

1. Commodore 64



The **Commodore 64** came out in 1982, priced at just \$595 in the US (the price later dropped to \$200). It was the successor to the popular VIC-20, and was tremendously popular, selling tens of millions of units — partly because it was sold in retail stores and toy

stores instead of computer stores, and also because it carried a low price tag.

The C64 had 64k of RAM and a 1 MHz processor, a surprisingly good audio chip, and it came with BASIC built into the ROM. For the price, you really couldn't beat the C64 — and after Commodore offered a \$100 rebate to anyone trading in an old computer or game system, the system became price-competitive with game consoles of the day, contributing to the **Atari Debacle**.

The C64 was discontinued in **1994** (yes, it was on sale for *twelve years*) but you can get a **C64 Direct-to-TV** device today that includes various built-in games.

2. Texas Instruments TI-99/4A



This bizarrely named computer from 1981 has a special place in my heart — my family bought one in 1982, and we'd type in BASIC programs from magazines as a family bonding exercise. I recall one remarkable debugging session involving a Pac-Man clone that refused to run, during which we had to review pages and pages of code in order to figure out what we'd mis-typed. Afterwards we saved the program to a cassette tape. Then when the cassette drive overheated, we swapped in the spare cassette drive we kept around for just this purpose; this pattern repeated for some years. The TI-99/4A also had heating problems just to the right of the keyboard, in the area in front of the cartridge slot — that housed power regulation hardware, and became very hot, leading it to be known only semi-affectionately as “the coffee cup warmer.” I'm sure TI would insist that this was a feature, not a bug.

The TI-99/4A featured a 3 MHz 16-bit (!) CPU and an unusual RAM arrangement involving 256 *bytes* of super-fast “scratchpad” RAM plus 16k of VDP (effectively, RAM for the graphics chip that could also be accessed by BASIC programs). There was an optional speech synthesizer module (which we owned) that could produce a remarkably decent voice — though its vocabulary was extremely limited, and most words had to be sent to it phonetically.

The TI-99/4A was discontinued in 1983, though ours lived on until at least 1985, overheating tape drives and all.

3. Tandy TRS-80





Known to owners of superior computers as the “Trash 80,” the **TRS-80** was sold through Radio Shack starting in 1977. It featured a 1.77 MHz CPU and 4k or 16k of RAM (later models went up to 48k), and was priced aggressively at only \$600, including a monitor (in those days, most computers simply used your TV for a monitor). Although the TRS-80 was not trash by any means, it had some early hardware problems. Wikipedia sums it up: “One major drawback of the original system was the massive RF interference it caused in surrounding electronics. This became a problem when it was determined to violate FCC regulations, leading to the Model I’s phase out in favor of the new Model III.” Ahem. Oops.

Like many computers using cassette tapes for data storage, the TRS-80 had problems reliably writing to and sometimes reading from tape. Again, Wikipedia gives us a good summary: “The cassette tape interface was very slow and erratic; it was sensitive to audio volume changes, and the machine only gave the very crudest indication as to whether the correct volume was set, via a blinking character on screen when data was actually being loaded — to find the correct volume, one would sometimes have to attempt to load a program once, adjusting volume until the machine picked up the data, then reset the machine, rewind the tape and attempt the load again. Users quickly learned to save a file three or more times in hopes that one copy would prove to be readable.” Floppy drives were made available in 1978.

The original TRS-80 was discontinued in 1981, though it was followed by a series of improved models, including the rather impressive Model 16, which could run a multiuser Xenix — Microsoft’s version of UNIX.

4. Apple IIe



There were many flavors of the Apple II line; the **Ile** is what my elementary school had, and thus what I **played with**. Introduced in 1983, it sported a 1 MHz CPU and 64k of RAM (expandable to 1MB!). The Ile was a big deal in the Apple II world primarily because it supported both uppercase and lowercase letters; its other notable feature was its huge expansion capacity — this thing had *seven* expansion slots in addition to its built-in connectors.

The Apple Ile was a very popular computer, and remained in production through 1993. Its software library was immense, but the only game I really cared about was **Oregon Trail**.

