF HISTORY OF APPLE COMPUTERS



One fine day in 1976, 21 year old Steve Jobs quit his day job at Atari and convinced computer engineer Steve “Woz” Wozniak to quit his job at Hewlett-Packard. Together, in the garage of Jobs’ Cupertino, CA home, they founded a new company which they christened “Apple”. Their goal - create an inexpensive and simple to use computer. On April Fool’s Day in 1976, they introduced their first system, an encased circuit board known as the Apple I (previous computers

consisted of circuit boards and switches which produced flashing lights) and sold for \$666.66 at the local electronics store. By the time the Apple II and the Mac rolled around, Jobs and Woz had popularized the personal computing revolution, and the rest, as they say, is history.

Revolutionizing Personal Computing:

An Apple II for the Everyday User

After the release of the Apple I, Woz set to work on improving the functionality and design of their novel product. First off, the Apple I was a play toy for computer hobbyists; Woz would have to add features to make the computer more attractive to non-computer users. Woz added higher resolution graphics to allow for the display of pictures and words rather than words alone, designed the floppy disk controller for the unit to facilitate simple data storage, and wrote a simple operating system with pal Randy Wigginton.

A compact and self-contained Apple II was released on June 5, 1977. Priced at \$1,298.00 for 4KB of RAM (expandable to 48KB), or \$2,698.00 for 48KB (remember, RAM was very expensive in those days), the Apple II featured sound capabilities, the BASIC programming language, 16-bit processing using the MOS Technology 6502 1 MHz



microprocessor and loading and unloading of programs using an audio cassette-like device. The only glitch was an external TV or monitor had to be attached to the unit. The result was pure genius: a personal computer that was both attractive and easy to operate for the everyday user.

The idea would soon make a pair of twenty-somethings working out of a garage into millionaires.

Subsequent models were released that improved on the speed and original design of the Apple II. In 1978, Woz designed the first ever external 5.25" floppy disk controller and drive that attached to the Apple II using an expansion slot. Jobs and Woz expanded the Apple II line with the release of the Apple II Plus in 1979. The Apple II Plus expanded memory capabilities to 48KB (expandable to 64KB using a memory card) and introduced a read-only memory (ROM)-based Microsoft-based BASIC language program called AppleSoft.

At the same time, Apple released its first thermal printer, the SilenType. The SilenType generated output of 80 columns in width and required the use of special thermal paper. The printer attached to the computer by way of an interface card.



The Apple IIe, the most popular and best-selling of all Apple II models, followed in 1983. Enhancements included faster chipsets, dual disk drives, improved graphics and memory capacities of 128KB (expandable with external cards to a whopping 1MB). Other models which came afterwards included the Apple IIc (1984), IIgs (1986) and IIc Plus (1988), and each featured improved chipsets, memory, and greater processing speed than its predecessors.

Throughout the 80s and 90s, Apple II computers became the de-facto computing standard for elementary schools. By the time the Apple II line became defunct, over 2 million Apple IIs had been sold, and personal computers were gaining momentum in households and classrooms nationwide.

Insanely Great - Evolution of the Mac

What was next for the boys of Apple? Building a machine that was at once sexy, bold, and insanely great was what Jobs had in mind when a team was assembled to begin development of the legendary Macintosh. Absent from the process was Woz, the brains and engineering talent behind Jobs' vision, who left Apple in 1981 after he crashed his airplane taking off from Santa Cruz Sky Park. As a result, he had temporary short-term memory loss. On board now was Jeff Raskin for the lower-priced Macintosh model and Bill Atkinson for the higher-priced, more business-oriented Lisa.



Development of the Lisa started in 1978, with the Macintosh following one year later. While Jobs

focused his attention on the Lisa project, Raskin continued the tradition of the Apple II which was to create an easy-to-use and economical system for everyday users. Both systems had switched to Motorola processors. Raskin's first prototype of the Mac included the Motorola 6809E processor, 64KB of RAM and monochrome graphics fitting a 256x256 pixel display. One Lisa designer expressed interest in running Lisa's programs on the Mac, which would require modifications of the Mac architecture. This was achieved by incorporating the Motorola 68000 processor (same as the Lisa) onto the system board, using fewer chips and increasing the speed of the processor from 5 MHz to 8. Lured by the growing excitement of the Macintosh team, Jobs left the Lisa project and hopped aboard the Macintosh bandwagon. By 1981, Jobs was fully immersed in all aspects of the Macintosh, and personality clashes with Raskin hastened the latter's exit from the company. A subsequent visit to the labs of Xerox PARC (Palo Alto Research Center) and a demo of the Xerox Alto's GUI (Graphical User Interface) system convinced Jobs that adding the GUI to both the Lisa and Macintosh would heighten its marketability.