5. Timex Sinclair 1000



The **Timex Sinclair 1000** was a delightfully limited gadget. Introduced in 1982, my family also had one of these, picked up by my father for just under \$100 at retail. The Sinclair was most notable to me for its utterly horrifying keyboard — a “membrane” keyboard on which each keypress had to be firm, deliberate, and slow. No touch typing for you, my Sinclair friends. The Sinclair had a 3.25 MHz processor and just 2k of RAM (expandable to 16k for another 50 bucks), but it was also tiny and lightweight — only 12 ounces for the little guy. And because it was dirt-cheap, it didn’t seem like a bad idea to buy one...until you tried to input a program; this process generally ended with throwing the thing in the closet.

The Timex Sinclair 1000 was discontinued in 1983. Ours was discontinued a few weeks after we bought it, though it kicked around in closets and desk drawers for some years.

6. IBM PCjr



The **IBM PCjr** ("PC Junior") was a sad, sad computer. Introduced in 1984 and discontinued in 1987, this machine was still in service in my middle school computer programming class through the 1990s, though everyone tried to avoid using it. With a pretty decent 4.77 MHz CPU and 64k of RAM, it was intended to be an inexpensive

alternative to the IBM PC, and with its cartridge slots and joystick port it appeared to be aimed at homes and schools. However, its price point (initially \$669, much lower than competitors like the Apple IIe) didn't seem to work with its target audience. IBM PC buyers wanted a "real" IBM computer with standard expansion ports, a good keyboard (the infrared PCjr keyboard was terrible — and in educational settings an utter disaster, as one kid could point his keyboard at another computer and start typing), and full IBM PC compatibility. The PCjr failed on all counts, as price-conscious buyers who wanted a "real" IBM PC instead went for more capable (and competitively priced) PC clones. To make things worse, aggressive price cuts in the education market by Apple (plus the introduction of the cheaper Apple IIc) led to the PCjr's failure in the marketplace.

One notable historical footnote on the IBM PCjr: the game **King's Quest** was originally released by Sierra On-Line for the PCjr as a way to demonstrate the machine's better-than-CGA graphics. Everyone I knew played *King's Quest* on cheaper PC clones or an Apple II instead.

7. Coleco Adam



The **Coleco Adam** was introduced in 1983 in an attempt to capitalize on the success of the ColecoVision game console. It failed. Although the hardware was pretty good, featuring a Zilog Z-80 CPU running at 3.58 MHz and 64k of RAM (plus 16k video RAM), and the software was fine as well (the CP/M operating system was available, plus the machine ran existing ColecoVision titles), the price didn't quite make sense. By the time the Adam shipped, it cost \$725 — far more than its previously announced price of \$525. At \$725, the Adam was more expensive than a Commodore 64 or even an IBM PCjr — and if Coleco couldn't beat the PCjr, it had no chance. Furthermore, the Adam had a variety of technical problems. Here's Wikipedia's summary of the technical difficulties of the Adam platform:

The Adam was not without weaknesses:

- The Adam generates a surge of electromagnetic energy on startup, which can erase the contents of any removable media left in or near the drive. Making this problem worse, some of the Coleco manuals instructed the user to put the tape in the drive before turning the computer on; presumably these were printed before the issue was

After an attempted relaunch (including a fiscally questionable

before turning the computer on, presumably these were printed before the issue was known.

- Initial shipments to customers included a high rate of defective tape drives, some say up to 50%. Ejecting a tape while it was moving would usually destroy the drive as there was no eject lock-out mechanism and the tape (based on a standard Compact Cassette) moved at an extremely high speed.
- Since Coleco made the unusual decision of using the printer to supply power to the entire Adam system, if the printer's electronics failed or the printer was missing, none of the system worked.
- Unlike other home computers at the time, the Adam did not have its BASIC interpreter permanently stored in ROM. Instead, it featured a built-in electronic typewriter and word processor, SmartWriter, as well as the Elementary Operating System (EOS) OS kernel and the 8kB OS-7 ColecoVision operating system. The SmartBASIC interpreter was delivered on a proprietary format Digital Data Pack tape cassette.
- Once put into Word Processor mode, SmartWriter could not get back into the typewriter mode without the system being rebooted.
- The Adam's Digital Data Pack drives, although faster and of higher capacity than the audio cassette drives used for competing computers, were less reliable and still not as fast as a floppy disk drive. Coleco eventually shipped a 160K 5¼ inch disk drive for it.

scheme to give a savings-bond style \$500 college scholarship to young kids who bought the computer), the Adam was discontinued in 1985.