The Macintosh computer was released to the public on January 22, 1984, following a Super Bowl Half-Time marketing blitz which premiered the famous Ridley Scott-directed commercial with a woman throwing a sledgehammer into an Orwellian "Big Brother" video screen representing then enemy IBM. The final product featured 128KB RAM (2 64KB chips soldered onto the motherboard) and expandable to 512KB, the Motorola 68000 processor operating at 8Mhz, an internal, 3.5" floppy disk drive, and 384x256 pixel bitmap display. Included were the Xerox-inspired GUI and two user-friendly programs – MacWrite, a word processor, and MacPaint, a simple graphics program. The Mac retailed at a price of \$2,495.00, much less than the similarly designed and financially disastrous Lisa model (at \$9,995.00 and including an internal hard drive) released a year earlier.

While revolutionary in the way it defined personal computing, the Mac became an object of ridicule by hard-core computer users. At heart was the lack of viable software programs for the new platform, the scant memory included, and the absence of a real hard disk drive. By 1984, new classes of x86 PC clones were providing low cost alternatives to the higher-priced and less feature-rich Macs. Apple knew it had to improve on the design of the original Mac to stay competitive. Internal struggles with then CEO John Scully and Jobs would prove to be Jobs' undoing and Jobs was finally forced out of Apple in 1985.

Apple released several minor versions of their Mac system after Jobs' departure, with the exception of one event: in 1985, Apple once again became an innovator when it introduced

desktop publishing. Macintosh-specific packages such as MacPublisher and Aldus PageMaker, along with the addition of the first LaserWriter (a laser printer) cemented Apple's reputation as the desktop publishing giant. One year later, Apple released the Macintosh Plus to address the limitations of original Mac. The Macintosh Plus featured 1MB of RAM (expandable to 4MB), a SCSI hard drive controller that allowed for the possibility of adding 6 additional devices, and increased its floppy disk capacity to 800KB.

Apple switched to the faster Motorola 68020 for the Macintosh II in 1987 and introduced color graphics and open architecture to the Mac. To compete with plummeting PC clone prices, the Mac SE, a lower-cost version of the Macintosh II, was also released in the same year.

The Mac IIx, Mac IIxi, Mac IIcx, Mac IIci, Mac II SE, and Mac IIfx followed into the 90s, each upgrade forced by the growing popularities of the lower-priced PC clones and the enhancements available in Microsoft's Windows cheaper operating systems. Apple even produced a line of popular portables during the late 80s and 90s, known as the PowerBook. Because of the Mac's proprietary architecture, software programs would always remain expensive and hard-to-come by.

The Father Returns and Apple Re-invents Itself

By 1992, sales of Macintosh computers suffered due to the mass availability of inexpensive PC clones, and for the first time in its history, Apple resorted to marketing clones. However, Apple's fortunes would soon change with the return of its founding leader Steve Jobs in 1997. Jobs steered the company away from the clones and reversed direction with a back-to-basics approach.

The aesthetic vision and leadership that led to the creation of the Apple II and Macintosh computers came back with a roar in 1998 with the elegant all-in-one iMac, priced at \$999.00 and designed much like the original Macintosh case in clear plastic and trimmed in translucent shades of blue or red. The sleek unit was accompanied by a smaller mouse and keyboard. The new design utilized SCSI and Apple desktop bus (ADB) ports. An iMac portable would follow in 1999, using the same clear white and translucent design adopted by the iMacs.





Upgrades to the platform would continue the iMac trend with the G3, G4, G5, and eMac systems. The Mac Mini was released in 2005 and would become the least expensive of all Apple computers. In 2006, Apple switched to Intel's Core Duo processor which would provide twice the power and speed of the old Motorola processors and which now made operating Intel-processor based applications and software possible.

Apple continues to be as relevant today as it was back at its creative height with the Apple II and Macintosh computers. Today, Jobs continues to lead Apple and create bold, visionary products that earn the envy of technophiles worldwide as Apple re-imagines itself as a "Digital Lifestyle" company.

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