8. Commodore Amiga (1000)



The **Amiga**, to use the parlance of the day, *totally ruled*. It shipped in 1985, with a 7 MHz Motorola 68000 CPU and 256-512k of RAM (expandable to a whopping 8MB). Unlike the Commodore 64, the Amiga was sold exclusively in actual computer stores, to emphasize the seriousness of the machine. And indeed, it was a whole lot of computer — with an excellent audio system, high-resolution and high-color graphics, built-in voice synthesis

(in software), and a sweet 880k 3.5" floppy drive. This was truly a multimedia computer, but it appeared so early in the market that it was unclear what to do with it. It was also expensive, with a base price of \$1,295, but a "realistic price" of around \$1,600 after you added in a real monitor — you wouldn't want to hobble this computer by plugging it into your TV.

The Amiga was renamed "Amiga 1000" when later models were introduced, and the original model was discontinued in 1987. Similarly hardcore Amiga computers were released in subsequent years and always seemed ahead of their time. I recall seeing the game *The Secret of Monkey Island* running on a friend's Amiga and being shocked by both the graphics and the incredible sound — the Amiga was in its own league. Unfortunately it stayed in its own league, and never achieved the commercial success of the IBM clones nor Apple's machines. Amigas were built well into the 2000's, and an **AmigaOne X1000** has been announced for release late in 2011.

9. Osborne 1



The **Osborne 1** is best known for business problems associated with its successor, the Osborne Executive. But let's not forget how awesome the Osborne 1 was in its day. It was released in 1981, weighed over 23 pounds, and cost \$1,795. With an unbelievably small 5-inch display, dual floppy drives, 4 MHz CPU, and 64k of RAM, it was a high price to pay — so why was it a hit? Because it was portable. Ish. We now call this class of computers "luggables" but at the time they were advertised as "portables" because the entire computer could fit under an airplane seat (if you didn't strain something shoving the 23-pound beige box under there). The Osborne 1 was actually lighter than its (few) early competitors, and it came with an impressive software bundle.

The Osborne 1 was discontinued in 1983, and is famous for the **Osborne Effect**, a business problem that appears to have been taken to heart most by Apple — the problem being that if you sell a product today but announce that something better is coming out soon,

people will stop buying the current product and delay their purchase until the new model ships, causing cash-flow problems. This appeared to have happened with the Osborne, as the company declared bankruptcy in 1983 after the computer press leaked information about next-generation Osborne models — which had been given to them by the company itself. Interestingly, though the Osborne Effect is considered gospel by many in the computer industry, **it apparently did not cause the failure of the Osborne Computer Corporation**. That link is definitely worth a read if you're even vaguely aware of the Osborne Effect.

10. IBM PC 5150



Bundesarchiv, B 145 Bild-F077899-0042
Foto: Reineke, Engelbert | 8. April 1983

The **IBM PC 5150** is what most people are talking about when they think of the original “IBM PC.” Introduced in 1981, it was IBM’s entry into the home computer market, and spurred the PC compatible (and PC clone) market that came to dominate the computing world in the following decades.

The original IBM PC 5150 featured an Intel 8088 4.77 MHz CPU and 16-256k of RAM, in a now-familiar beige box that could house two floppy drives. It could run PC-DOS, CP/M, and included BASIC. The core machine started at a shocking (but IBM-appropriate) \$1,565 without any drives. The thing was also built like a tank.

Designed by a skunkworks in Boca Raton, Florida, the IBM PC eschewed many previous IBM design constraints, while retaining the IBM focus on high quality construction. Its most important design decision was its open architecture, which meant that other companies could create IBM compatible hardware to work with the computer. What ended up happening was that those companies reverse-engineered the IBM hardware and BIOS (Basic Input/Output System) and created their own “clone” computers that were cheaper and sometimes technically superior. The IBM clone market led to an **explosion of competition** in the computer landscape, and many of the computers (and indeed, their makers) listed above were indirect casualties of the war among IBM clone makers.

The IBM PC 5150 was discontinued in 1987, but its influence lives on, even on the Mac (arguably a flavor of PC clone) I’m using to write this article.

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Amiga 1000; Osborne 1; IBM PC 5150.

Have I Left Out Your Childhood Computer?

This list is obviously for People of a Certain Age — if you had a different computer as a kid, tell us about it in the comments!